The role of prior experience and goal orientation in individual absorptive capacity

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Received 15 May 2015
Revised 10 September 2015
11 November 2015
Accepted 7 December 2015

Abstract

Purpose – International joint ventures offer the appropriate platform for the host partners in an emerging economy to access the external knowledge embedded in the expatriate from foreign partners. However several factors could constrain the acquisition of this knowledge by the local employees who are engaged in the former. The purpose of this paper is to investigate the underlying differences for the individual's knowledge acquisition capability.

Design/methodology/approach – Individual's knowledge acquisition capability was conceptualized as the individual dimension of absorptive capacity (ACAP). Given the engagement of employees in joint project teams, the team members are expected to differ in their experience and disposition to task. Thus, these differences are considered as predictors of the local team members ACAP, i.e., abilities to: recognize the value of; and assimilate the external knowledge embedded in the foreign partners. The hypothesized model was validated through the results of structural equation modeling on a cross sectional survey of 248 local team members of joint projects in the Nigerian upstream oil industry.

Findings – All the hypothesized relationships were supported, with the exception of that between prior experience and ability to recognize the value of knowledge.

Originality/value – This study offers empirical clarification on the underlying differences for individual ACAP within the context of asymmetric joint project teams set up to facilitate knowledge transfer. The findings have implications for academic and practical understanding on the role of individuals in the acquisition of external knowledge.

Keywords Absorptive capacity, Emerging economies, Knowledge acquisition, International joint ventures, Individual differences, Joint project teams

Paper type Research paper

1. Introduction

The recent advancement in technology and increasing competitive pressure from the global marketplace, have driven organizations in the modern economy to position knowledge workers as the most significant determinant of performance and competitive advantage (Drucker, 1993). Knowledge is the strategic asset underlying innovation, therefore firm's adeptness to leverage the valuable external knowledge is highly essential. Studies have advanced several reasons for the rapid increase in the numbers of strategic alliance, including, inter-firm learning (Inkpen, 2000), risk reduction (Contractor and Lorange, 1988), and access to foreign market (Kale and Anand, 2006). As noted by Inkpen (2000) strategic alliance could offer the parent firm access to knowledge on the design and management of future alliance, transferable knowledge created for/through the alliance as well as partner's embedded knowledge. The latter is of most significant to capability upgrade of firms in emerging economies, where several polices aimed at integrating foreign knowledge in the growth of local innovative capacity have been initiated. For instance, the lack of technological capabilities by local firms in an emerging economy like Nigeria have resulted in the high dependence on multinational corporations from developed economies in managing

Industrial Management & Data Systems
Vol. 116 No. 4, 2016
pp. 723-739

0263-5577
DOI 10.1108/IMDS-05-2015-0187

the extractive industries. Accordingly, in an attempt to reverse this trend, the Nigerian Government has taken initiatives targeted at enhancing local participation and capability building. One of the most significant of these is the local content act of 2010 which, among other things, stipulates that at least 70 percent of the total upstream projects should be handled in-country by local firms or their international joint ventures (IJVs).

The IJVs function as the platform for joint projects, through which employees from the local firms can collaborate with and learn from the expatriate from the foreign partners (Inkpen, 2000; Lane and Lubatkin, 1998). Although, the partnerships offer the right platform for learning, nevertheless the acquisition and utilization of knowledge could be constrained by several factors, including the characteristics of the knowledge, partner, and interaction (Meier, 2011; Simonin, 2004; Dyer and Singh, 1998). The most significant partner's characteristic is the absorptive capacity (ACAP), which is a measure of firm's receptiveness to foreign technology (Kedia and Bhagat 1988). Cohen and Levinthal (1990) conceptualized ACAP as the internal capability that result from individual's engagement in firm's activities like R&D, which in turn facilitate the recognition, assimilation, and utilization of related external knowledge. Specifically, ACAP entails the knowledge management (KM) processes underpinning the acquisition and utilization of knowledge (Cohen and Levinthal, 1990; Zahra and George, 2002; Ojo *et al.*, 2014). The former is evident from the engagement of individual members of the firm, who interface with the external sources of knowledge. Thus, knowledge acquisition can be expressed as the potential ACAP, which is the ability to recognize and assimilate external knowledge (Zahra and George, 2002). Furthermore, the latter can be expressed as the realized ACAP, which is the ability to collectively transform and utilize the individually acquired knowledge (Zahra and George, 2002).

Studies have acknowledged the role of ACAP in linking the external knowledge with firm's performance (Lichtenthaler, 2009; Volberda *et al.*, 2010). Learning results in the acquisition of knowledge, thus firm's performance can be greatly impacted through its ability to learn and adapt to change. Researchers on IJVs learning have explicated ACAP in terms of partner similarity, adaptability, as well as relational and interaction antecedents (Lane and Lubatkin, 1998; Lane *et al.*, 2001; Perez-Nordtvedt *et al.*, 2008). In addition, ACAP has been demonstrated as the main constraint to knowledge acquisition in IJVs, most especially in emerging economies (Ojo and Raman, 2015; Martins and Antonio, 2010; Lane *et al.*, 2001; Lyles and Salk, 1996). Although, studies have acknowledged the underlying process of ACAP and considered its implications in IJVs learning. Nevertheless, the heterogeneous effect of individuals on the knowledge acquisition capabilities remains unsubstantiated.

In particular, despite the evident role of individuals in a firm's ACAP, extant studies have generally conceptualized it as a macro-level and unidimensional construct (Lane *et al.*, 2006; Volberda *et al.*, 2010; Ojo *et al.*, 2014) with organizational and dyadic antecedents (Lane and Lubatkin, 1998; Jansen *et al.*, 2005; Wang *et al.*, 2014). In essence, individuals are considered as homogeneous to the firm, thereby dissociating organizational-level outcome from the underlying choice and actions of the members (Volberda *et al.*, 2010; Felin *et al.*, 2012). Although, studies have acknowledged individuals antecedents such as prior experience (Lane *et al.*, 2006; Minbaeva *et al.*, 2003; Zhao and Anand, 2009), cognition (Zahra and George, 2002), and task motivation (Silva and Davis, 2011; Ojo *et al.*, 2014), however, there still exist a general drought of empirical validation of these antecedents. Specifically, the effects of individual differences on the associated

dimensions of ACAP have been overlooked, while data have mostly originated from single respondent or proxy construct. Consistent with the dynamic capability perspective, clear delineation of the individual characteristics pertinent to learning capabilities could offer clarification on the path to strategic renewal (Teece, 2012). Therefore, further to the extant emphasis on organizational mechanisms, individual difference is another important building block to organizational change, through it is impact on individual members' knowledge acquisition capabilities.

This study contributes to KM literature within the international business context, by empirically investigating the notion of ACAP from the perspective of an emerging economy. Most studies on knowledge acquisition in emerging economies have been from China and other Asian countries, with a drought of empirical analyses from sub-Saharan African countries (Narteh, 2008). Specifically, we offer an empirical clarification on the underlying differences for individual's knowledge acquisition capability, i.e., ACAP. In line with the theoretical notion on micro-antecedents, we argued that the local individual members of the joint project teams must demonstrate the right aptitude and disposition, in order to acquire external knowledge embedded in the foreign knowledge. The next section presents the theoretical justifications for our propositions, after which the research method is discussed. Furthermore, the results of the analysis are presented, followed by the discussion, practical implications, and conclusions, which incorporate the limitations and suggestions for future research.

2. Theoretical background and hypotheses

The concept of ACAP overlaps with different aspects of organizational learning (OL) and KM fields. The potential ACAP dimensions of acquiring and assimilating knowledge can be considered as a specific type of learning, i.e., learning from external sources. Premised on the cognitive and behavioral process, OL theorists have posited learning as individual/group-level interaction underlying the processes of understanding and acting. According to Argyris and Schon (1978) an organization learns through the engagement of the individual members in the detection and correction of errors. Thus, given the underlying process for the detection and correction of error, learning can be delineated into single and double loop. Several studies have also acknowledged the significant role of individual members in OL and the need for organization to invest in enhancing the competencies and skills of their employees (Boateng, 2011; Ho, 2011; Martins and Antonio, 2010; Lin and Kuo, 2007). For example, individuals understanding are shaped through their exposure to the external environment, thereby initiating the learning process to facilitate the recognition of similar patterns, which in turn result in the creation of new knowledge. Thus, the purpose of the organization is to provide the appropriate platform for the integration of such individually held knowledge (Boateng, 2011). Crossan *et al.* (1999) assert that OL occurs when the individual/group learning has been institutionalized, i.e., the knowledge has become embedded in non-human repositories such as routines, systems, structures, culture, and strategy. In essence, learning encompasses both individual and organizational components (Zhao and Anand, 2009; Ojo and Raman, 2015). Individuals can learn independently, while OL allows the interactive engagement of multiple actors (Ho, 2011; Argote *et al.*, 2003). Thus, to facilitate OL, the work environment needs to nurture openness and strive for common purpose among the individual members (Boateng, 2011; Martins and Antonio, 2010).

In addition ACAP can be considered as part of KM, wherein the dimensions of the former are the underlying processes for the latter, i.e., acquiring, assimilating, and

applying external knowledge. Being one of the most cited KM models, Nonaka and Takeuchi (1995) knowledge spiral model ascribe to individual the knowledge conversion process and existence of knowledge as tacit or explicit. The individual knowledge is amplified across the organization through the four processes of socialization, externalization, combination, and internationalization. For instance, knowledge acquisition can be initiated through the socialization process. This process enables the acquisition of tacit knowledge, which is context dependent, complex, and ambiguous. Thus, the joint project team offers the relevant context for socialization, through which the local and expatriate members could share experience, thereby enabling the former to acquire the knowledge embedded in the latter. Nonaka (1991) corroborates that the apprentice, (i.e. local employees) would be able to learn from the mentor (i.e. expatriate) through observation, imitation, and practice. Apparently, both learning and adaptability are crucial to the former's knowledge acquisition, which in turn could impact on firm's performance and competitive advantage. The learning process enables an individual to acquire knowledge, which is evident as changes in cognition or behavior (Argote and Miron-Spektor, 2011).

Consequently, this study advances the overlapping relationships among ACAP, OL, and KM by integrating the individual's learning process and knowledge acquisition in conceptualizing the underlying differences for individual ACAP. As Cohen and Levinthal (1990) point out, ACAP originates at the individual level and evolves across the organizational level. Despite the lack of generally accepted construct of ACAP (Volberda *et al.*, 2010) studies have underscored its multidimensional nature (Zahra and George, 2002; Todorova and Durisin, 2007; Jimenez-Barrionuevon *et al.*, 2011) and the underlying learning processes (Lane *et al.*, 2006; Ojo *et al.*, 2014). Zahra and George (2002) delineated ACAP into potential and realized components, which correspond to the individual and collective levels, respectively. They argued that an organization needs to acquire and assimilate external knowledge before the effort could be channeled toward the exploitation of such knowledge. Furthermore, the need to specify related antecedents for each component of ACAP has been empirically justified (Jansen *et al.*, 2005; Jimenez-Barrionuevon *et al.*, 2011; Srivastava *et al.*, 2015). For instance, Srivastava *et al.* (2015) demonstrated the divergent implications of the two dimensions of ACAP on firm innovation and performance. According to their findings, learning motivated firms are outwardly focussed, thus their employees are willing and able to invest the necessary technological effort to leverage alliance resources. However, firm's internal capability could curtail the appreciation and utilization of such resources.

Consequently, when conceptualized as technological effort, ACAP could be considered as individual learning capability, which in turn impact on the organizational outcome. Some of the variations in inter-firm knowledge acquisition have been associated with managerial cognition and motivation (Martins and Antonio, 2010; Lyles and Salk, 1996). Indeed, managers can coordinate the search for partners' knowledge, engage and motivate the personnel, and facilitate other processes for supporting strategic renewal (Lin and Kuo, 2007). However, unless the personnel demonstrate learning capability, the acquisition of partner's knowledge is unrealistic (Martins and Antonio, 2010). This implies that organizational success is dependent on the members learning capabilities. Not surprisingly, individual differences in meditation (Ho, 2011) and personal mastery (Garcia-Morales *et al.*, 2006) have been associated with the capacities to engage in self-directed learning, with resultant effect on organizational innovation and performance. Individual differences are also

significant determinants of organizational choice, interaction, learning, and adaption (Jones, 2006; Pandza and Thorpe, 2009).

Sequel to the above, the present study posits that there is an individual dimension to ACAP and the underlying differences need to be clarified. Theorists on learning psychology (Ackerman, 1996; Lubinski, 2000; Schmitt *et al.*, 2003) have suggested the behavioral and cognitive perspectives of learning at the individual level. The former relates to individual's willingness to perform a given task and encapsulates the motivational attributes; whereas the latter entails ability, which is the potential for task performance (Vroom, 1967). Consequently, we consider the joint project teams to be constituted by individuals who differ in their levels of experience and disposition to tasks. These differences are posited as underlying the individual capability to learn/acquire the external knowledge. The external knowledge is the expertise possessed by the expatriate, but accessible to the local employees through their engagement in the joint project teams. Specifically, we propose that the individual's knowledge acquisition capability, i.e., ACAP is a function of variation in his/her experience and disposition to task, which are expressed in terms of prior experience and goal orientation, respectively. Goal orientation encapsulates the motivational disposition underlying individual's task achievement in terms of learning and performance (Dweck, 1986; Eison, 1981).

The above proposition draws on the notion that individual's ACAP constitutes one of the building blocks of organizational ACAP, which is also dependent on organizational mechanisms (Wang *et al.*, 2014). However, this study examines the ACAP dimensions that are directly associated with individual, namely, the abilities to recognize the value of knowledge and to assimilate it (Zahra and George, 2002; Lane *et al.*, 2006). In essence, the present study explicates the role of differences in experience and goal orientation on individual's knowledge acquisition capability. The collective dimension of ACAP requires the interaction and exchange among individuals, thereby underlying the exploitation of individually assimilated knowledge (Ojo and Raman, 2015). The next subsections discuss the underlying hypotheses.

2.1 Prior experience

Cohen and Levinthal (1990) emphasized the cumulative impact of learning, whereby individual's earlier learning could impact on the ability to learn new things. Theoretical proposition on associative networks revealed that knowledge exists in a semantic network and each section of the network is made up of associated bits of information (Silva and Davis, 2011). Thus, an individual is able to recognize and internalize external information that is related to those already stored in his/her memory. Prior experience has corresponding effect on the locus and extent of search for external knowledge (Lane *et al.*, 2006). Seeley and Targett (1999) found that individual's knowledge in a given task diminishes as he/she engages less in updating his/her knowledge about the task. Based on a sample of 208 engineers, Deng *et al.* (2008) established the positive impact of prior engagement in problem solving on innovative capability. Individual's prior experience facilitates the accumulation of knowledge in the memory, which in turn enables the recognition and assimilation of related external knowledge. Martins and Antonio (2010) corroborated that the abilities of local employees to appreciate and understand the expatriate knowledge could be constrained by their lack of accumulated experience and competencies. Consequently, it can be argued that prior experience can directly impact memory development and thereby influence the ability to recognize and assimilate new knowledge. Thus, employees with related knowledge as that embedded in foreign partner are hypothesized to possess the abilities to access

the partner's valuable knowledge and assimilate it. To this end, the following hypotheses are put forward:

H1a. Prior experience in related knowledge is positively associated with the ability of an individual to recognize the value of a foreign partner's knowledge in joint project team.

H1b. Prior experience in related knowledge is positively associated with the ability of an individual to assimilate a foreign partner's knowledge in joint project team.

2.2 Learning and performance approach goal orientation

The learning and performance goal orientation have commonly been associated with positive and negative outcomes, respectively (Elliot and Church, 1997; Button *et al.*, 1996; VandeWalle *et al.*, 2001). However, when the performance dimension is further delineated into two (i.e. approach and avoid), the approach goal orientation has demonstrated positive impact on effort (Sujan *et al.*, 1994), achievement (Elliot, 1999; Harackiewicz *et al.*, 2002), and task value (Bong, 2001). A learning goal-oriented individual is motivated by mastering the underlying task, whereas a performance approach goal-oriented individual is driven by the need to demonstrate his/her competence relative to others. Hence, in contrast to performance avoidance goal-oriented individuals who are driven by fear of failure, both learning and performance approach goal-oriented individuals are motivated to achieve something (Elliot and Church, 1997).

In an attempt to demonstrate competence in joint project teams, performance approach goal-oriented individuals could discover related knowledge embedded in a foreign partner. According to Button *et al.* (1996), such individuals are driven by tasks that involve meeting performance standards, schedules, and deadlines, wherein the outcomes relative to others' output can be assessed. Moreover, these individuals are concerned with others' assessment of their competencies; thus, they can be motivated to access knowledge that others are not yet aware of. Nevertheless, they might be unwilling to commit the required effort to gain in-depth understanding of the task. Rather, a strong disposition to learning could affect their willingness to put in the extra effort needed to acquire complex skills and gain the underlying knowledge (Bell and Kozlowski, 2002; Laursen and Salter, 2006).

Dweck (1986) argued that learning goal-oriented individuals might exhibit performance disposition to prove smartness. Barron and Harackiewicz (2001) similarly noted that an individual could be simultaneously driven by multiple goals. For instance, performance approach goal-oriented individuals might consider task performance and interaction with others as an opportunity to gain accolades and prove competencies. Therefore, they could be motivated to discover new concepts or identify the procedures that underlie the task. Nevertheless, without the complementary motivation to learn, the identified opportunity might not be translated into assimilated knowledge. In other words, to obtain evaluative advantage over others, an individual might be driven to gain access to new concepts. However, the development of in-depth understanding lies on the drive to learn the underlying knowledge. Thus, the following hypotheses are suggested:

H2a. Performance approach goal orientation is positively associated with the ability of an individual to recognize the value of foreign partner's knowledge in joint project team.

H2b. Learning goal orientation is positively associated with the ability of an individual to assimilate foreign partner's knowledge in joint project team.

2.3 Individual ACAP

According to Cohen and Levinthal (1990, p. 132) a "firm's ACAP depends on the individuals who stand at the interface of either the firm and the external environment or at the interface between subunits within the firm." Thus, individual members of the firm are responsible for the acquisition of external knowledge and in order to clarify the individual level of ACAP, the associated dimensions need to be isolated. As earlier noted Zahra and George (2002) delineated ACAP into potential and realized components corresponding to individual and collective levels, respectively. The latter is dominant at the individual level and expressed as the abilities to: recognize the value of; and assimilate external knowledge. Thus, individuals are not just resources possessed by the firm, but enabler of the process for firm's transformation, i.e., through the acquisition of external knowledge.

According to Todorova and Durisin (2007) the ability to recognize the value of external knowledge is the precursor for the extent to which an individual will develop the pertinent cognitive map for assimilation (Huber, 1991). With the aid of such map, an individual is more likely to incline his knowledge search effort to the areas that are most valuable to the project (Tripsas and Gavetti, 2000), thereby making assimilation easier. An individual, who is competent in evaluating the value of new knowledge, is expected to have substantial ability for assimilating such knowledge in that his/her attention will be directed toward assimilating the specific valuable knowledge (Lettl *et al.*, 2008). Recent empirical investigation on US-based research teams, found that members ability to evaluate external knowledge is predictor of the ability to assimilate the knowledge (Nemanich *et al.*, 2010). Thus, it is hypothesized that:

H3. The ability of an individual to recognize the value of a foreign partner's knowledge is positively associated with the ability to assimilate the knowledge in the joint project team.

3. Methodology

3.1 Study procedure and sample

The data were collected over a period of four months from local team members engaged in joint projects with expatriate from competent foreign partners in the Nigerian upstream oil and gas industry. Based on the Department of Petroleum Resources (DPR) database on the oil and gas companies in Nigeria, we identified 52 engineering firms with joint venture partners or multinational company subsidiaries. These firms have completed at least two joint projects in the past five years, have engaged their local employees in at least 40,000 man hours, have a size ranging from 100 to 1,550 employees, and are located across the coastal states of Lagos, Rivers, and Delta. Specifically, a total of 1,460 local technical employees were identified as the population of study, as drawn from the DPR database on the 52 companies.

In an attempt to improve the survey's response rate, a letter of introduction was e-mailed to the corporate department of each of the identified firms. These letters stated the research objectives and practice implications of the study as well as solicited management consent for employee participation, with the promise of ensuring respondents anonymity. Furthermore, we leveraged our referral networks and followed up with onsite visits to the firms. Consequently, a total of 35 firms consented to the participation of their employees. These firms also provided the necessary assistance by designating personnel from the human resource unit as the contact person for the administration and collation of the questionnaires. The contact persons were instructed to randomly identify employees with working experience in joint team and distribute the self-administered questionnaires.

The final analysis was based on 248 questionnaires, which represents 62 percent of the total administered 400 questionnaires. In order to ascertain the absence of non-response bias, we obtained the demographic profiles for the non-respondents from the contact person. Accordingly, series of χ^2 and t test were computed to compare the respondents ($n = 248$) with those who had not completed the questionnaires ($n = 152$). Based on the outcomes, responses were found not to be selective for age, education level, work experience, joint team tenure, as well as job position ($p > 0.05$).

More than 95 percent of the respondents were older than 26 years, and 23 percent out of the 96.8 percent bachelor degree holders had graduate degrees. Consistent with age, majority of the respondents (79.4 percent) had acquired professional experience of at least four years in the oil industry. Moreover, two-thirds of the respondents had been engaged in joint projects for at least four years. In terms of job positions, majority of the respondents (75.8 percent) were engineers, followed by supervisors (9.3 percent). The technicians and managers made up 4.0 and 5.2 percent of the total respondents, respectively, and the remaining 5.6 percent accounted for other positions, such as designers, testers, and analysts.

3.2 Measurements

All the constructs were measured with scales adopted/adapted from extant literature, and further subjected to expert screening and pilot testing (i.e. 35 respondents). The assessment was based on the five-point Likert scale (ranging from 1 = strongly disagreed to 5 = strongly agreed).

Prior experience was operationalized as the extant subject matter knowledge, which enables an individual to identify learning opportunities (Shane, 2000). Thus, three items ($\alpha = 0.79$) were selected to reflect an individual's possession of related general knowledge (Gimeno *et al.*, 1997), relevant work experience (Cooper *et al.*, 1994), and expertise (Huber, 1991). The Cronbach's α for the construct was 0.78.

Learning and performance approach goal orientation were operationalized as the disposition to: task mastery; and competence demonstration, respectively. Both were measured with five and four items adopted from VandeWalle (1997), respectively. The Cronbach's α's for both constructs were 0.82.

The two dimensions of individual ACAP, i.e., ability to recognize the value of and ability to assimilate knowledge were operationalized as the capability to accurately evaluate the worth of knowledge and the capability to learn, interpret, and develop a deep understanding of valuable knowledge, respectively (Nemanich *et al.*, 2010; Ojo *et al.*, 2014). Both were measured with three items each ($\alpha = 0.77$ and 0.85) adapted from Nemanich *et al.* (2010). Table I reports the constructs and associated items, with the mean, standard deviation, and the CFA loadings for the items.

3.3 Analysis and results

In order to ascertain the non-significance of common method variance, the Harman's one-factor test was conducted (Podsakoff and Organ, 1986). The outcome from the single un-rotated EFA on all the constructs revealed the absence of common factor, with the largest factor accounting for 19.65 percent of the total 64.54 percent variance explained by all the five factors. Following Anderson and Gerbing's (1988) two step technique, the overall measurement model for the five factors was assessed in a single CFA procedure. All the items loaded on their specified factors. As shown in Table I, with the exception of an item from prior experience, which is 0.52, the standardized estimates for all the other items are greater than 0.6. Consequently, the composite

Constructs and items	CFA loading	Mean (SD)
Prior experience (three items; CR = 0.80; AVE = 0.58)		
I had the required general knowledge on the project	0.52	3.76 (0.91)
I had substantial working experience in related areas	0.93	3.48 (1.14)
I acquired some level of expertise in related areas	0.78	3.53 (1.09)
Learning goal orientation (five items; CR = 0.84, AVE = 0.51)		
I am willing to pursue challenging tasks from which I can learn new things	0.793	4.74 (0.46)
I often look for opportunities to develop new skills and knowledge	0.640	4.71 (0.49)
I prefer taking up challenging and difficult tasks at work from which I can learn new skills	0.653	4.53 (0.62)
I am willing to put in extra effort where necessary to develop new skills and enhance my knowledge	0.810	4.69 (0.50)
I prefer to work in environments that require a high level of ability and talent	0.668	4.58 (0.58)
Performance approach goal orientation (four items; CR = 0.82, AVE = 0.53)		
I like to demonstrate that I can perform better than my co-workers	0.668	3.22 (1.05)
I try to determine what it takes to prove my competency to others at work	0.772	3.65 (0.98)
I enjoy it when others at work are aware of how well I am doing	0.744	3.62 (0.96)
I prefer to work on projects in which I can prove my competency to others	0.700	3.66 (1.03)
Ability to recognize the value of knowledge (three items; CR = 0.76, AVE = 0.52)		
I was able to develop awareness on partner tools, practice, and knowledge	0.667	3.92 (0.74)
I was able to keep track of partner tools, practice or knowledge by consulting other sources of information	0.742	3.94 (0.66)
I was able to identify partner tools or practice with the most significant value to the project performance	0.746	3.94 (0.68)
Ability to assimilate knowledge (three items; CR = 0.87, AVE = 0.68)		
I was able to learn the use of partner tools or practice	0.887	4.07 (0.65)
I was capable at understanding the tools, practice, or knowledge embedded in the partner	0.891	4.08 (0.63)
I was adept at interpreting the use of tools, practice, or knowledge embedded in the partner	0.670	3.95 (0.66)

Table I. Descriptive statistics and CFA

reliability (CR) and average variance extracted (AVE) were computed from the CFA loadings. The AVE values for all the constructs are above the cut-off criterion of 0.50 (Fornell and Larcker, 1981) and the CR were above the cut-off criterion of 0.7 (Hair *et al.*, 2010). Thus, convergent validity was demonstrated for all the constructs.

Discriminant validity is ascertained when the shared variance (i.e. square of correlations between pair of latent variables) is lesser than the AVE by each variable (Fornell and Larcker, 1981). As shown in Table II, the latent variables exhibited a high

	1	2	3	4	5
1. Prior experience	(0.58)				
2. Learning goal orientation	0.008	(0.51)			
3. Performance approach goal orientation	0.019	0.031	(0.53)		
4. Ability to recognize	0.020	0.011	0.040	(0.52)	
5. Ability to assimilate	0.064	0.062	0.019	0.257	(0.68)

Note: AVE values are on the diagonal in parentheses

Table II. Latent variables correlation matrix

level of discriminant validity, in that the AVE for each variable was greater than the corresponding shared variance. The AVE values for each latent variable are printed on the diagonal, with the shared variance printed off the diagonal.

Sequel to the above, the second step of the technique was conducted. This involved the transposition of the measurement model into the structural model, by replacing the covariance paths (i.e. double edged arrows) associated with the endogenous variable with the hypothesized structural paths (i.e. single edged arrows). The selected goodness-of-fit indices from the AMOS 18 package revealed a good fit to data (i.e. $\chi^2 = 142.250/p = 0.139$; RMSEA $= 0.024/p$-close $= 0.997$; GFI $= 0.959$, CFI $= 0.989$, TLI $= 0.987$). Specifically, the value of p for the χ^2 was not significant, i.e., > 0.05, thus the model can be regarded as acceptable (Bagozzi and Yi, 2012). As a result, the model was employed in testing the hypothesized effects.

The structural paths for the standardized estimates are depicted in Figure 1. As shown in this figure, the effect of prior experience on the ability to assimilate knowledge was significant ($\beta = 0.17$, $p < 0.05$), however, its effect on the ability to recognize the value of knowledge was not significant. Thus, *H1b* was supported, but *H1a* was not supported. Both *H2a* and *H2b* were supported, i.e., the path from performance approach goal orientation to ability to recognize the value of knowledge was significant ($\beta = 0.18$, $p < 0.05$), and that from learning goal orientation to ability to assimilate knowledge ($\beta = 0.22$, $p < 0.001$). Finally, the individual ability to recognize the value of knowledge was positively associated with the ability to assimilate the knowledge ($\beta = 0.46$, $p < 0.001$). Thus, *H3* was supported.

4. Discussion

The need for a micro-level conceptualization of macro-level phenomenon like ACAP is inevitable for deepening understanding on the role of individuals in firm's heterogeneity. Accordingly, further to the extant focus on variations in organizational mechanisms, the present study has demonstrated individual difference as another important building block to organizational change. For instance variation in firm's capability to acquire and utilize external knowledge, i.e., ACAP has consistently been attributed to organizational structure, memory, cognition, and adaptability (Lyles and Salk, 1996), while implicitly assuming that individual members are homogeneous. Even thou studies have acknowledged individuals antecedents such as prior experience (Lane *et al.*, 2006; Minbaeva *et al.*, 2003; Zhao and Anand, 2009), cognition (Zahra and George, 2002), and task motivation (Silva and Davis, 2011; Ojo *et al.*, 2014), however, there still exist a general drought of empirical validation of these antecedents. Specifically, the effects of individual differences on the associated dimensions of ACAP have been overlooked, while data have mostly originated from single respondent or proxy construct.

Undoubtedly, firm's ability to leverage the learning opportunity offered through joint project is maximized, when the selected team members possess the underlying learning capability. Further to the theoretical notion on the existence of potential ACAP at the individual level (Zahra and George, 2002) this study empirically demonstrates the pertinent dimensions as abilities to recognize the value of and assimilate knowledge, and the underlying effects of individual differences. As revealed in this study, individuals' appreciation of the value of knowledge can enable them to commit the necessary effort toward gaining deeper understanding of the underlying knowledge bases.

Our findings have validated the role of prior experience and goal orientation in the individual capability to recognize and assimilate partner's knowledge. The varying

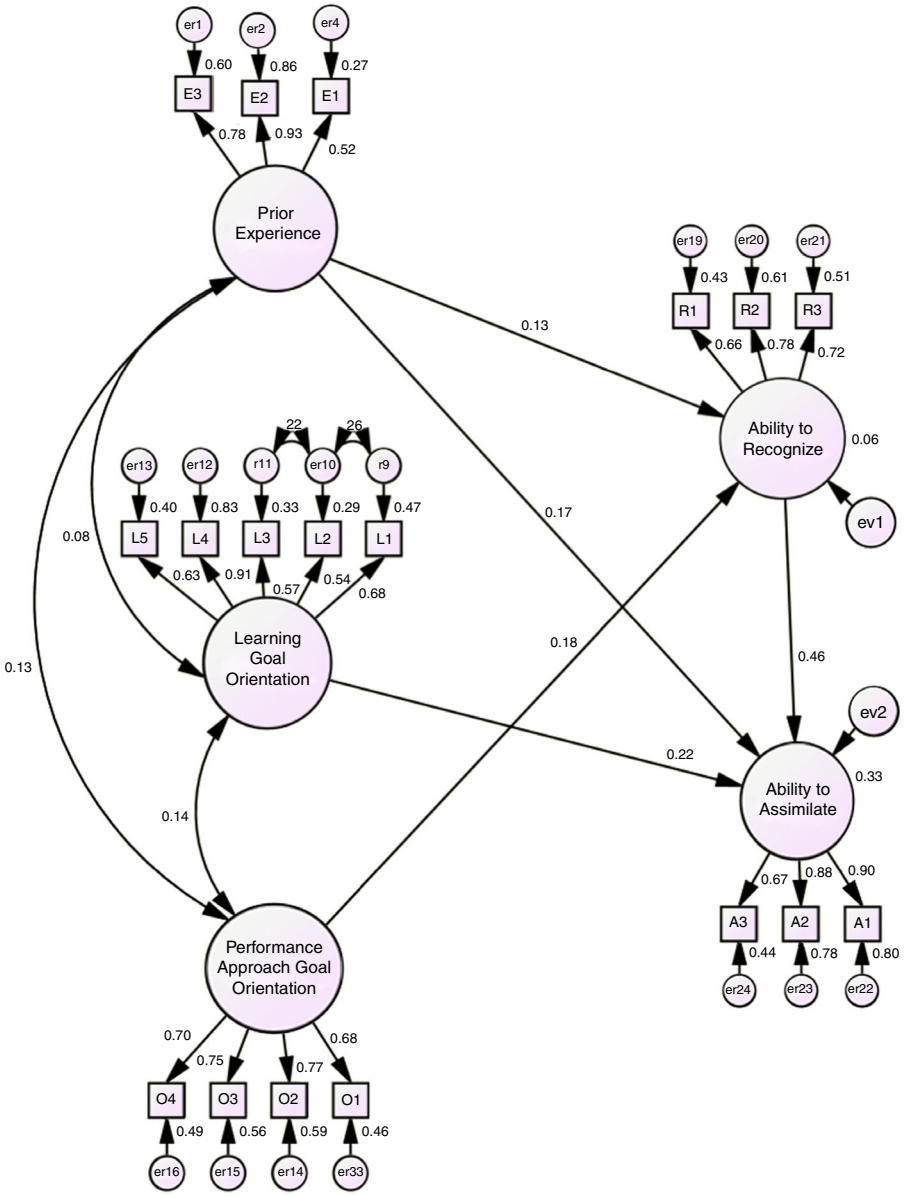

Figure 1.
Standardized path estimates

effect of prior experience on ACAP revealed that the possession of related experience could deepen the individual's ability to assimilate partner's embedded knowledge deployed in the joint project team (i.e. *H1b*). On the contrary the former had no significant relationship with the ability to recognize the value of partner's knowledge (i.e. *H1a*). On a cursory look, the unsupported hypothesis, *H1a* challenges the theoretical definition of ACAP (Cohen and Levinthal, 1990). However, this finding is in

line with that of Lane and Lubatkin (1998) regarding the lack of correlation between R&D engagement (i.e. knowledge acquisition) and the variance of ACAP. The finding is also consistent with the path dependence nature of learning. The possession of prior related knowledge could have some effect on an individual's understanding, but it could also limit the ability to recognize the value of new knowledge. Cohen and Levinthal (1990) posited that an individual's mental model stored in the memory evolves along the path of his/her exposure. Therefore, unless concerted effort is channeled toward exploring new things, an individual's interpretation of future phenomena could be limited by the mental model.

In addition, the non-significant relationship (i.e. *H1a*) could be explained from the empirical context. Given the demographic profile on the length of professional experience and engagement in joint projects, the majority of the respondents can be classified as being at the midlevel of their careers. Consequently, they are possibly well-informed about the trends in their field; therefore, the need for recognition of value might have already been satisfied. Nevertheless, the underlying knowledge could be more relevant to understanding and assimilating the related knowledge. Another likely reason is the sampling frame, which is based on a random selection of employees with prior engagement in joint project team. Theoretically, ACAP is closely associated with specific individuals like boundary spanners or gate keepers, who are well adept to identifying and bringing in external knowledge (Cohen and Levinthal, 1990; Zahra and George, 2002). Thus, notwithstanding the level of prior related knowledge, the ability to recognize the value of knowledge might be docile in certain groups of individuals, thereby masking the expected relationship. It is therefore essential that individuals keep abreast of developments related to the project task in order to facilitate their evaluation of the underlying knowledge.

Expectedly, the present findings confirm the significance of dual goal orientation in the project team context, thereby extending the construct that had already been validated in the classroom environment (see Barron and Harackiewicz, 2001). Individual team members with dual goal orientation are more likely to recognize and assimilate knowledge embedded in their competent partners, in the course of joint project execution. At the initial stage, individuals' engagement in the project team evolves through performance approach goal orientation, wherein the drive to appear more competent than others facilitates the search for short-term evaluative advantages. Given the engineering project context, this could be expressed as being the first to discover new concepts or identify procedures/methods underlying the task. Furthermore, task performance and interaction with others are most likely to be used to gain accolades and prove competencies. Nevertheless, without the complementary orientation toward learning, these are not likely to translate into assimilated knowledge. Learning goal-oriented individuals perceive the project team as a learning context and are driven to commit the necessary efforts in order to gain mastery of procedures/methods underlying the task. Therefore, the two components of individual ACAP, i.e., ability to recognize the value of and ability to assimilate knowledge can be predicted by performance and learning goal orientation, respectively.

5. Practical implications

The above findings have implications for the management of joint engineering project teams in the Nigerian upstream oil industry. It is essential that the managerial and leadership drive for the upgrade of local capability through the acquisition of competent partners' knowledge be supported with the engagement of personnel with

the underlying learning capabilities. In addition to the organizational norm of recruiting experienced personnel, the management should also consider their disposition to learning and performance. Considering the empirical support for dual goal orientation, teams should be constituted by individuals who are both learning and performance approach goal oriented toward their tasks. The starting point of knowledge acquisition is the recognition of need, then performance approach goal orientation propensity for short-term evaluative advantage comes into play. Moreover, the ability to assimilate requires the development of deep insight, which is evident in the mastery of procedures/methods underlying the task. Thus, team members engaged in a joint project must be simultaneously driven to demonstrate performance and mastery in order to be able to recognize and assimilate partner knowledge.

6. Conclusions and future research

Further to the clarification of the role of individuals in the acquisition of knowledge from joint project teams, this study also offers opportunities for further research. Future studies should attempt to clarify the effects of other antecedents on both the individual and organizational ACAP. There is also need for study to investigate the mechanisms through which individual antecedents are dimensions of ACAP are linked to the organizational level. The impact of cultural differences on ACAP within joint project is another important area for future studies. Furthermore, subsequent studies are expected to address some of the limitations of this study. In order to enhance the generalization of the findings, future inquiries are implored to extend the validated model to other emerging economies. The use of longitudinal design is recommended, so as to capture the underlying temporal and causal effects of ACAP. Moreover, the attendant weakness of the self-reported survey could be minimized by incorporating data from other sources. For example, future studies should consider the perspective of the foreign team members on the ACAP dimensions.

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