Enhancing the Potential Absorptive Capacity of the Project-Based Organizations Through Human Resources Development: Evidence from Registered Contractors in Tanzania

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Abstract

The *potential absorptive capacity (PAcap) of a firm can best be achieved, given a set of antecedents in terms of knowledge sources and experiences. The limit to these antecedents however remains unexplored and it offers opportunities for future expansion of the ACAP theory through research. The main purpose of this study is to examine the influence of human resources development practices on PAcap of project based organizations (PBOs). The study is explanatory in nature and it adopted a cross-sectional research design. In data analysis, simple random sampling technique was applied in selecting 293 representatives from 293 contractors and questionnaires was used in data collection as well as the PLS-SEM with the help of SmartPLS 3.2.8 software. The findings reveal that career development, developmental performance appraisal and team building have positive influence on the PAcap of a firm. The study contributes to the body of knowledge that all of the three human resources development (HRD) attributes are the perfect antecedents of PAcap in the absorptive capacity theory. It is also recommended that managers and policy makers have to introduce, initiate and encourage employees to participate in different career development programmes, engage fully in developmental performance appraisal programs and effectively build teams. Future researches on absorptive capacity are suggested to be conducted in the longitudinal kind of design to accommodate the procedures of knowledge creation from acquisition to its exploitation.*

Keywords: Career development, Developmental performance appraisal, team building, Potential absorptive capacity

Introduction

In this era of globalization and increasing competition in the labour market in the face of protracting shortage of infrastructure, foreign contractors have made developing countries a choice of destination (Kikwasi et al., 2020). In Tanzania, for example, the Project-Based Organizations (PBOs), the construction industry, in particular, has recorded an increase in registration to an average rate of 7.2% per year (URT, 2018). The sector's growth rate largely is due to an increase in the ongoing construction and rehabilitation activities in the country. In this case, the CRB (2018) reports that the Tanzanian construction industry is composed of 8,457 (97.6%) local and 212 (2.4%) foreign based contractors. The foreign contractors' participation

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has heightened the competition and the available studies show that local contractors face difficulties in surviving the competition compared to their foreign counterparts. The CRB figures show that between 2011 - 2017, about 1,019 projects were carried out by foreign contractors (value of TZS 17,085.29 billion) while 17,344 projects (value of TZS 8,239.03 billion) were carried by the local contactors (CRB, 2018). Assuming that these numbers reflect all projects, foreign contractors appear to execute about 5.5% of the contracts but receive 67% of the available expenditure. This indicates that the local contractors in the country lack capacities and creditability in executing the large and medium projects compared to the foreign contractors.

Again, the studies show that companies with the capacities based on dynamic resources that are valuable, rare, non-substitutable and difficult to replicate gain more competitive advantage compared to others which do not have one (Kurtmollaiev, 2020). Studies show that if the capabilities are integrated into organizational processes and routines, they enable the company to quickly adapt to changing nature of environment, re-allocate its resource pool, achieve transformation and adaptation, and ultimately outperform competitors (Karimi- Alaghehband & Rivard, 2020). According to Memon et al. (2023), the business environment with varied and volatile nature like that of the project based context necessitates the need for higher competitive advantages as a response to the existing and emerging challenges. The challenges resulting from volatility include the legal and contractual issues, delay of the projects and disruption of schedule, shortage of skilled workforce, changes in technologies, safety requirements, economic uncertainty, budget constraints and cost overrun (Keegan et al., 2017; Memon et al., 2023; Samimi & Sydow, 2020; Shoar et al., 2022).

In spite of several factors being identified in research to provide a firm with greater capacity, the available literature shows that most of the problems in competitive advantage creation stem from lack of absorptive capacity by the companies (Nur & Zulkiffli, 2022). Thus, addressing the challenges facing firms in business' operations cannot be possible without knowledge acquisition, management and transfer (Nur & Zulkiffli, 2022; Zahra & George, 2002). From this ground, the current study, therefore, examines the important antecedents of absorptive capacity as the basic way for improving the necessary competitive advantage through knowledge creation as guided by the Absorptive Capacity (ACAP) theory. As explained in the work by Zahra and George (2002), two main dimensions of absorptive capacity namely potential absorptive capacity (PAcap) and realized absorptive capacity (Racap) can be discussed separately with PAcap starting first before RAcap to arrive at a competitive advantage. This study concentrates more on the first part of absorptive capacity (PAcap) and it believes that withoutt knowledge acquisition and assimilation, no transformation nor exploitation can be possible. The PAcap part is also examined in the current study because it sets a ground for the realized part of the absorptive capacity (Nur & Zulkiffli, 2022; Zahra & George, 2002).

The literature further shows that different antecedents of absorptive capacity have been researched including research & development, prior knowledge and individual skills as well as HRM practices (Alaali & Rees, 2019; Mangipudi et al., 2019). Moreover, the behavioural theories and the empirical literature emphasize on the need for fine human resources (HR) aspect as an internal resource in competitive advantage and they report it being inseparable in absorptive capacity generation (Khatijatusshalihah, 2017). Hence, there is a need to have a look

at the link between HRM and absorptive capacity. Different studies have been conducted to link HRM and absorptive capacity (Hosseingholizadeh, 2019; Khatijatusshalihah, 2017; Liao et al., 2021). The researched areas of HRM however emphasize that HRD practices form one of the most important elements for a firm to arrive at a greater competitive advantages (Latukha et al., 2019). Studies recognize some of the attributes of HRD in addressing various problems in the work setting. The attributes like training and development (Khatijatusshalihah, 2017), training and education (Alaali & Rees, 2019) were revealed to relate with capacity building. The concept of capacity building as considered in these studies, however, is too broad and therefore not directly related to the specific concept of absorptive capacity.

From the above discussion, previous studies focused only on some of the HRD attributes: the influence of aspects like career development (CDev), developmental performance appraisal (DPApp) and Team building (Tbuilding). These HRD attributes that are considered by the AMO theory and other researchers to be strategically relevant have not been specifically and thoroughly addressed to predict PAcap for they are mostly combined together as HRD constructs, and being indicators (Latukha et al., 2019; Mangipudi et al., 2019). These HRD attributes are very important in capitalizing the human resources (HR) for competitive advantage of which potential absorptive capacity is of the question (Latukha et al., 2019). Moreover, the few researches that tried to link HRD and competitive advantages explained the three attributes based on few indicators. For example, only some of career development indicators were tested in the field of knowledge management like staff coaching and mentoring leaving behind the issues like succession planning, out of class experience and job rotation. Furthermore, performance appraisal has for long been treated as one (Liao et al., 2021; Thneibat & Sweis, 2022) despite the difference between evaluative and DPApp (Thneibat & Sweis, 2022). The developmental performance appraisal aspect differs significantly from evaluative performance appraisal as the evaluative appraisal focuses on assessing performance with the aim of differentiating individuals in terms of performance (Thneibat & Sweis, 2022). The developmental performance appraisal has the main focus on future development by enabling individuals to set future objective and address their weaknesses while upholding their strengths (Alghanabousi et al., 2013; Thneibat & Sweis, 2022).. Therefore, there is a need for this study to test career development (CDev) as a whole in connection to developmental kind of performance appraisal and team building practices as antecedents of potential absorptive capacity.

Theoretical Framework

Absorptive Capacity Theory

The absorptive capacity idea was first used as a concept by Cohen and Levinthal (1990) as an indicator of job change and innovation in the firms. In their study, it was argued that the company's ability to transform and innovate depends on its ability to recognize the value, acquire, assimilate and commercially apply the new external knowledge. Later, Zahra and George (2002) explored and extended the concept by examining the main dimensions of ACAP and expanding it to an ACAP theory that combines antecedents, moderators and outcomes with multiple absorptive capacities. Zahra and George (2002) show that absorptive capacity is divided into two related groups: PAcap which involves acquisition and assimilation and RAcap which includes transformation and exploitation. The difference between the two is explained in a way that a firm may be able to value, acquire and understand the external knowledge but this

does not guarantee the perfect use of that knowledge. Therefore, PAcap ends with the ability of a firm to value, search, acquire and understand the external knowledge.

The theory further advocates that PAcap and RAcap have different but complementary roles, both coexist at a time but individually they cannot lead to improvement of the firm's performance. Therefore, differentiating the two enables the researcher to understand why other firms are efficient in using ACAP than the others. Zahra and George (2002) state that their theoretical distinction also shows the ways through which each subset of ACAP can differently be influenced by the antecedents. In the theory, Zahra and George (2002) defined the two indicators of PAcap. Acquisition is defined as the ways through which a company identifies and acquires the relevant knowledge from external environment which are crucial for the operation of the business. Assimilation is the way through which a company absorbs, understands, analyses, processes and interprets the acquired external knowledge (Müller et al., 2021; Zahra & George, 2002). The antecedents as explained by the theory show the sources of knowledge and complementary experiences individuals have which were explained by the theory to basically vary ranging from research and development and HRD that can influence an organization to search for external knowledge. Finally, acquisition and assimilation were applied in this study as indicators of PAcap. Studies, however, show that career development, developmental performance appraisal and team building are the three attributes of HRD which are reported to be strategically relevant in dynamic capability development (Arubayi et al., 2020; Ojo et al., 2017; Zhou et al., 2020). In the context of this study, the three elements are tested as antecedents to potential absorptive capacity.

Hypotheses Development

The hypotheses were developed based on the ACAP theory and the conceptual framework was illustrated in Figure 1. Picking from the ACAP theory, the potential absorptive capacity is preceded by the antecedents in form of knowledge sources and experiences (Zahra & George, 2002). Studies show that diverse aspects can play part as the sources of knowledge including the developmental aspect of HRM. Although the theory did not specifically mention HRD as a source of knowledge and experiences, the available literature emphasizes on the need for fine HRs as capitalized through team building, career development and developmental performance appraisal as the triggers to higher dynamic capabilities of a firm. In this vein, various studies have evaluated the career development concept as related to absorptive capacity and competitive advantage (Allen et al., 2021; Arubayi et al., 2020; Catarino et al., 2018). With CDev, Latukha (2018) argues that talent development relates with knowledge acquisition. However, the concept of talent development considered in his study as a total process of training is challenged for being different from other aspects of HRD. This is because other aspects do not only concentrate on employees who are labeled as talented via a certain process (Catarino et al., 2018; Mehdiabadi & Li, 2016). Again, the study by Arubayi et al. (2020) recommend managers to achieve individual absorptive capacity through capitalization of CDev and training & development. The above discussion indicates the possible influence of career development on the PAcap of a firm. From this basis, it was hypothesized that:

H1: Career development has a positive influence on potential absorptive capacity of a firm.

Again, the studies that explained the prospected relationship between DPApp and the PAcap under the ACAP theory explained the general concept of absorptive capacity without separating the two aspects of potential absorptive capacity as suggested by researchers (Zhou et al., 2020). The study by Liao et al. (2021), for example, revealed that for High Work Commitment Systems to be achieved, there must be a traditional performance appraisal that relates with absorptive capacity. Again, other studies support the prior findings and details that HR specialists can place more efforts in setting the performance standards that push the staff to think of having and using external knowledge (Gürlek, 2021; Hosseingholizadeh, 2019; Marescaux et al., 2019). These studies show that the developmental aspect of performance appraisal may act as an antecedent to the PAcap in the ACAP theory. It was then hypothesized that:

H2: Developmental performance appraisal has a positive influence on potential absorptive capacity of a firm.

Lastly, various researchers identified several aspects of team building to be related to absorptive capacity with the prospect of it being the ACAP antecedent. Ojo et al. (2017), for instance, investigated the micro-level antecedents base of absorptive capacity and reported that shared cognitive capability and prior experience of team members have indirect and direct influence (respectively) on PAcap. More so, Liang et al. (2019) applied absorptive capacity as a mediating variable and they found that both teams' learning and prove orientation control were positively correlated with absorptive capacity. Mangipudi, Prasad, and Vaidya (2019) reported the significant and positive effect of HR pooling in capacity building through cost saving and efficiency improvement. Most of the studies, however, tested some of the aspects of team building like team composition and number of team members (Ojo et al., 2017), team avoidance orientation, team prove orientation and team learning orientation (Liang et al., 2019). It was then suggested for the holistic view of team building including team goal orientation, size, composition, monitoring, problem solving, relationship and evaluation as its indicators while looking at its direct effect on PAcap. Thus, it was hypothesized that:

H3: Team building has a positive influence on potential absorptive capacity.

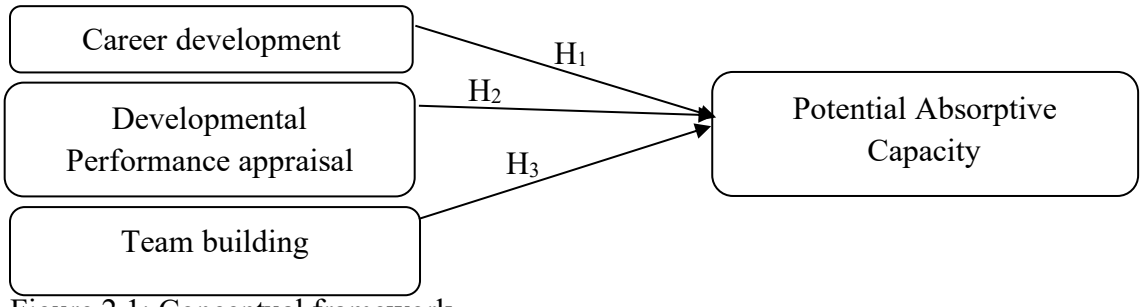

Figure 2.1: Conceptual framework
Source: Synthesized from literature

Research Methodology
Sampling procedures, data quality and analysis techniques

This study is conceptualized based on well-established theories and models which serve as guide for objective measurement and analysis of data. The study was conducted in five (5) regions in the Tanzania mainland as the regions represent majority (53%) of contractors (CRB, 2018). Only large and medium contractors were taken into consideration and this is because they are expected to have established HR departments (Chileshe et al., 2020). According to CRB (2018), there are 1361 contractors from class 1 to 4, as the population of the study where a contractor was the unit of analysis and the HR manager, HR officer or any other representative with high knowledge on the study constructs was taken as the unit of enquiry. On the other hand, the study applied the formula by Morgan and Krejcie (1970) to estimate the 299 representative contractors with 299 employees who were simple randomly selected from the population of 1361 contractors and only 293 respondents submitted the filled questionnaire (94% response rate). A test re-test was also applied under the umbrella of a pilot study to ensure consistency of results before data collection. The internal consistency reliability was further tested using Cronbach's Alpha (α) (threshold values 0.70). Again, the indicator reliability was assessed using the outer loading evaluation (threshold is 0.708) while construct reliability was assessed using the composites reliability where threshold is 0.70 to 95 (Diamantopoulos et al., 2012). The Convergent validity was tested using the Average Variance Extracted (AVE) while discriminant validity was tested through the Heterotrait-Monotrait Ratio (HTMT) (Henseler et al., 2015; Rasoolimanesh, 2022). Lastly, the data was analyzed using Partial Least square - structural equation modeling (PLS-SEM) with the help of Smart PLS 3.2.8.

Regarding the measurement of variables, most of constructs were measured through indicators which were largely adopted from other studies. PAcap was measures by looking at knowledge acquisition and knowledge assimilation (Zahra & George, 2002). On the other hand, the three attributes of HRD were measured as follows: career development was indicated by staff mentoring, staff coaching, career planning, job rotations, succession planning initiatives (Szabó-Bálint, 2019), developmental performance appraisal was indicated by collective goal and standard setting, monitoring and improving, measuring performance, appraisal feedback and action plan development (Boswell & Boudreau, 2002). Again, team building was indicated by perfect team composition and size, team goal setting, cultivated interpersonal relationships, cultivated cooperation and discussion as well as encouraged problem solving (Kastrup, 2019).

Research Findings

Data cleaning and handling of Common Method Variance

During data cleaning, some missing values, insensitive response and entry errors were looked upon and addressed before further data analysis. The researcher passed through each set of questionnaire and ensured that all errors were addressed ready for further analysis procedures. Modification of outliers through weight adjustment after identifying their sources of occurrence was also applied (Kwak & Kim, 2017). Common Method Variance was also included in indicators that generally use the method of measurement rather than those which are associated with theoretical models represented by the indicators (Kaltsonoudi et al., 2022). To reduce the effects of CMV before data collection, a careful study planning and procedural method was observed. This was done through methodological or psychological separation of the measured factors for independent and dependent constructs. It also involved preserving the anonymity of selected participants and reducing doubts about the evaluation (Kaltsonoudi et al., 2022). During data analysis, the Harman's univariate analysis under Exploratory Factor analysis was

applied in the Un-rotated factor solution. In their study, all test constructs were included and loaded in the factor analysis and 46.68% value was obtained which is less than 50% implying the absence of CMV in the constructs (Kaltsonoudi et al., 2022).

Profile of the contractors

In this study, a contractor was taken as the unit of analysis in order to capture the real concept of firm-based capacity. It was important then to look at the nature of contractors where the data was collected and to observe their actual representation. The data for the study was obtained from 293 respondents coming from 293 companies and each company was represented by one respondent. The results revealed that majority of contractors were class 3 (28.0%) followed by 25.9% class 1, 23.2% class 4 and 22.9% class 2 indicating a balance of representation from class 1 to class 4 contractors. Again, majority of the contractors (33.8%) have been upgraded to their respective class in the past 4 and above years followed by 24.9%, 18.4% and 14.3% that have been upgraded in the past 2 to 3 years, 1 to 2 years and 3 to 4 years respectively while only 8.5% did not state the timing of their being upgraded to their respective classes. Moreover, the findings reveal that majority of contractors (82.6%) originated domestically whereas 17.4% were company's subsidiary in Tanzania. Furthermore, majority of contractors employ a less than 20 permanent employees both in sites and office employee that is 43.0% followed by 20 to 50 employees (35.2%). The lest, 14.0% and 7.8% contractors had above 100 and 50 to 100 employees respectively. With nature of contactors, 29.4% were building work contractors followed by civil work contractors 22.5%, and the remaining part were 15.4% and 11.9% being in mechanical and electrical work contractors respectively. This is a fair representation since most of the companies are involved in these categories with just a few from class 1 to 3 that are specialists. The lest of the companies were specialist companies with the distribution that 2.7% were specialists in building, 3.4% were specialists in civil, 9.9% were specialists in electrical and 4.8% were specialists in mechanical works. This makes it logical for the findings of the study to be generalized with regard to the nature of the HRD practices and PAcap to contractors as population of the study.

The Measurement Model

The results on measurement model were obtained from Smart PLS 3.2.8 and the indicator reliability was assessed using the outer loading evaluation with threshold (≥ 0.708) (Hair Jr et al., 2021; Sarstedt et al., 2022). The results show that all the utilized indicators absolutely contribute in defining their respective latent variables (see Table 1). A number of 8 items were removed for having the values ranging from less than 0.708 and their removal proved to improve the power of composite reliability (Hair Jr et al., 2021; Sarstedt et al., 2022).

Table 1: Measurement model results

Construct	Items	Outer loading	Cronbach's Alpha	rho_A	Composite Reliability	AVE	VIF
CDev.	CD1	0.738	0.827	0.831	0.878	0.591	1.559
	CD2	0.792					1.812
	CD3	0.750					1.568
	CD4	0.794					1.687
	CD6	0.769					1.349
DPApp	PA2	0.732	0.735	0.736	0.834	0.557	1.506

	PA3	0.770					1.340
	PA5	0.722					1.405
	PA6	0.761					1.549
Tbuild	TB2	0.780	0.804	0.807	0.871	0.629	1.688
	TB3	0.816					1.625
	TB4	0.768					1.709
	TB5	0.808					1.349
PAcap	AC1	0.908	0.920	0.920	0.940	0.759	4.468
	AC2	0.779					4.125
	AC3	0.922					3.758
	AS1	0.845					4.904
	AS4	0.895					4.912

Source: Field data (2023)

In a reflective model, researchers put hand together in support of the importance of measuring internal consistence reliability (Diamantopoulos et al., 2012; Hair Jr et al., 2021; Sarstedt et al., 2022). With this fact, composite reliability (CR) of Jöreskog (1971) with the threshold (0.70 to 0.95) was used (Diamantopoulos et al., 2012) and all of the included constructs had the value below 0.95 indicating existence of composite reliability. Based on the same thresholds as composite reliability, Cronbach's alpha was extracted as complement to composite reliability results and all variables had values above 0.70 indicating high level of internal consistent reliability. The reliability factor rhoA was also considered and all the variables had a value greater than 0.7 rhoA indicating existence of high internal consistent reliability.

On the other hand, the convergent validity was assessed using AVE and the minimum acceptable AVE is 0.50 (Hair Jr et al., 2021; Sarstedt et al., 2022). From the results in Table 1, all the variables had the AVE values above 0.5 indicating existence of convergent validity. With divergent validity, previous studies have proposed various methods for evaluating discriminant validity namely the cross-loading, Fornell-Larker test and Heterotrait-Monotrait Ratio (HTMT) (Henseler et al., 2015; Rasoolimanesh, 2022). For the purpose of this study, Heterotrait-Monotrait Ratio (HTMT) as articulated by Hair Jr et al. (2021); Henseler et al. (2015); Sarstedt et al. (2022) was applied in measuring the discriminant validity of the study constructs. Many researchers have recently proposed that heterotrait–monotrait ratio (HTMT) is the best alternative to assess discriminant validity compared to cross-loading and Fornell-Larker (Hair Jr et al., 2021; Henseler et al., 2015; Sarstedt et al., 2022).

Table 2 Heterotrait-Monotrait Ratio (HTMT)

	CDev	PAcap	PApp	TBuild
CDev				
PAcap	0.842			
PApp	0.598	0.591		
TBuild	0.848	0.745	0.606	

Source: Field data (2023)

Henseler et al. (2015) recommend a cutoff value of 0.85 for structural models with conceptually more diverse constructs. In this configuration, an HTMT > 0.85 indicates the high level of discriminant validity. The findings in Table 2 above detail that all the HTMT values from all constructs were below 0.85 indicating existence of discriminant validity.

Assessment of structural model

Collinearity issues assessment (VIF)

A model calibration should be checked for potential collinearity problems, as high correlations between separate sets of predictive models can skew point estimates and standard errors (Sarstedt et al., 2022). The researchers propose that VIF values above 5 indicate possible collinearity problems in predictive models. This study calculated the VIF factors (Table 1) for all the included constructs in a model and all VIF values were below 5.0. This value, as Becker and Ringle (2014) suggest, is best suited for further analysis.

Model explanatory power, effect size and predictive relevance

The coefficient of determination (R2) for the dependent construct was tested for explanatory power of the model (Hair Jr et al., 2021; Sarstedt et al., 2022).. In general, the available literature shows that if the values of R2 is 0.25, 0.50 and 0.75, this is taken as low, moderate and substantial power respectively in most social science researches (Hair Jr et al., 2021; Sarstedt et al., 2022). In this case, the results in Table 3 reveal that the exogenous constructs (HRD practices) explain 34.7% of the variations in PAcap. The remaining 66.3% variation can be explained by other different factors.

Table 3: Coefficient of Determination (R2) and Predictive relevance (Q2)

Endogenous construct	R Square	R Square Adjusted	Q square
PAcap	0.347	0.340	0.241

Source: Field data (2023)

Again, the effect size of the relationships was applied in evaluating the extent to which the exogenous constructs affect the endogenous construct. The general rule of effect size f2 shows that the f2 value of 0.02 represents small, 0.15 medium while 0.35 indicates large effect size. The findings in Table 4 below show direct relationship (0.02< f2<0.15) indicating that the f2 value was significant and had small effect size. Lastly, researchers show that Q2 indicates that their values are well defined and that the model has predictive value while the Q2 values <0 indicate lack of predictability (Diamantopoulos et al., 2012; Henseler et al., 2009; Sarstedt et al., 2022). For the model was reflective, the Q2 value was obtained from Smart-PLS 3.2.8 through Blindfolding. Studies state that Stone-Geisser Q^2 (Geisser, 1974), which is an operation of the reflection model Q2 has the general guideline of 0.02, 0.15 and 0.35 to indicate the importance of hidden variables such as low, medium or high relevance of prediction (Henseler et al., 2009). The results in Table 2 above show that the Q2 value is 0.24.1 indicating that Q2 > 0.15 concluding the medium level of predictive relevance.

Model Assessment

This part provides the findings that help in making decision regarding the hypotheses (H1, H2 and H3). The results in Table 4 below reveal that all the 3 exogenous variables have a significant influence on PAcap. In this case, career development was revealed to have positive and significant influence on PAcap (CDev -> PAcap) at the 0.219 sample means (p-value =0.001) indicating that the hypothesis (H1) was accepted. Again, the findings show that developmental performance appraisal has a positive and significant influence on PAcap (DPapp -> PAcap) with the sample mean value of 0.202 at p<0.000 and with this result the hypothesis (H2) was accepted. Finally, the results demonstrated that team building practices have a positive and significant relationship with PAcap (TBuild -> PAcap) at a sample mean of 0.257 and p<0.000. This indicates that the hypothesis (H3) was supported.

Table 4 Hypothesis Testing

Hyp.	Relationship	Sample Mean	Standard Deviation	T Statistics	P Values	f Square	95% confidence interval	Decision
H1	CDev -> PAcap	0.219	0.069	3.129	0.001*	0.031	[0.102;0.332]	Supported
H2	DPapp -> PAcap	0.202	0.056	3.549	0.000*	0.033	[0.105;0.287]	Supported
H3	TBuild -> PAcap	0.257	0.065	3.950	0.000*	0.050	[0.156;0.364]	Supported

Source: Field data (2023)

Note: * means the $p \leq 0.001$

It should also be remembered that the cut off value of t-value should range from 2.576 if the $p \leq 0.01$ and ≥ 1.65 if the $0.01<p<0.05$ for the t values to complement the results (Hair et al., 2021). From the results in Table 4, all the values tally with their corresponding p-values indicating less than 0.01 p-values. This indicates that the decision made in respect to the direct relationships were perfect for further discussion. Moreover, Cohen (1988) details that in the direct relationship the f2 value of 0.02 indicates small effect size, 0.15 shows medium effect size while 0.35 indicates large effect size. Given this guideline, the results in Table 4 revealed that all the effect size f2 supported the findings as indicated by the p-values and the sample mean values. In this case, all values indicated the small effect size since their values were >0.02 and <0.15. These results of f2 complemented the findings on path coefficient.

Discussion of findings

The first hypothesis of the study, ie. H1: Career development has a positive influence on potential absorptive capacity of a firm was tested. The findings revealed the existence of the positive and significant influence of CDev on PAcap of the PBOs. The results were in line with the proposed theories of Absorptive Capacity (ACAP), which assumes that creation of PAcap is supposedly to best be attained through knowledge sources like HRD practices of which career development programs are tested in the current study. The findings of this study are also similar to other researches. For example, a study by Arubayi et al. (2020) came with the conclusion that career development can best let employees eager to search for external knowledge as a means to attain their highest level of career for their future individual and organizational performance.

However, previous studies were a bit specific, for example, Allen et al. (2021) supported the idea that mentoring, as one of the career development programs, is effective in making employees capable of acquiring and interpreting new knowledge among learning institutions. The other study by Catarino et al. (2018) tested the new idea of career surfing coaching as influencing knowledge acquisition. Although their study specifically pointed out acquisition as part of PAcap, it was revealed that coaching in both formal and informal ways can enable staff members to acquire new knowledge, hence creation of competitive advantage through knowledge acquisition. From this discussion, it is clear that most previous studies mentioned specific elements of career development like surfing coaching (Catarino et al., 2018), junior staff mentoring (Allen et al., 2021) and others taking the same based on its drives like personal growth (Arubayi et al., 2020). These studies considered specific elements, given their study settings and the target objective of their studies. The study by Szabó-Bálint (2019), however, reports that to better address career development, many indicators have to be considered as one to operationalize the named construct. The study managed to establish that those indicators of career development can really lead to greater PAcap in many work setting including project based context. This brings in the new idea based on ACAP theory that career development as a whole can act as an antecedent in creation of PAcap.

With the second hypothesis, ie., H2: Developmental performance appraisal has a positive influence on potential absorptive capacity of a firm, the suggested relationship was established. Similarly, the prospects from the ACAP theory that HRD practices can be applied as the antecedents to absorptive capacity creation (Fosfuri & Tribó, 2008; Zahra & George, 2002) was used. This fact brings in the idea that DPApp is really a proper antecedent of the firm's PAcap. Again, other related studies arrived at similar findings regarding the importance of DPApp in making employees able to search, acquire and assimilate knowledge (Gürlek, 2021; Marescaux et al., 2019; Mom et al., 2019). According to Gürlek (2021), DPApp helps employees in various tasks by providing feedback on organizational performance, creating an environment in which they can discuss issues and helping them to improve organizational performance, which in turn improves their motivation towards knowledge acquisition. Moreover, it was noted in other studies that providing continuous feedback in appraisal process to employees on their strengths and weaknesses can strengthen an organization's HR by expanding the existing knowledge and ability to recognize the potential knowledge and skills among employees (Marescaux et al., 2019). The results from the current study and the reviewed literature came to the conclusion that the parts of developmental performance appraisal like performance feedback and discussion, flow of information and knowledge from managers to subordinates, and its end results as related concepts like pay and incentive systems based on performance assessment can enable a firm and its employees to quickly search and acquire new knowledge (Gürlek, 2021; Marescaux et al., 2019; Mom et al., 2019)). This puts in more knowledge to the RBV that human resources as part of the internal resources can best be capitalized through a developmental kind of performance appraisal.

The third hypothesis detailed that H3: Team building has a positive influence on potential absorptive capacity. The findings of this study reported that team building practices positively and significantly influence the PAcap. As it is for the RBV of a firm, the results indicate proper use of HR as an internal resource through procedural and fair team building practices for better knowledge acquisition and assimilation. The findings are also in line with results by Ojo et al.

(2017) who contend that cognitive disposition and clarity of the roles among members of the joint engineering teams are crucial investment in an organization to enable individuals to search, recognize, acquire and assimilate the external knowledge. Again, the results complement the ideas from the ACAP theory that the Tbuilding part of HRD can act as an antecedent to creation of PAcap (Fosfuri & Tribó, 2008; Zahra & George, 2002). Previous studies also show that if individual team members face the same situational cues and rely on each other to interpret those cues, their ideas about the preferred means of achieving goals are more likely to converge and manifest towards their team's shared goals (Liang et al., 2019). Previous researches also suggest that the perception of a common goal among team members has a significant impact on knowledge acquisition and integration (Liang et al., 2019). In particular, the researchers hypothesize that different goal orientations of the team contribute to the ability of group members to see beyond the existing knowledge and to combine their collective knowledge base with new external knowledge that should contribute to the success of team outcomes, the potential (acquisition and assimilation) part of absorptive capacity. The results from this study are in line with ACAP theory that Tbuilding can lead to capitalization of HR and structural internal resources of an organization as an antecedent to higher PAcap. The parts of the team building practices like clarity of the roles among members (Ojo et al., 2017), shared team goals, and joint problem solving (Liang et al., 2019) are related to making employees eager in searching and acquiring knowledge.

Theoretical Implications

The ACAP theory explains that there exists the antecedents to potential absorptive capacity (PAcap) explained as the knowledge sources and experience (Zahra & George, 2002). The ACAP theory, however, does not mention specifically all the factors that can be antecedents to potential absorptive capacity. This paves a way for future researches to test different factors that can act as antecedent to PAcap in diverse settings. The current study, therefore, creates a ground for career development programs to act as antecedent to PAcap. The mindset is on the career development programs which create skills, attitude, competence and ability that allows businesses/companies to do things they would not or could not do (that is knowledge acquisition and assimilation) without those resources. Finally, the study adds in the theories that the developmental aspect of performance appraisal like participation of employees in performance standard and perceiving performance assessment as a joint problem solving mechanism through cancelling and performance feedback discussion can best enable a firm to obtain PAcap. Regarding team building, the study adds theoretically that the proper practices of team building that involve sufficient size and composition of members, goal orientation, joint problem solving, good interpersonal relationship and feedback can best capitalize the potentiality of the human resources towards creation of PAcap for a greater competitive advantage.

Managerial Implications

This study has many different practical implications for managers and practitioners, especially in the PBOs. First, the findings are important for professionals and they provide new insights, for example, on the role of different bundles of HRD practices on knowledge acquisition and interpretation in business processes. This is revealed through the three identified attributes that have relevant positive effects on potential absorptive capacity (PAcap). Practically, the contractors that want to improve their absorptive capacities have to implement different career development programs, manage and communicate the developmental performance standards

and build team with perfect composition and size that comply to their responsibilities, goals, and strategies of a company. Generally speaking, the study points out that managers can use the findings from the study to address the shortage of a particular workforce by looking at how many other companies have the same key resources in relation to capitalization through HRD and create human resources that is valuable, rare and difficult to imitate to arrive at a greater PAcap which eventually leads to creation of competitive advantage.

Policy Implications

The Tanzanian construction industry is a little far behind the age of knowledge economy compared to other countries like China, Australia, Singapore, Malaysia and Europe (Kikwasi et al., 2020). In addition to the state of the knowledge economy and its impact on the industry, recommendation on designing inclusive policies is needed. The results from this study can enable the ministry in charge and the board to include HRD as part or policy statement in creation of competitive advantage among the local contractors. The study informs policy makers in Tanzania to think of the creation of PAcap as the main trigger to entering the knowledge based economy and suggest ways through which it can be achieved by the contractors. As Tanzania transforms its economy into a knowledge-based economy, the construction industry must reinvent itself, including its operations, skills and relationships. The attitude and quality of people should also change. The policymakers can also incorporate the attributes of HRD practices by stressing its importance in creation of PAcap to contractors. The last policy on the construction industry mentioned the importance of HRD to contractors and detailed that the HRM departments are not well established in most of the contractors. This study provides an insight and mechanism to which HRD practices can be manipulated for better performance of the local contractors of which the same can be taken into account when developing new or refining the current policy.

Contextual Implications

Most studies conducted in the area of HRM and absorptive capacity in the complex PBOs context have explored just few elements of HRM-PBO relationships with a focus on few ways for configuration of HRM on the context of project and mostly on a publishing trend review (Keegan et al., 2017; Samimi & Sydow, 2020). Generally, the research on career development, developmental performance appraisal and team building practices is somewhat underdeveloped in both the mainstream of HRM writing on the project context and in project management literature. It has been reported that in these organizations, the transformation from a purely technical organization to employee cantered operations has been discernible for decades (Keegan et al., 2017; Samimi & Sydow, 2020). From above discussion, the previous HRD studies were performed in other settings apart from the project based setting in which the implementation of HRM practices is complex and difficult for practitioners. This study, therefore, contributes to the configuration of HRD practices in the PBOs setting as a way to create competitive advantage through PAcap.

Conclusion and Areas for Further Studies

The literature detailing the mechanisms and the systems that can enable a firm to quickly identify, acquire, interpret, share and apply the external knowledge is limited in the body of knowledge, especially if the PBO context is mentioned. This study proposes a model and conceptual framework that explains the relationship between HRD practices and potential

absorptive capacity. Based on the findings, the study suggests that career development, developmental performance appraisal and team building practices can best be applied in creation and improvement of PAcap. Finally, the study concludes that integration of knowledge based economy through generation and/improvement of absorptive capacity in the PBOs, the construction industry in specific, is equally important as it is to other sectors. On the other hand, some researchers take creation of PAcap as a process ranging from knowledge acquisition to its assimilation in a procedural way. Not ignoring this point, it is suggested further studies to be conducted on the relationship between bundle of HRM and PAcap through longitudinal data. The expected analysis from this kind of study will definitely lead to delivery of interesting findings and add more contributions in having an in-depth understanding of the HRM mix that can lead to higher competitive advantages.

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