Firm size, ownership, training duration and training evaluation practices

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Received 28 October 2014
Revised 14 March 2015
Accepted 15 March 2015

Abstract

Purpose – The purpose of this paper was to test the mediating role of training duration in relationship between firm characteristics and training evaluation practices. In this paper, the authors also investigated if this mediating effect differs with respect to the size of the firm.

Design/methodology/approach – The authors collected data from 260 professionals of 90 call centers.

Findings – The authors found that training duration mediates the relationship between firm size and training evaluation. The authors also found that indirect effect of firm size on training evaluation through training duration differs across different levels of firm size but not across different levels of ownership.

Research limitations/implications – This is a cross-sectional study that emphasized on training evaluation practices only.

Practical implications – The study has implication for both evaluation researchers and practitioners in terms of designing training evaluation policies and practices.

Originality/value – This is the first study in its nature that explains the intervening role of training duration in relationship of firm characteristics and training evaluation practices.

Keywords Firm size, Ownership, Training evaluation, Call center, Training duration

Paper type Research paper

Introduction

Budhwar and Sparrow (2002) offered some propositions to facilitate researchers and practitioners in determining, evaluating and comparing the antecedents of human resource (HR) practices in a cross-national context. They also described that interplay of HR practices and their determinants may facilitate organizational members in understanding the nature of human resource management (HRM) in a

European Journal of Training and Development
Vol. 39 No. 5, 2015
pp. 429-455

2046-9012
DOI 10.1108/EJTD-10-2014-0072

specific nation/region. They introduced four broad national factors involving organizational sector (others include culture, institution and environment) affecting HR practices. They also proposed that HR practices are dependent on various contingent variables including size, ownership and age of organization (for details, see Budhwar and Sparrow, 2002, p. 392), which could demonstrate some moderating effect, yet their effect is mediated by some inner-contextual variables/organizational actions (like organizational policies, procedures and practices, performance, scope of services and available technology Despite significant research evidence being available that demonstrates the impact of contingent variables (size, ownership and age) on various HR practices (Budhwar and Sparrow, 2002; Hickson *et al.*, 1974; Tayeb, 1987; Galbraith and Nathanson, 1978), the empirical evidence about the effect of contingent variables on training and evaluation practices is lacking. Perhaps, this is the reason that Budhwar and Sparrow (2002) insisted to advance research for gathering further empirical evidences. Training evaluation is a critical but complex HR practice for determining the impact of training interventions on individual and organizational performance (Flesher, 2007). HR professionals use training evaluation practices as a systematic process for determining the value of training (Goldstein, 1986) and to ensure the linkage of training with organizational objectives, organizational strategy and organizational structure (Martinez and Stuart, 2003; Newkirk-Moore and Bracker, 1998). The strategic importance of training evaluation is inherent in its role of facilitating HR professionals in justifying investments made on training interventions for retaining their existence in the organization (Guerci *et al.*, 2010). Pat Crull, former chair of the American Society for Training and Development board of directors, describes that: "No other step in human performance improvement process provides the mechanism by which we can influence programs and perceptions as does measurement and evaluation" (Phillips and Phillips, 2010).

Training facilitates organizations in increasing the productivity of employees. However, the duration of this training may be affected by the size of the organizations. For instance, the small firms may face a greater threat that large firms could poach their trained staff, and thus are less likely to provide training to their employees. But the professionals of small organizations may be more conscious to the cost and employee outcomes, and thus be more likely to intensively evaluate the training programs. This is unfortunate that the effect of firm size and training duration (TD) on training evaluation practices has not been investigated. This study aims at testing the propositions of Budhwar and Sparrow (2002) by emphasizing on training and evaluation practices in context of call center (CC) industry of Pakistan by introducing TD as a mediator of the relationship between firm characteristics (size and ownership) and training evaluation practices. Thus, theoretical contribution of this study arises in form of testing the propositions offered by Budhwar and Sparrow (2002) in context of training and evaluation practices. Moreover, this mediating relationship will also be examined at different level of firm size and firm ownership following the moderated mediation process. Further, training evaluation practices will be examined by integration of two renowned frameworks of training evaluation, i.e. the Kirkpatrick model (TKM) and return on investment. The theoretical support will also be obtained from the

equivalence model, the resource-based view of the firm and the statistics of some previous researches.

Theoretical framework and hypothesis

Size, TD and training evaluation practices

The description of deficit model and the equivalence model (Behrend, 2007) is important while discussing the relationship of firm size and HR practices. The deficit model highlights the absence of a formal HR department as a deficiency of small organizations. Consequently, small organizations regard HR systems of large organizations as "desirable ideal" (Behrend, 2007). However, the "equivalence model" challenges this view by stating that there is no one best way to meet HR challenges, instead there exist various alternative methods. Moreover, the approach of an organizational to deal with HR issues depends on the context of the organization (Martin and Bartscher-Finzer, 2006; Behrends, 2007). However, the context of organization could vary from organization to organization. Particularly, the extent of available financial resources and the difference in the process of managing small organizations vs the process of managing larger organizations could affect organizational policies regarding HRM. There is conflicting prior empirical evidence about the effect of firm size on HRM practices. For instance, Haber and Lamas (1988) investigated relationship between training, growth and firm size and reported that individuals acquire as much training in small firms as they do in large ones. However, the majority of research revealed that firm size is an effective predictor of efficiency, legitimacy and strategy of a business (Gomes *et al.*, 2009). These research studies support the view that the process of managing HR varies across firms of different size (Kotey and Slade, 2005; Storey *et al.*, 2010; Michelson and Kramar, 2003). These studies posit a common view that HR practices become more extensive as the firm size increases. For instance, Barron *et al.* (1987) found that large firms invest more on employees to screen out job applicants and to provide training to their employees. Similarly, Barron *et al.* (1984) and Simpson (1984) found that training programs are more prevalent among large firms as compared to small ones. In a study of management development on Nanyayang Chinese societies, Kirkbride and Tang (1992) found mixed results regarding the effect of firm size on recruiting and selection methods, training methods, training analysis, appraisal use, incentive programs and welfare programs. They reported that large size firms use HR practices more extensively than smaller firms excluding appraisal and incentive programs. Kirkbride and Tang (1992) also reported that per cent of payroll allocated for training, HRM size and training department size were significantly correlated with all dependent variables in their study.

Following the equivalence model and the majority of prior empirical evidence, we propose that the approach of an organization regarding training-related decisions also varies with respect to the firm size. Particularly, the firms which are larger possess relatively greater financial resources to invest on different HR practices as compared to the smaller firms (Kirkbride and Tang, 1992). The availability of greater financial resources for a large organization enhances its probability to invest more on training of its employees including new hires (Barron *et al.*, 1987). Accordingly, large firms are also more likely to invest more on employees by training them for a larger duration. For instance, Kirkbride and Tang (1992) noted that Chinese firms in Hong Kong tend to be small and have relatively little excess resources to spend on formal training programs.

Moreover, small firms are facing a threat that larger firms would poach their well-trained staff. Thus, Anglo-American firms are more likely to provide training to their employees as compared to the small Chinese firms. The conclusion of the debate above is that small firms have less money for training; the less incentive to invest, the least people be poached; and fewer newcomers to onboard at once, allowing for less formal or shorter formal training process to be used:

H1. There is a significantly positive and linear relationship of firm size with the duration of formal entry-level training in a way that as the firm size increases, TD increases as well.

There is no doubt in perceiving that larger firms who invest more time in training should be both able and motivated to evaluate training more formally. However, Haber and Lamas (1988) reported that the larger firms invest more on screening and recruiting employees demonstrating high productivity but invest less on monitoring of their employees. Similarly, the larger organizations are investing greater financial resources in screening their employees and providing them greater training but these firms are less likely to evaluate the training of employees as compared to small organizations. The reason could be described that extensive screening enables such organizations to poach talented staff which are already well trained, experienced and possess better professional attitude as compared to a new employee joining a small organization. Further, intensive training inside larger firms provides such employees a sufficient opportunity to overcome any remaining deficiencies. Thus new employees of larger organizations are less likely to require intensive monitoring and evaluation criteria to perform as compared to the employees of smaller organizations. Another possible reason could be that the organization may use this as a policy to offset or to avoid the time, cost and energy invested on monitoring and evaluation of employees. Thus, the organization may emphasize on the intensive evaluation of necessary job components rather than the intensive evaluation of overall job dimensions. Thus, we hypothesized that firm size and TD both are negatively associated with training evaluation practices:

H2. Firm size is negatively related with training evaluation practices in a way that as the firm size increases, training evaluation practices become less intensive.

H3. TD is negative related with training evaluation practices in a way that as the TD increases, training evaluation practices become less intensive.

The effect of contingent variables (ownership and size of the firm) on HR practices is mediated by organizational actions (Budhwar and Sparrow, 2002). Previous hypothesis demonstrated that TD and training evaluation practices representing organizational actions are contingent to the size of the firm. Particularly, the sequence of *H1* and *H3* indicates that TD mediates the relationship between firm size and TD. This is also discussed in the previous section that the larger firms may invest more on screening of their employees and provide greater training to their employees. One can perceive larger investment on initial screening and training of new hires as a proactive strategy of larger organizations to avoid investment on training evaluation. As these firms have already invested on screening and training of new employees, therefore, such firms do not find any significant reason to equally invest on training evaluation. On the other hand, small organizations may avoid the cost by hiring employees using less intensive screening and training but using intensive evaluation mechanisms. evaluate less

intensively. Thus, we hypothesized that the effect of firm size on training evaluation practices is mediated by TD:

H4. TD mediates the relationship between firm size and training evaluation practices.

Ownership and training evaluation practices

Though HR policies and practices might shape the organizational culture (Guest, 1996), culture itself emanates from the ownership of the organization. Thus, ownership affects both organizational culture (Hui *et al.*, 2004) as well as HR practices (Zhu *et al.*, 2008). The managers across different culture perceive training and development as the most important HR practice (Jennings *et al.*, 1995). Similarly, Drost *et al.* (2002) observed differences in the amount of investment in employee training among Chinese firms of different ownership type. The focus of this study is CC industry therefore the effect of CCs' ownership on HR practices will be discussed.

According to the ownership, CCs can be distinguished either as in-house or subcontractors (Weinkopf, 2009; Paul and Huws, 2002). In-house CC is usually part of a large organization either within an organization or on a separate site (Burgess *et al.*, 2005) and subcontractor CC is outcome of outsourcing that involves management of contracting out an in-house business function that the firm itself is unable to do better than an external firm (Synder, 2005). Subcontracting occurs when a firm, intending to save time and cost, finds that an external firm has enhanced its expertise in a specific business process following a focused business. In the same manner, subcontractor CCs are specialized in customer services. According to the statistics of Global Call Center Survey Report, two-thirds of CCs are in-house operations, while one-third of CCs are subcontractors (Holman *et al.*, 2007).

The status of a CC as subcontractor or in-house is a key point that may discern CC industry segments (Doellgast *et al.*, 2009). Previously, significant differences in HRM practices among these CC groups have been reported. For instance, wages and job discretion is low inside subcontractor CCs (Batt *et al.*, 2005) and collective bargaining agreements are less likely (Holman *et al.*, 2007) as compared to in-house CCs. But subcontractors face greater pressure to cut costs than in-house CCs (Doellgast *et al.*, 2009) as cost cutting is perceived as a basic motivation behind outsourcing decision of a firm. Though, a solid research evidence regarding the difference in TD between in-house and subcontractors is deficient, but Global Call Center Survey Report (2007) shows that subcontractors provide 14 days initial training to a new call center agent (CCA), which is almost 33 per cent less than the initial training of 20 days inside in-house CCs. Moreover, in-house CCs are usually part of a large organization and because larger organizations are more likely to have greater resources, as stated above, therefore, in-house CCs provide greater training to their employees as compared to subcontractors. This is also important to describe that simpler work is outsourced and more complex advice to clients is handled in in-house CCs. Thus, the duration of training required inside outsourced CCs may be lesser than the training required to perform a job in an in-house CC. Thus, we hypothesized that in-house CCs provide more training to their CC professionals as compared to subcontractors:

H5. Duration of training inside in-house CCs is greater as compared to duration of training inside subcontractor CCs.

Time taken by CCAs to gain job proficiency and monitoring of CCAs are two variables closely related to training evaluation of CCAs. A CCA in subcontractor CC takes 14 weeks, on average, to gain job proficiency as compared to 20 weeks inside an in-house CC (Global Call Center Survey Report, 2007). Client Company enforces subcontractors to follow strict performance standards and keeps a consistent check by monitoring itself to ensure if these standards are being followed (Walsh and Deery, 2006; Schönauer, 2008); therefore, monitoring is more intensive in subcontractor CCs than in-house CCs (Grugulis *et al.*, 2002; Doellgast *et al.*, 2009). The Global Call Center Survey Report also portrays that monitoring occurs on a weekly basis inside subcontractor CCs, while it occurs on a monthly basis inside in-house CCs. Thus, we hypothesized that training evaluation practices are more intensive in subcontractor CCs as compared to in-house CCs:

H6. Training evaluation practices are more intensive inside subcontractor CCs as compared to in-house CCs.

The ownership and size are firm-specific variables which determine HR practices (Budhwar and Sparrow, 2002; Welch, 1994). These firm characteristics may also play the role of a catalyst by affecting the interrelationship among HR practices. Budhwar and Sparrow (2002) also assumed a two-way interaction effect among contingent variables on HR practices. This is highly unfortunate that organizational researchers treat the firm-specific variables in a fashion of control variables. However, there is a need to understand that firm characteristics cannot be isolated from each other. For instance, any call centre, small, medium or large, could be either an in-house or a subcontracting firm providing either an inbound, outbound or both types of services. Thus, a more just approach is to acknowledge the role of firm characteristics in understanding the differences in HR practices across national or cross-national level by introducing their interaction with not only the set of firm specific variables themselves but with contextual (like culture, legal systems) and situational factors (workforce availability, time and location etc.) as well. There could also be the possibility a single firm characteristic could be insufficient for determining HR practices across national or cross-national level, however, when introduced as moderator could affect the results in an unexpected manner. Similarly, these characteristics could also change the direction as well as the strength of the interrelationship between different HR practices. For instance, resource-based view of the firm describes that the availability of greater resources enables larger firms to use sophisticated HR strategies and practices (Datta *et al.*, 2005; Guthrie, 2001; Jackson and Schuler, 1995), which are unique and inimitable (Collins and Clark, 2003; Barney, 1991). Similarly, to obtain sustainable competitive advantage, the large organizations may introduce longer duration trainings and use more sophisticated training evaluation practices.

Acknowledging due importance of the set of firm-specific variables in determining HR practices, this study also intends to investigate the interaction effect of firm size and ownership on TD and training evaluation practices. In addition, this study also intends to examine the moderating effect of firm ownership on the relationship between TD and evaluation practices. For instance, the large CC firms which are operating in-house CCs may provide training of longer duration as compared to large subcontracting CC firms. Finally, this study also aims at investigating the interaction effect of TD and firm size on training evaluation practices.

Based on these reasons, we developed four different hypotheses, given below:

H7. There is a significant interaction effect of ownership and size on TD.

H8. There is a significant interaction effect of ownership and size on training evaluation practices.

H9. There is a significant interaction effect of ownership and TD on training evaluation practices.

H10. There is a significant interaction effect of size and duration on training evaluation practices.

Moderated mediation

The set of *H4*, *H7*, *H8*, *H9* and *H10* indicate a moderated mediation model. Moderated mediation means that meditational effects are dependent on the level of a third variable (Bauer *et al.*, 2006; Edwards and Lambert, 2007). It is highly probable that mediation of TD may be conditional to the firm-specific variables (i.e. ownership and firm size). Particularly, the indirect effect of firm size on TEPs through TD would be stronger in case of subcontractor CCs which provide lesser training to their employees and are more likely to invest on TEPs. Similarly, indirect effect of firm size on TEPs through TD would be weaker for small and large organization but stronger for medium-sized CCs (Figure 1):

H11. The indirect effect of firm size on training evaluation practices through TD will be stronger for in-house CCs as compared to subcontractor CCs.

H12. The indirect effect of firm size on training evaluation practices through TD will be stronger for large-sized call centers, weaker for small-sized CCs and moderate for medium-sized CCs.

Research methodology

Context

CC industry has attracted attention of politicians, policy makers and academics as it has experienced a rapid growth with the advent of information and communication technology (ICT) (Callaghan and Thompson, 2002). This industry is known for intense use of HRM practices including extensive training and intensive monitoring to cope with certain HR challenges like influence of ICT on skill demands (Sieben *et al.*, 2009). CCs also belong to service sector industries experiencing intensive inflow and outflow of

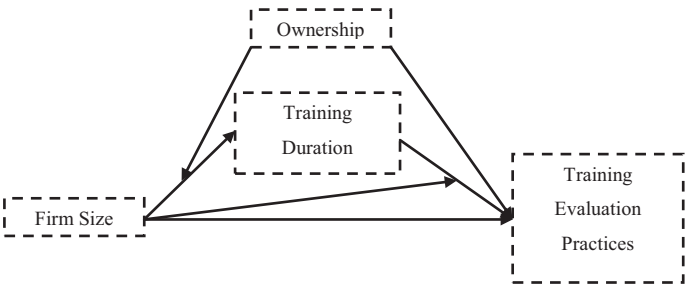

Figure 1.
Hypothesized model

HRs. For instance, the Global Call Center Survey Report (2007) depicted that 2 per cent of UK, 3 per cent of US and 1.3 per cent of French employees belong to CCs. These factors motivated us to study TEPs inside CCs.

CCAs are key employees regulating contact between customer and company (White and Roos, 2005). This study is emphasizing entry-level professional training (ELPT) that is provided to CCAs immediately after their hiring. ELPT involves period of organizational entry and socialization regarded as a sense-making process critical to psychological contract development of new hires (De Vos *et al.*, 2003). It also equips CCAs with certain competencies and attitude (White and Roos, 2005) including hard skills (like product knowledge and uses of technology) and soft skills (like communication, accent and patience). Similarly, ELPT is a source of job proficiency where no vocational training exists; therefore, a CCA is trained extensively (Sieben and de Grip, 2004). According to Global Call Center Report (2007), on average, new CCAs receive ELPT of 15 days and a new CCA takes 12 weeks, on average, to gain job proficiency (Holman *et al.*, 2007).

The CC industry in Pakistan started growing with the growth of ICT in the first decade of new millennium under the Musharraf regime. The growth of CC industry also resulted in the development of the first CC association in Pakistan. Further, Pakistan Software Export Board (PSEB) started a proper registration of the CC in Pakistan and started maintaining online records on its Web site to facilitate international investors for outsourcing their customer service operations in Pakistan. Acknowledging due growth of CC industry in Pakistan, State Bank of Pakistan issued a circular "FE Circular No. 11 of 2006 (www.sbp.org.pk/epd/2006/FE11.htm)" to isolate CC activities which were previously considered the part of telecommunication services. In 2005, there were more than 2,200 CC employees working in 78 international and 29 local CCs registered with PSEB. In 2011, when we were collecting data for our study, we obtained a list of 662 registered CCs with more than 100,000 employees from PSEB.

Data collection procedure

We collected data using the paper–pencil questionnaire survey method. CCs in Pakistan are required to register with PSEB; therefore, we also obtained a recommendation letter from PSEB to ensure reliable collection of data. Then, we accessed HR department or owner of each CC, explained the objectives of our study and asked for their cooperation to collect data from required respondents. After getting recommendation from authorities and upon consent of respondents, we briefed respondents about explained research objectives, concepts and response procedures so that we could gather accurate responses from the respondent. We used purposive sampling method to screen key informants inside a CC who were able to provide us relevant knowledge about the research question. The key informants included HR managers, trainers/training managers, quality assurance professionals and operations managers, supervisors and/or owners of CCs. We ensured that these respondents are directly or indirectly involved in all decisions about design, delivery and monitoring and evaluation of ELPT of CCAs. For instance, one of our respondents in Lahore reported to have an experience of training more than 600 agents. In total, we collected data from 260 respondents of 90 different call/contact centers from three cities: Lahore, Islamabad and Karachi. The list of responses obtained from CC is given in Table I. Finally, we also briefed respondents

about the benefit of the information provided by them for their organization and for overall organizational practices before gathering responses from them.

Instrument and measures

Dependent variable: training evaluation practices in the light of "TKM" and "return on investment (ROI)"

The discussion of training evaluation begins with "TKM" (Medsker and Roberts, 1992) also recognized as four-levels model. TKM consists of four different levels of evaluation: "reaction", "learning", "on-the-job behavior" and "results". Reaction refers to satisfaction level of training participants; "learning" refers to the degree to which participants acquire the intended knowledge, skills and attitudes through training; "on-the-job behavior" refers to the application of learning on the job; and "results" refer to the achievement of outcomes expected from training. TKM is well-admitted and the

	Frequency	(%)
Ownership type		
In-house	182	69.5
Subcontractor	80	30.5
Campaign type		
Inbound	81	30.9
Outbound	27	10.3
Both	154	58.8
Origin of serving		
International	211	80.5
Domestic	51	19.5
Size		
Small	180	68.7
Medium	52	19.8
Large	30	11.5
Sector		
Recruitment	5	1.9
Banking	8	3.1
Education	34	13.0
Energy	6	2.3
FMCG	1	0.4
Health	5	1.9
Information technology	26	9.9
Marketing	7	2.7
Multiple	19	7.3
Public	8	3.1
Rescue	2	0.8
Telecom	115	43.9
Transport	3	1.1
Others	23	8.8
Total	262	100.0

Table I. Frequency and percentage of responses obtained

most frequently applied inside industries. Some notable works include Lien *et al.* (2007), Yadapadithaya (2001), Twitchell *et al.* (2000) and Kirkpatrick (1967).

Various researchers criticized TKM and different frameworks of evaluation emerged from this model (Bates, 2004). As training is an investment requiring training professionals to determine its value in dollar terms, therefore, Phillips (1997), like various authors, suggested to include a financial perspective ROI as a fifth level in TKM. Moreover, ROI on training also represents the interest of top management. Thus, we integrated ROI as a financial aspect of training evaluation in our research framework.

The survey instrument for measuring training evaluation practices was adapted from Twitchell *et al.* (2000) who explored TEPs in manufacturing firms of the USA. The modifications in the survey were made through a pilot study. Training evaluation scale consisted of five factors, including reaction, learning, on-the-job behavior, results and ROI. The respondents were provided a list of various methods against each category of training evaluation framework. The stem of the scale for first level "reaction" was:

> Please estimate the percentage of each methods (listed below) used by management of your CC to gain information of post training thoughts or feelings of new-hired CC agent about various aspects of entry level professional training program such as content, instruction, facilities/ materials or usefulness.

Similarly, the stems for learning, behavior, results and ROI of entry-level training was: "Please estimate the use of evaluation methods used by your organization to evaluate the learning of new-hired CC agent resulting from entry level professional training". The responses were gathered on six-point rating scale (ranging from 1 to 6). The reactions were measured using three options (i.e. research questionnaire, action plan and verbal feedback). "learning" was measured through 9 different methods, "behavior" was measured through 13 different methods, "results" was measured through 11 different methods and "ROI" was measured through 9 different methods (all methods are listed in Table I).

Independent and mediating variables

Ownership was a categorical variable measured either as "in-house" or "subcontractor". We defined firm size as number of seats in a CC and used three bands to determine size of the CC which included "small" ranging from 5 to 50, "medium" ranging from 51 to 300 and "large (greater than 300)". Finally, "duration" of ELPT was measured as number of training days. We also collected some information related with demographics of our respondents that included job title, total training experience, education and gender.

Control variables

The CCs may be distinguished based on four main characteristics, i.e. ownership, campaign, origin and size. This study introduced ownership and size as independent/ moderator variables in the data set. However, the information regarding the campaign and origin of CC was lacking. The campaign type determines the nature of service provided by the CC organizations. This includes in-bound, outbound or both types of customer care services. The majority of CCs in Pakistan are providing both types of customer care services simultaneously. Moreover, the number of CCs solely focusing on inbound services is very less. This limitation created imbalance of sample size due to which researchers introduced campaign type as a control variable. The origin is another control variables introduced in the study that represents the country to which customer

services are provided. The origin can be determined either as domestic or as international.

Analytical procedure

Exploratory factor analysis was performed on the measures of training evaluation practices using principal axis factoring and direct oblimin rotation (according to Tabachnick and Fidell (2007), direct oblimin can be used if correlation between items exceeds 0.32). Initially, the results of EFA yielded six different factors which explained 68.55 per cent of the variance. The pattern matrix displayed some overlapping items which were loading across different factors. After removing these items, five different factors were emerged which explained 67.447 per cent of the variance. The detail of factors loadings are given in Table AI.

Then, we conducted confirmatory factor analysis (CFA) and the final model of CFA demonstrated adequate fit of measurement model (chi-square = 780.520, $p = 0.000$; CMIN/df = 2.720, RMR = 0.069, CFI = 0.927; TLI = 0.918, IFI = 0.928, RMSEA = 0.081). The reliability analysis of the factors was computed using Cronbach's alpha. Cronbach's alpha values were "Reaction = 0.78", "Learning = 0.93", "Behavior = 0.92", "Results = 0.92" and "ROI = 0.96".

Though we measured predictor, criterion and intervening variables using different scales, we still conducted some statistical tests to determine the presence of common method bias, specifically, in dependent variable following Podskoff *et al.* (2012). First, we conducted the Herman single-factor test by loading all items on a single factor. This single factor explained 50 per cent of the total variance that was an indicator of presence of common method bias. We also added a common factor in the model and we associated each item of the model with that common factor. Then, we performed CFA and we found that the common method variance was 18 per cent that is very high.

We used independent sample *t*-test to analyze the difference in TD and TEPs among in-house and subcontractor CCs (*H5* and *H6*). Then, we analyzed indirect effect of firm size on training evaluation through TD (*H4*) using SPSS Syntax developed by Preacher and Hayes (2008). We tested four conditions of mediation using 5,000 bootstrapping samples with 95 per cent bias-corrected confidence interval (CI): a) the firm size significantly affects the TD, (b) Firm size significantly affects TEPs; (c) TD has a unique effect on TEPs; and (d) the impact of firm size on TEPs shrinks when TD is added in the model.

We used moderated multiple and followed Barron and Kenny (1986) to test interaction effect of firm size with ownership on TEPs (*H7*), interaction of firm size with TD on training evaluation(*H7*) and interaction of ownership and TD on training evaluation (*H9* and *H10*). We also used the output of multiple hierarchical regression to test the relationship of firm size, TD and TEPs (*H1*, *H2* and *H3*). While performing moderation analysis, we standardized predictor (both size and ownership) and moderator variable (TD) before creating interaction term. Proceeding further, we used standardized scores for reporting statistics and we used un-standardized beta coefficients for generating graphs of moderation.

We tested four conditions of moderated mediation by following Muller *et al.* (2005):

(1) significant effect of firm size on TD;

(2) significant interaction effect of independent and moderator variable on dependent variable:

- interaction effect of TD and ownership on TEPs;
- interaction effect of TD and firm size on TEPs; and
- interaction effect of size and ownership on TD);

(3) significant effect of firm size on TEPs; and

(4) the indirect effects of firm size on TEPs through TD must vary across different levels of moderators, i.e. ownership and firm size.

We found that Condition 2 (the interaction of ownership with firm size on TD and the interaction of TD and ownership on TEPs) was not fulfilled for the moderating role of ownership. Thus, we dropped ownership from moderated mediation process and ran the SPSS Macro (Model 1) developed by Preacher *et al.* (2007) to test conditional indirect effect of firm size, only, to investigate indirect effect of firm size on training evaluation through TD (*H10* and *H11*).

Results

Descriptive statistics

Table AII provides an overview of means, standard deviation and correlations among different variables. We can observe that "ownership" is negatively correlated with almost all of the variables and the magnitude of correlation is also very small. On the other hand, moderator "TD" is strongly and positively correlated with "size" but negatively correlated with dependent variable "evaluation". Further, "size" was also negatively correlated with "evaluation".

Test of group differences

We used independent sample *t*-test to assess *H5* and *H6*. *H5* stated that TD inside in-house CCs is greater than TD inside subcontractor CCs. We did not find significant difference in mean scores of TD among in-house (M = 12.47; SD = 9.188) and subcontractor CC (M = 11.08; SD = 7.542): $t\,(260) = 1.261$, $p = 0.209$) as the amount of the difference in means of both groups (mean difference = 1.39; 95 per cent CI = −0.786 to 3.566) was very small (eta squared = 0.0002).

Our *H6* stated that TEPs are more intensive inside subcontractor CCs as compared to in-house CCs. Again, *t*-statistics did not reveal any difference in mean scores of TEPs among in-house (M = 5.0154; SD = 0.8708) and subcontractor CC (M = 4.967; SD = 0.92454): $t\,(260) = 0.397$, $p = 0.699$) and the amount of difference in means of both groups (mean difference = 0.0482; 95 per cent CI = −0.19807 to 0.29448) was also very small (eta squared = 0.001). Overall, the results of *t*-test did not reveal any differences in TD and TEPs and our *H5* and *H6* were not supported.

Mediation analysis

As described earlier, we followed Preacher and Hayes (2008) to test indirect effect of firm size on TEPs through TD. We found that the effect of firm size on TD (Path a: $\beta = 7.0110$, $t\,(258) = 10.3344$, $p = 0.000$) was significant and positive. These results supported our first condition of mediation, i.e. *H1* stating that when firm size increases TD increases as well. The effect of TD on TEPs was also significant but negative (path b: $\beta = -0.0190$, $t\,(258) = -3.4013$, $p = 0.008$). These findings were in accordance with our *H3* stating that as TD increases, TEPs become less extensive. Thus, our Condition 2 for mediation was also fulfilled. In the third step, we analyzed the direct effect of firm

size on TEPs (Condition 3). We found that the direct effect of firm size on TEPs was also significant and negative (Path c: $\beta = -0.8473$, $t\,(258) = -13.6197$, $p = 0.0000$). Thus, our Condition 3 of mediation and *H3* stating that firm size significantly predicts TEPs was supported. We found that the indirect effect of firm size on TEPs through TD was also significant ($\beta = -0.1334$, $t\,(258) = -0.0412$, $p = 0.0012$) and the bootstrap results revealed that bias corrected and accelerated confidence intervals did not include 0 (95 per cent CI $= -0.2557, -0.0504$). Thus, our *H4* was also supported (Table AIII).

Moderation analysis

We tested interaction effects (*H7*, *H8*, *H9* and *H10*) following three conditions of Barron and Kenny (1986). We introduced campaign type and origin as control variables and examined the interaction effect of firm size and ownership on TD (*H7*). In the first block, we entered control variables, i.e. origin and campaign; in the second step, we entered independent variable firm size; in the third step, we entered ownership; and we entered interaction term of firm size and ownership in the fourth block. We standardized independent and moderator variables before generating the interaction term and we entered standardized values of control variables. We found that the impact of moderator (ownership) on TD was insignificant ($\beta = -0.095$, $t\,(258) = -1.789$, $p = 0.073$) but firm size ($\beta = 0.551$, $t\,(258) = 7.774$, $p = 0.000$) and interaction term ($\beta = -0.129$, $t\,(258) = -2.329$, $p = 0.021$) significantly predicted TD.

We also developed mod graph using un-standardized beta coefficients (Figure 2). The intersecting lines are representing significant interaction effect of firm size and ownership on TD. Further, we conducted a post hoc test to determine the effect size of moderation using the formulae of f^2 following the descriptions by Aiken and West (1991). Although the effect size of the interaction between size and ownership was very small (0.02), our *H7* was supported.

Then, we tested the interaction effect of size and ownership on TEPs. We found that the main effect of firm size ($\beta = -0.456$, $t\,(258) = -7.260$, $p = 0.000$) was significant and negative. These results supported our *H2* stating that the firm size is significantly and negatively related with TEPs. Further, the main effect of ownership ($\beta = -0.014$,

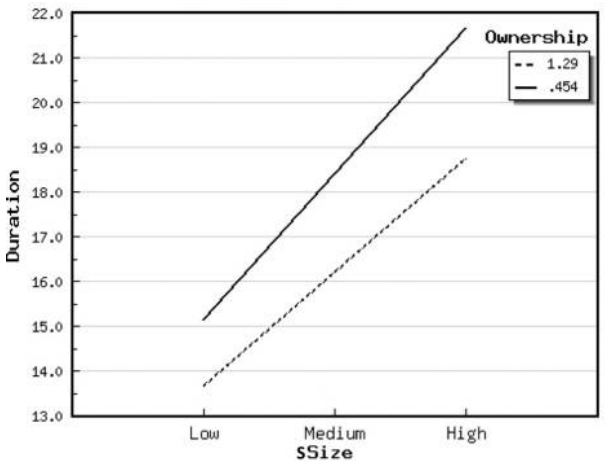

Figure 2.
Interaction effect of firm size and ownership on TD

t (258) = −0.306, p = 0.760) and the interaction term of size and ownership both were insignificant (β = −0.069, t (258) = −1.390, p = 0.1667). These results are depicted through the two parallel lines sloping downward, as shown in mod graph (Figure 3). Thus, our *H8* was not supported.

When analyzing the interaction of ownership and TD on TEPs, we found that the main effect TD (β = −0.315, t (258) = −8.039, p = 0.000) on TEPs was significant and negative but the main effect of ownership (β = −0.088, t (258) = −1.802, p = 0.073) and the interaction effect of TD and ownership on TEPs were both insignificant (β = −0.052, t (258) = −1.041, p = 0.299). The two parallel lines in Figure 4 also represent that there is no moderation. Thus, our *H9* was not supported.

Finally, we tested the interaction effect of firm size and TD on TEPs (*H10*). We found that the main effect of TD (β = −0.231, t (258) = −4.039, p = 0.000) and firm size (β = −0.491, t (258) = −7.136, p = 0.000) on TEPs were negative and significant supporting our *H3* and *H4*. Further, the interaction effect of firm size and TD on TEPs was significant and positive (β = 0.191, t (258) = 3.052, p = 0.003). This positive interaction effect can also be observed from the intersection of three lines in Figure 5. The effect size of the interaction between TD and firm size was small (0.036) and our *H10* was also supported (Table AIV).

Moderated mediation analysis

We introduced ownership and firm size as moderators of the indirect effect of firm size on training evaluation through TD, but we found that ownership does not moderate the effect of TD on TEPs. Thus, we excluded ownership from the analysis of moderated mediation and our *H11* was not supported (Table AV).

Further, we followed Preacher *et al.* (2007) and tested Model 1 of moderated mediation using SPSS Macro. By default, this macro produced significant indirect effects at three different levels of firm (1 standard deviation below the mean: β = −0.2645, p = 0.000;

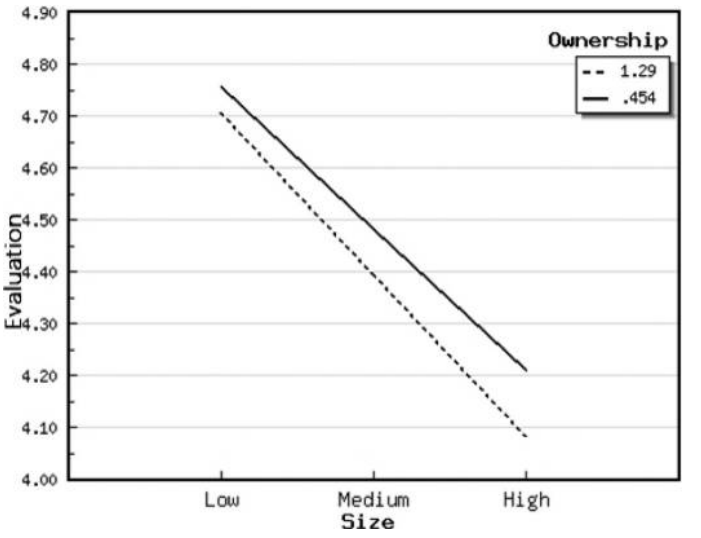

Figure 3.
Interaction effect of firm size and ownership on training evaluation practices

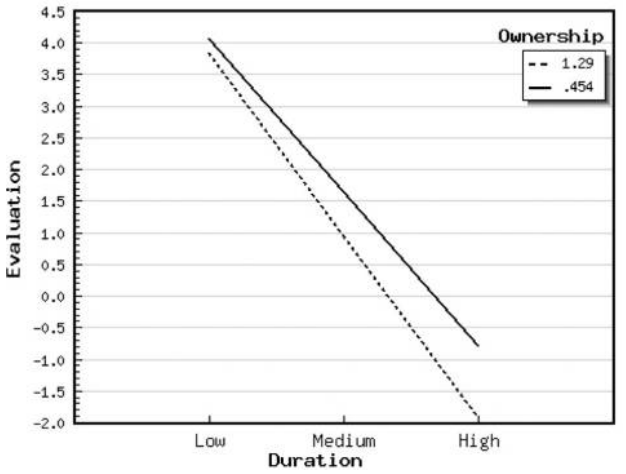

Figure 4.
Interaction effect of TD and ownership on training evaluation practices

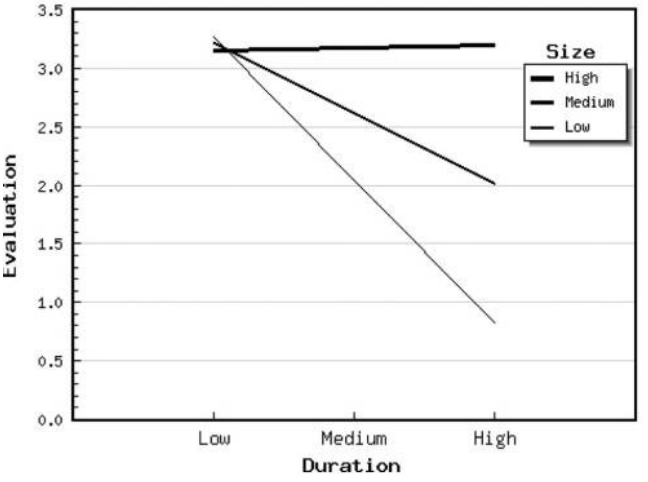

Figure 5.
Interaction effect of TD and firm size on training evaluation practices

mean: $\beta = -0.1806$, $p = 0.000$; 1 standard deviation above the mean: $\beta = -0.0967$, $p = 0.0209$).

We required indirect effects at three different levels of firm size (small = 1, medium = 2 and large = 3). Thus, we generated bootstrap results at these specific values using 5,000 bootstrapping samples. We found that indirect effect of firm size on TEPs through TD significantly differed across three levels of firm size. When we set the value of moderator at 1 (small), we obtained bootstrap bias corrected and accelerated (BCa) CIs of $\{-0.3769, -0.1051\}$ and the indirect effect was different from 0 (small: $\beta = -0.2152$) with p value of 0.0014. But when we set the value of moderator as 2 (Medium) and 3 (Large firm size), we obtained bootstrap BCa CIs of $\{-0.2012, -0.0099\}$ and $\{-0.1001, -0.1839\}$, consecutively, with insignificant indirect effect (medium firm size:

$\beta = -0.0897, p = 0.0550$ and large firm size: $\beta = 0.0350, p = 0.6255$). Thus, our *H12* that stated that the indirect effect of firm size on TEPs through TD depends on the size of the firm was supported. Figure 6 depicts slopes of indirect effects at three different levels of firm size (small = 1, medium = 2 and large =3).

Overall, we have found that firm size is a strong predictor of TD as well as TEPs. We also found out that TD mediates the relationship between firm size and TEPs and this indirect effect itself is conditional to the firm size. We found that there is no difference in TD as well TEPs among inside and subcontractor CCs. The final model that was supported through statistical results of our data is given below in Figure 7.

Discussion and conclusion

Firm size is an effective predictor of efficiency, legitimacy and strategy of a business (Gomes *et al.*, 2009). Moreover, HR practices also vary across firms of different size (Storey *et al.*, 2010; Kotey and Slade, 2005; Michelson and Kramar, 2003). Particularly, large-size firms use HR practices more extensively than smaller firms (Kirkbride and Tang, 1992) and the large firms invest more on employee's training (Barron *et al.*, 1987; Simpson, 1984). Clear and Dickson (2005) also argued that the larger the firm, the greater the likelihood that offsite working was permitted. Overall, the *H1* of this study stated that TD increases as the firm size increases. The statistical results of this study supported this hypothesis and provided empirical evidence that the TD increases as the firm size increases. However, our *H2* and *H3*, respectively, stating that firm size and TD are negatively related with training evaluation practices, were also supported. This finding is also in accordance with the study of Haber and Lamas (1988) who stated that large firms invest more on pre-employment screening of employees but they invest less

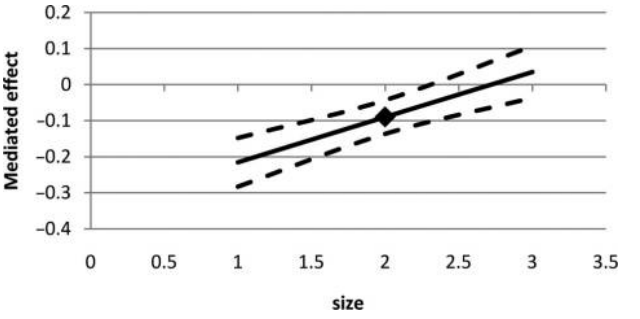

Figure 6.
Conditional indirect effect of firm size on training evaluation through TD at different levels of firm size

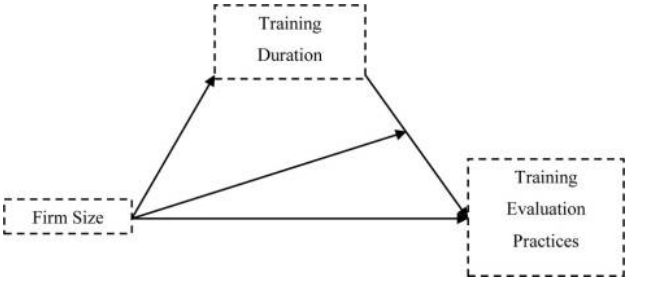

Figure 7.
Final supported framework

on monitoring of their employees. Further, statistical results of the study have also supported *H4* that mediating role of TD between firm size and training evaluation practices was significant. These results are also in accordance with the proposition of Budhwar and Sparrow (2002) that the effect of contingent variables on HR practices is mediated by organizational actions.

Previous research studies have been advocating differences between in-house and subcontractors in many areas like collective bargaining (Holman *et al.*, 2007), job quality (Doellgast *et al.*, 2009) and monitoring (Grugulis *et al.*, 2002; Doellgast *et al.*, 2009). Global Call Center Report has also shown differences in many areas including duration of initial training, job discretion, monitoring and time to gain proficiency. The duration of entry-level training inside in-house CCs is greater as compared to subcontractor CCs. Similarly, monitoring occurs on weekly basis inside subcontractor CCs and it occurs on monthly basis inside in-house CCs. Doellgast *et al.* (2009) claimed that the "ownership" characteristic is a base for segmentation that distinguishes among different CC segments. This study also hypothesized that TD and TEPs differ among in-house and subcontractor CCs, as reported in Global Call Center Survey Report. However, the statistics of *t*-test did not represent any differences among in-house and subcontractor CCs in the respect and *H5* and *H6* were not supported.

The *H7*, *H8*, *H9* and *H10* examined the interaction effects. However, the statistical results supported only the interaction effect of firm size and ownership on TD (*H7*) and the interaction effect of TD and firm size on training evaluation practices (*H10*). Firm ownership significantly interacted with firm size to predict TD but not the training evaluation practices. The dark line in Figure 2 represents the in-house CCs and describes that the TD in large in-house CC organizations is greater as compared to the large subcontractor CC organizations (represented through dotted line). This result is in accordance with the proposition of Budhwar and Sparrow (2002) stating contingency variables may interact with each other to determine HRM practices. Contrary to the interaction effect of firm ownership with TD, the interaction effect of firm size with TD on training evaluation practices was significant. The results demonstrated that both TD and firm size predicted training evaluation practices negatively but the interaction effect of both predicted training evaluation practices positively. This demonstrates that the firms which are larger and provide training of longer duration to their employees, use more sophisticated training evaluation practices (the dark line in Figure 5 representing large firm size and longer TD). Based on these results, this can be stated that the larger firms may attempt to introduce lengthy training and sophisticated training evaluation practices that is difficult for smaller organizations to imitate due to limited resources, as stated by Guthrie (2001), Jackson and Schuler (1995) and Barney (1991).

*H11*and *H12* were developed to examine the indirect effect of firm size on TD and training evaluation practices across different levels of firm size and ownership. However, *H11* was not supported as the conditions of moderated mediation were not satisfied. However, the mediating effect of TD in the relationship between firm size and training evaluation practices was significant in small- and medium-sized organization but not in the large-sized organizations. Overall, the results demonstrated that firm size is relatively stronger variable affecting HRM practices like TD and training evaluation practice as compared to firm ownership.

Managerial implications

This study offers some implications for organizational decision-makers and training professionals by explaining the mechanism through which firm characteristics are linked with training evaluation practices. Particularly, this study has highlighted the role of two important firm characteristics in determining length of training and intensity of evaluation. The statistical findings of mediation hypothesis provide practitioners an insight about the role of TD in strengthening the association between firm characteristics and training evaluation. The results of moderated mediation analysis demonstrate that though professionals of larger organizations may solely rely on (selective hiring and) extensive training yet they could also have to use intensive training evaluation practices. These professionals may take these initiatives to make their HR practices more sophisticated and inimitable by other organizations. On the other hand, these results suggest training professionals of smaller organizations owing limited financial resources to revisit their decisions about borrowing training evaluation practices from larger organizations owing abundant resources as compared to smaller organizations. Finally, the findings of the firm may be more fruitful for CC organizations which are expanding their operations from smaller scale to the larger scale. For instance, the professionals could increase the focus on selective hiring and extensive training strategies by relaxing the monitoring criteria to achieve economies of scale.

Limitations and future research

This study is cross-sectional in nature that has its own limitations; therefore, we recommend future researchers to conduct longitudinal research to replicate the findings of this study. The findings of this study are also limited to CC industry, which must not be generalized to any other sector. Moreover, this study emphasizes only on training evaluation practices and future research must replicate such findings by focusing on other HRM practices, particularly, selective hiring and performance appraisal. The focus of this study is limited to ELPT of CCAs that requires considering other types of training interventions as well. This study introduces two levels of ownership: in-house and subcontractor but another category of CCs have emerged that is offshore CCs. We have not included this variable in our study because off-shoring has is passing through embryonic stage in Pakistan. We did not introduce other culture-free characteristics of CC like "campaign (inbound/outbound)" in our study; therefore, further research must incorporate such variables. Future research must also investigate the mediating role of perceived importance of evaluation for stakeholders like trainers, trainees, training managers, particularly, using generalized hierarchical linear modeling. Finally, we used three bands to measure firm size but future researchers need to use the exact number of employees inside the organization. Though, we took some procedural as well as statistical measures to deal with common method variance but the common method bas still existed in our study. We suggest that researchers need to adapt different procedures to deal with common method bias to get more accurate findings.

References

Aiken, L.S. and West, S.G. (1991), *Multiple Regression: Testing and Interpreting Interactions*, Sage, Newbury Park, CA.

Barney, J. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17 No. 1, pp. 99-120.

Barron, J.M., Black, D.A. and Lowenstein, M.A. (1984), "On recalls, layofffs, variable hours, and labour adjustment costs", *Journal of Economic Dynamics and Control*, Vol. 8 No. 3, pp. 265-275.

Barron, J.M., Black, D.A. and Lowenstein, M.A. (1987) "Employer size: the implications for search, training, capital investment, starting wages, and wage growth", *Journal of Labour Economics*, Vol. 5 No. 1, pp. 76-89.

Barron, 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.

Bates, R. (2004), "A critical analysis of evaluation practice: the Kirkpatrick model and the principle of beneficence", *Evaluation and Program Planning*, Vol. 27 No. 3, pp. 341-347.

Batt, R., Doellgast, V. and Kwon, H. (2005), "Service management and employment systems in US and Indian call centers", in Collins, S. and Brainard, L. (Eds), Brookings Trade Forum 2005: Offshoring White-Collar Work – The Issues and Implications, TheBrookingsInstitution, Washington, DC, pp. 335-372, available at: http://digitalcommons.ilr.cornell.edu/hr/39/

Bauer, D.J., Preacher, K.J. and Gil, K.M. (2006), "Conceptualizing and testing random indirect effects and moderated mediation in multilevel models: new procedures and recommendations", *Psychological Methods*, Vol. 11 No. 2, pp. 142-163.

Behrends, T. (2007), "Recruitment practices in small and medium size enterprises: an empirical study among knowledge-intensive professional service firms", *Management Revue, Hampp, Mering*, Vol. 18 No. 1, pp. 55-74, ISSN 1861-9916.

Budhwar, P.S. and Sparrow, P.R. (2002), "An integrative framework for understanding cross-national human resource management practices", *Human Resource Management Review*, Vol. 12 No. 3, pp. 377-403.

Burgess, J., Connell, J. and Hannif, Z. (2005), "Employment issues in Australian public sector call centres: differences and similarities with the private sector", *International Employment Relations Review*, Vol. 11 Nos 1/2, pp. 1-19.

Callaghan, G. and Thompson, P. (2002), "We recruit attitude: the selection and shaping of routing call centre labor", *Journal of Management Studies*, Vol. 39 No. 2, pp. 233-254.

Clear, F. and Dickson, K. (2005), "Teleworking practice in small and medium-sized firms: management style and worker autonomy", *New Technology, Work and Employment*, Vol. 20 No. 3, pp. 218-233.

Collins, C.J. and Clark, K.D. (2003), "Strategic human resource practices, top management team social networks, and firm performance: the role of human resource practices in creating organizational competitive advantage", *Academy of Management Journal*, Vol. 46 No. 6, pp. 740-751.

Datta, D.K., Guthrie, J.P. and Wright, P.M. (2005), "Human resource management and labor productivity: does industry matter?", *Academy of Management Journal*, Vol. 48 No. 1, pp. 135-145.

De Vos, A., Buyens, D. and Schalk, R. (2003), "Psychological contract development during organizational socialization: adaptation to reality and the role of reciprocity", *Journal of Organizational Behavior*, Vol. 24 No. 5, pp. 537-599.

Doellgast, V., Holtgrewe, U. and Deery, S. (2009), "The effects of national institutions and collective bargaining arrangements on Job Quality in front-line service workplaces", *Industrial and Labor Relations Review*, Vol. 62 No. 4, pp. 489-509.

Drost, E.A., Frayne, C.A., Lowe, K.B. and Geringer, J.M. (2002), "Benchmarking training and development practices: a multi-country comparative analysis", *Human Resource Management*, Vol. 41 No. 1, pp. 67-86.

Edwards, J.R. and Lambert, L.S. (2007), "Methods for integrating moderation and mediation: a general analytical framework using moderated path analysis", *Psychological Methods*, Vol. 12 No. 1, pp. 1-22.

Flesher, J. (2007), "Rapid training system self-assessment", *Performance Improvement*, Vol. 46 No. 2, pp. 35-41.

Galbraith, J. and Nathanson, D. (1978), *Strategy Implementation: The Role of Structure and Process*, West Publishing, St. Paul, MN.

Goldstein, I.L. (1986), *Training in Organizations: Needs Assessment, Development and Evaluation*, Brooks/Cole Publishing, Pacific Grove, CA.

Gomes, C.M., Kruglianskas, I. and Scherer, F.L. (2009), "The internationalization process of Brazilian companies: a study of multiple cases in the heavy construction industry", *Journal of Technology Management & Innovation*, Vol. 6 No. 4, pp. 280-289.

Grugulis, I., Vincent, S. and Hebson, G. (2002), "The future of professional work? The rise of the 'network form' and the decline of discretion", in Cooney, R. and Stuart, M. (Eds), Proceedings of the first International Conference on Training, Employability and Employment, *M University Department of Management, M University National Key Centre in Industrial Relations & L University Business School Centre for Industrial Relations and Human Resource Management (Conference Management Office, Monash University)*, Melbourne, pp. 56-60.

Guerci, M., Bartezzaghi, E. and Solari, L. (2010), "Training evaluation in Italian corporate universities: a stakeholder-based analysis", *International Journal of Training and Development*, Vol. 14 No. 4, pp. 291-308.

Guthrie, J. (2001), "High-involvement work practices, turnover and productivity: evidence from New Zealand", *Academy of Management Journal*, Vol. 44 No. 1, pp. 180-192.

Haber, S. and Lamas, E. (1988), "Survey of Income and Program Participation: Training, Wage growth, Firm Size", US Department of Commerce, Bureau of the Census, available at: www2.census.gov/prod2/sipp/wp/SIPP_WP_068.pdf

Hickson, D.J., Hinings, C.R., McMillan, C.J. and Schwitter, J.P. (1974), "The culture-free context of organization structure: a tri-national comparison", *Sociology*, Vol. 8 No. 1, pp. 59-80.

Holman, D., Batt, R. and Holtgrewe, U. (2007), *The Global Call Center Report: International Perspectives on Management and Employment*, Cornell University, ILR School, Ithaca, NY.

Hui, M.K., Au, K. and Fock, H. (2004), "Empowerment effects across cultures", *Journal of International Business Studies*, Vol. 35 No. 1, pp. 46-60.

Jackson, S.E. and Schuler, R.S. (1995), "Understanding human resource management in the context of organizations and their environments", *Annual Review of Psychology*, Vol. 46 No. 1, pp. 237-264.

Jennings, P.D., Cyr, D. and Moore, L.F. (1995), "Human resource management on the Pacific Rim: an integration", in Moore, L.F. and Jennings, P.D. (Eds), *Human Resource Management on the Pacific Rim: Institutions, Practices, and Attitudes*, de Gruyter, Berlin.

Kirkbride, P.S. and Tang, S.F.Y. (1992), "Management development in the Nanyang Chinese societies of South East Asia", *Journal of Management Development*, Vol. 11 No. 2, pp. 51-63.

Kirkpatrick, D. (1967), "Evaluation of training", in Craig, R. and Bittel, L. (Eds), *Training and Development Handbook*, McGraw-Hill, New York, NY.

Kotey, B. and Slade, P. (2005), "Formal human resource management practices in growing small firms", *Journal of Small Business Management*, Vol. 43 No. 1, pp. 16-40.

Lien, B.Y., Hung, R.Y. and McLean, G.N. (2007), "Training evaluation based on cases of Taiwanese benchmarked high-tech companies", *International Journal of Training and Development*, Vol. 11 No. 1, pp. 35-48.

Martin, A. and Bartscher-Finzer, S. (2006), "Die führung mittelständischer unternehmen: zwischen defizit und äquivalenz", in Krüger, W. (Ed.) *Praxishandbuch des Mittelstands*, Gabler, Wiesbaden, pp. 203-217.

Martinez, M. and Stuart, M. (2003), "International briefing 13: training and development in Spain: the politics of modernization", *International Journal of Training and Development*, Vol. 7 No. 1, pp. 67-77.

Medsker, K.L. and Roberts, D.G. (1992), *Trainers' Toolkit: Evaluating the Results of Training*, American Society for Training and Development, Alexandria, VA, pp. 105-111.

Michelson, G. and Kramar, R. (2003), "The state of HRM in Australia: progress and prospects", *Asia Pacific Journal of Human Resources*, Vol. 41 No. 2, pp. 133-148.

Muller, D., Judd, C.M. and Yzerbyt, V.Y. (2005), "When moderation is meditated and mediation is moderated", *Journal of Personality and Social Psychology*, Vol. 89 No. 6, pp. 852-863.

Newkirk-Moore, S. and Bracker, J. (1998), "Strategic management training and commitment to planning", *International Journal of Training and Development*, Vol. 2 No. 2, pp. 82-90.

Paul, J. and Huws, U. (2002), "How can we help? Good practices in call center employment", Second Draft Report for the TOSCA, Project, Analytical, Social and Economic Research Ltd, available at: www-it.fmi.uni-sofia.bg/TOSCA/pub/leaflet/Tosca_Book_text.pdf (accessed 2011).

Phillips, J.J. (1997), *Return on Investment in Training and Performance Improvement Programs: A Volume in Improving Human Performance*, 2nd ed., Gulf, Houston, TX.

Phillips, J.J. and Phillips, P.P. (2010), *Measuring for Success: What CEOs Really Think About Learning Investments*, ASTD Press, Alexendria, VA.

Preacher, K.J. and Hayes, A.F. (2008), "Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models", *Behavior Research Methods*, Vol. 40 No. 3, pp. 879-891.

Preacher, K.J., Rucker, D.D. and Hayes, A.F. (2007), "Addressing moderated mediation hypotheses: theory, methods, and prescriptions", *Multivariate Behavioral Research*, Vol. 42 No. 1, pp. 185-227.

Schönauer, A. (2008), "Reorganising the front line: the case of public call centre services", *Work, Organisation, Labour and Globalisation*, Vol. 2 No. 2, pp. 131-147.

Sieben, I. and de Grip, A. (2004), "Training and expectations on job mobility in the call centres sector", *Journal of European Industrial Training*, Vol. 282 No. 3, pp. 225-271.

Sieben, I., De Grip, A., Longen, J. and Sorenson, O. (2009), "Technology, selection and training in call centers", *Industrial and Labour Relations Review*, Vol. 62 No. 4, pp. 553-572.

Simpson, C. (1984), "Borrego Springs-Santa Rosa mylonite zone: a late Cretaceous west-directed thrust in southern California", *Geology*, Vol. 12 No. 1, pp. 8-11.

Storey, D.J., Saridakis, G., Sen-Gupta, S., Edwards, P.K. and Blackburn, R.A. (2010), "Linking HR formality with employee job quality: the role of firms and workplace size", *Human Resource Management*, Vol. 49 No. 2, pp. 305-329.

Tabachnick, B.G. and Fidell, L.S. (2007), *Using Multivariate Statistics*, 5th ed., Pearson Allyn & Bacon, Upper Saddle River, NJ.

Tayeb, M. (1987), "Contingency theory and culture: a study of matched English and the Indian manufacturing firms", *Organization Studies*, Vol. 8 No. 3, pp. 241-261.

Twitchell, S., Holton, E.F. and Trott, J.W. (2000), "Technical training evaluation practices in the United States", *Performance Improvement Quarterly*, Vol. 13 No. 3, pp. 84-109.

Walsh, J. and Deery, S. (2006), "Refashioning organizational boundaries: outsourcing customer service work", *Journal of Management Studies*, Vol. 43 No. 3, pp. 557-582.

Weinkopf, C. (2009), "Job quality in call centers in Germany", *International Labour Review*, Vol. 148 No. 4, pp. 395-411.

Welch, D. (1994), "Determinants of international human resource management approaches and activities: a suggested framework", *Journal of Management Studies*, Vol. 31, pp. 139-164.

White, C. and Roos, V. (2005), "Core competencies of a call center agent", *SA Journal of Human Resource Management*, Vol. 3 No. 2, pp. 41-47.

Yadapadithaya, P.S. (2001), "Evaluating corporate training and development: an Indian experience", *International Journal of Training and Development*, Vol. 5 No. 4, pp. 261-274.

Zhu, Y., Collins, N., Webber, M. and Benson, J. (2008), "New forms of ownership and human resource practices in Vietnam", *Human Resource Management*, Vol. 47 No. 3, pp. 157-175.

Further reading

Alliger, G.M., Tannenbaum, S.I., Bennett, W. Jr., Traver, H. and Shotland, A. (1997), "A meta-analysis of the relations among training criteria", *Personnel Psychology*, Vol. 50 No. 2, pp. 341-358.

Benjaafar, S., Elahi, S. and Donohue, K.L. (2007), "Outsourcing via service competition", *Management Science*, Vol. 53 No. 2, pp. 241-259.

Burgess, J. and Connell, J. (2004), "Emerging development in call center research", *Labour and Industry*, Vol. 14 No. 3, pp. 1-14.

Cacioppe, R., Warren-Langford, P. and Bell, L. (1990), "Trends in human resource development and training", *Asia Pacific Journal of Human Resources*, Vol. 28 No. 2, pp. 55-72.

Delery, J.E. and Shaw, J.D. (2001), "The strategic management of people in work organizations: review, synthesis, and extension", in Ferris, G.R. (Ed.), *Research in Personnel and Human Resources Management*, Vol. 20, JAI, Greenwich, CT, pp. 165-197.

Huerta, M.E., Audet, X.L. and Peregort, O.P. (2006), "In-company training in Catalonia: organizational structure, funding, evaluation and economic impact", *International Journal of Training and Development*, Vol. 10 No. 2, pp. 140-163.

Kumar, S. and Eickohoff, J.H. (2005), "Outsourcing: when and how should it be done?", *Information Knowledge Systems Management*, Vol. 5 No. 4, pp. 245-259.

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.

McGraw, P. (2002), "The HR function in local and overseas firms: evidence from the Pricewaterhousecoopers-Cranfield HR project (1999)", *Asia Pacific Journal of Human Resources*, Vol. 40 No. 2, pp. 205-227.

Paauve, J. and Boselie, P. (2003), "Challenging 'strategic HRM' and the relevance of institutional setting", *Human Resource Management Journal*, Vol. 13 No. 3, pp. 56-70.

Pallant, J. (2007), *Survival Manual: A Step by Step Guide to Data Analysis Using SPSS for Windows*, 1st ed., McGraw Hill, Open University Press, New York, NY.

Podsakoff, P.M., MacKenzie, S.B., Lee, S.B. and Podsakoff, N.P. (2012), "Sources of method bias in social research and recommendations on how to control it", *Annual Review of Psychology*, Vol. 63, pp. 539-569.

Redshaw, B. (2000), "Evaluating organizational effectiveness", *Industrial and Commercial Training*, Vol. 32 No. 7, pp. 245-248.

Singh, K. (2004), "Impact of HR practices on perceived firm performance in India", *Asia Pacific Journal of Human Resources*, Vol. 42 No. 3, pp. 301-317.

Smith, A. (1993), "Australian training and development in 1992", *Asia Pacific Journal of Human Resources*, Vol. 31 No. 2, pp. 65-74.

Snyder, D.P. (2005), "Extrapreneurship: reinventing enterprise for the information age", *The Futurist*, Vol. 39 No. 4, pp. 47-53, available at: www.questia.com/magazine/1G1-133858943/extra-preneurship-reinventing-enterprise-for-the

Sparrow, P.R. (1995), "Towards a dynamic and comparative model of European human resource management: an extended review", *International Journal of Human Resource Management*, Vol. 6 No. 4, pp. 481-505.

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.

Appendix

Questionnaire items	Factor 1	2	3	4	5
Research questionnaire		0.553			
Pre and post test		0.748			
Post test only		0.605			
Anecdotal information		0.613			
Simulation		0.693			
Skill demonstration				0.630	
On-job-training demonstration				0.567	
Self-assessment				0.681	
Team assessment				0.691	
Facilitator/instructor assessment				0.612	
Trainee subordinate assessment					0.728
Peer assessment					0.506
Supervisor assessment					0.801
Focus group					0.722
Follow-up assignments					0.615
Action plan					0.684
Self-assessment					0.682
Improved productivity estimate	0.623				
Compensation	0.746				
Isolate program effects	0.495				
CCA turnover	0.662				
Quality of service	0.689				
Sales increase	0.619				
Customer satisfaction	0.460				
Satisfaction of customer organization	0.573				
Increase in compensation of CCAs	0.599				
Traditional ROI			0.521		
Cost/benefit analysis			0.563		
Payback period			0.853		
Net present value			0.799		
Internal rate of return			0.747		
Utility analysis			0.876		
Balanced scorecard			0.696		
Consequences of not training			0.631		

Table AI.
Pattern matrix

Table AII.
Descriptive statistics and correlations

Variables	Ownership	Size	Duration	Evaluation
Ownership	1			
Size	0.073 (0.242)	1		
Duration	−0.072 (0.247)	0.541 (0.000)	1	
Evaluation	−0.025 (0.692)	−0.647 (0.000)	−0.483 (0.000)	1

Table AIII.
Indirect effect of firm size on training evaluation practices through training duration

	Dependent variable = evaluation		
Independent variable	Direct effect with mediator	Direct effect without mediator	
Firm size	−0.8473 (0.000)	−0.7139 (0.000)	Mediation

Table AIV.
Statistics resulting from moderation analysis

	DV = training duration								DV = Training evaluation practices							
	Moderation 1				Moderation 2				Moderation 3				Moderation 4			
Variables	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Firm size		0.483	0.501	0.551		−0.485	−0.482	−0.456							−0.406	−0.491
		(0.000)	(0.000)	(0.000)		(0.000)	(0.000)	(0.000)							(0.000)	(0.000)
Ownership			−0.100	−0.095			−0.017	−0.014			−0.084	−0.088				
			(0.062)	(0.073)			(0.719)	(0.760)			(0.000)	(0.073)				
Firm size × ownership				−0.129				−0.069								
				(0.021)				(0.166)								
Training duration										−0.304	−0.308	−0.315		−0.304	−0.165	−0.231
										(0.000)	(0.000)	(0.000)		(0.000)	(0.002)	(0.000)
Ownership × training duration												−0.052				
												(0.299)				
Firm size × training duration																−0.191
																(0.000)
Campaign	0.149	0.069	0.050	0.058	−0.229	−0.149	−0.152	−0.148	−0.229	−0.184	−0.196	−0.191	−0.229	−0.184	−0.137	−0.130
	(0.010)	(0.202)	(0.355)	(0.284)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.003)	(0.005)
Origin	0.380	0.079	0.065	0.012	−0.531	−0.229	−0.232	−0.260	−0.531	−0.416	−0.416	−0.426	−0.531	−0.304	−0.216	−0.222
	(0.000)	(0.239)	(0.332)	(0.886)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
R^2	0.161	0.300	0.309	0.311	0.324	0.464	0.464	0.468	0.324	0.401	0.408	0.411	0.318	0.401	0.483	0.501
R^2 Change	–	0.139	0.010	0.014	–	0.140	0.000	0.004	–	0.077	0.007	0.003	–	0.077	0.082	0.018

Independent variables	Training duration Coefficient	Evaluation Coefficient	Conditional indirect effect at specific value(s) of the moderator(size) Size	Indirect effect
Size	7.011 (0.000)	−1.0421 (0.000)	0.6206 (Mean − 1SD)	−0.2645 (0.000)
Duration	–	−0.0487 (0.000)	1.2962 (Mean)	−0.1806 (0.0001)
Inter2	–	0.0177 (0.0033)	1.9717 (Mean + 1SD)	−0.0967 (0.0209)

Size	Bootstrap results at specific values of firm size(moderator) Boot indirect effect	Boot P	Bias−corrected and accelerated confidence interval Upper	Lower
1 (Small)	−0.2152	0.0014	−0.3769	−0.1051
2 (Medium)	−0.0897	0.055	−0.2012	−0.0099
3 (Large)	0.035	0.6255	−0.1001	0.1839

Notes: Variables in system: independent variable = size; dependent variable = evaluation; mediator variable = duration; moderator variable = size; interaction terms (inter2) = duration × size; sample size = 260

Table AV. Conditional indirect effect of firm size on training evaluation practices through training duration at different levels of moderator (firm size)

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