

The Moderating Role of Organization Culture in Promoting External Integration

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Abstract

This study investigates the relationship between internal integration and external integration, and in this relationship it measures the moderating role of Organization Culture. It takes into account externally focused organizational culture i.e. Market and Adhocracy culture. Cross-sectional data was collected from a stratified sample of 234 managers from petroleum firms operating in Pakistan. Results indicated significant relationship between internal and external integration (i.e. Customer and Supplier integration). The moderating role of Organization culture was investigated through multiple-group SEM, and it was found that internal integration in organizations that possess high levels of market and adhocracy culture lead to better external integration. Overall, results indicated that internal integration is a precondition for external integration, and the later can be effectively achieved if company focuses on external positioning and external environment. The study extends management theory and proffers worthwhile contribution to business practice in achieving external integration owing to suitable organizational culture.

Keywords: internal integration; market culture; adhocracy culture; customer integration; supplier integration

Introduction

Changing market environment and discerning customers create unprecedented issues, and to deal with them organizations are faced with newer challenges of managing integrated relationships. Organizations largely draw on their core competencies—they outsource all non-core activities to other members who have acquired superior competencies in those areas. The success depends not only on how well a firm can integrate its own practices, but also how it relate to practices, procedures and behaviors of their external partners into a collaborative process to meet the customer needs (Kahn & Mentzer, 1996). Integration is “the process of interdepartmental interaction and collaboration, which brings departments together into a cohesive organization” (Kahn & Mentzer, 1998). Importance of integration has largely been acknowledged and discussed at length in

earlier literature because it is not only a source of value creation but also because the whole idea of Supply Chain Management is instituted on it (Chen & Paulraj, 2004; Pagell, 2004). It mainly consists of internal integration i.e. inner cross-functional integration, and external integration i.e. forward and backward integration among the customers and suppliers. Internal Integration is aimed at cross-functional/departments integration in organization based on harmony amongst functional units, and it also refers to collaborated and coordinated activities in an organization (Fawcett & Magnan, 2002; Chen & Paulraj, 2004; Chen *et al.*, 2009).

Internal integration (II) is necessary and essential condition to achieve integration with suppliers and customers i.e. external partners or supply chain integration (Biemans, 1991; Rosenzweig, Roth & Dean, 2003; Stevens, 1989; Takeishi, 2001; Zhao *et al.*, 2011). Hillebrand & Biemans (2004) indicated that effective cooperation with external partner is based upon organizational internal collaboration. Moreover, higher the absorptive competency of the organization, the more the organization will understand the external business environment, suppliers and customers. As a result it smoothen the progress of maintaining fit with external environment as well as in achieving better external integration. Dissemination of information as well as experiences obtained from external environment/entities among internal functional units to reach an agreement represents internal integration.

Prior studies acknowledged that despite positive outcomes of integrating with customers and suppliers, many organizations are reluctant to integrate with external partners (e.g., Fawcett & Magnan, 2001; Frohlich & Westbrook, 2001). It is essential to identify essential factors (i.e. environmental, inter-organizational, culture, technological etc.) that promote and create helpful environment for integration with partners and (Flynn *et al.*, 2010; Gimenez *et al.*, 2012; Wong *et al.*, 2011). In the similar vein, organization culture (OC) also plays a vital role. It is not only germane to the supply chain management phenomenon but also enable teamwork and information sharing among the chain partners (Braunscheidel, Suresh & Boisnier, 2010; Hewett, Money & Sharma, 2002; McCarter *et al.*, 2005). As do prior researchers e.g., Cao, Huo, Li and Zhao (2015), this study also considered OC as a gateway to internal as well as external integration. OC reflects shared values of organizational members, which is evident in organizational goals and practices (Barney, 1986; Deshpandé *et al.* 1993; Liu *et al.* 2010; Quinn & Rohrbaugh 1983). OC not only facilitate internal cohesion but also facilitate integration between focal firm and its partners

(Barey, 1986; Braunscheidel *et al.*, 2010; Flynn *et al.*, 2010; Lopez *et al.*, 2004; Schilke & Cook, 2015).

Several studies (e.g., Quinn & Rohrbaugh, 1983; McDermott & Stock 1999; Deshpande *et al.* 1993) indicated externally focused and internally focused culture as two main facades of organization culture framework. Internally focused culture emphasizes evolving systems and people within the firm, whereas; externally focus culture emphasis reward system, future development and organizational external positioning (Deshpande *et al.* 1993; Quinn & Rohrbaugh, 1983). Externally focused organizational culture boosts taking initiative; achieving measurable goals and newer services to meet customers' needs (McDermott & Stock 1999). It encourages businesses to adapt rapidly to market conditions and benefit the business (Deshpandé *et al.* 1993; Hewett *et al.*, 2002; Liu *et al.* 2010; Quinn & Rohrbaugh 1983). While OC is one of the most widely studied concepts in management (Denison & Mishra, 1995; Deshpandé *et al.* 1993; Liu *et al.* 2010; Quinn & Rohrbaugh 1983), little evidence is found in operations management and its related areas (Braunscheidel, Suresh & Boisnier, 2010; Ke, Liu & Wei, 2010; Zammuto & O'Connor, 1992).

Problem Statement

Prior literature is largely inconclusive about integration-performance relationships, and researchers hold varying conceptualizations regarding integration construct and contexts that are responsible for it (Fabbe-Costes & Jahre, 2007; Flynn *et al.*, 2010; Van der Vaart & Van Donk, 2008; Zhao, Huo, Selen & Yeung, 2011). Little research has been conducted at the organizational and employee level to identify practices that enhance internal integration (Basnet & Wisner, 2012; Pagell, 2004). Furthermore, the role of organization culture in the context of SCM has not been sufficiently explored—though prior studies highlighted its significance for achieving integration and overall performance of supply chain (Braunscheidel, Suresh & Boisnier, 2010; Frohlich and Westbrook, 2001). Also, much remains to be understood regarding how to attain external integration after an organization has effectively managed to achieve internal integration.

Significance

While petroleum industry is one of the vital economic sectors of Pakistan, it lacks integration practices within the chain (i.e. crude exploration/production companies, refineries, marketing companies etc.), which results in lack of optimal inventory and cost reduction. Notwithstanding the positive outcomes of integrating with customers and

suppliers, petroleum firms are reluctant to integrate with external partners. This study helps in identifying cultural factors that facilitate integration with partners and create conducive environment.

Study Objectives

The aim of this study is:

- To evaluate the state of internal integration in the Pakistan petroleum companies;
- To assesses the impact of internal integration on external integration;
- To investigate the interaction effect of externally focused organizational culture (EFO) in this relationship; and
- To suggest measures and practices that help establish better integration with customer and suppliers.

Literature Review

Internal Integration

Integration phenomenon can be linked back to Henri Fayol's (1949) classical management perspective of 'Esprit de Corps'. Integration is associated with different definitions, and there is lack of agreement about the construct (e.g., Pagell, 2004). While one stream of prior literature approaches integration through the philosophy of interaction emphasizing verbal and explicit activities like information sharing through different means, the second stream considered integration as 'collaboration' and emphasize creating strategic alignment owing to intangible activities based on trust and mutual cooperation, teamwork and goal congruence among functional units (Griffin & Hauser, 1992; Kahn, 1996; Ven de Ven & Ferry, 1980). Some researchers also advocate a 'composite 'view, and blends both collaboration and interaction (Gupta, Raj & Wilemon, 1985). Considering the involvement of cross-functional teams in product development process, another stream of literature (e.g., Koufteros *et al.*, 2005), label internal integration philosophies as 'concurrent engineering' that help reduce conflicts among functional units and enhance performance (Maltz & Kohli, 2000). Drawing on the prior literature, this study measures II taking into account its three prominent dimensions: a) Interaction; b) Collaboration; and c) Cross-functional teams (CFT).

External Integration

Organizations that intend to serve their customer needs not only have to establish collaborative relations with its partners i.e. customers and suppliers, but also have to design synchronized strategies and processes in

an appropriate manner to achieves its goals. Stank et al., (2001), termed this process as external integration. Frohlich and Westbrook (2001) specified the importance of integration with respect to its upstream and downstream features (i.e. broader arc) and highlighted their associated benefits. The downstream and upstream integration is termed as external integration (i.e. customer integration and supplier integration). It encompasses the flow of goods/services along with information and other related coordination practices, activities both upstream and downstream (Braunscheidel, *et al.*, 2010). Such type of integration would entail a great deal of mutual understanding, information sharing and process coordination as well as involvement of partners i.e. supplier and customers in product development process (Droge *et al.*, 2004; Flynn *et al.*, 2010; Petersen, Handfield & Ragatz, 2005; Stank *et al.*, 2001; Zhao *et al.*, 2006).

The literature has largely proclaimed that external integration leverages the core competencies of organization through better coordination and network relationships with both upstream and downstream partners. It helps reduce the ‘Bullwhip effect’, effectively manages market uncertainty, and enhances performance (Droge, Jayaram & Vickery, 2004; Lee *et al.*, 2007; Vickery *et al.*, 2003).

Internal Integration and External Integration

The extant literature confirmed that internal integration is prerequisite for external integration (Gimenez & Ventura, 2005; Huo, 2012; Vickery *et al.*, 2003; Yu, Jacobs, Salisbury & Enns, 2013). Recent literature have also highlighted the important role of II first before going for external integration because organization with better II practices find itself easy to transfer those across the boundary span which facilitate in forming external integration with supplier and customers (Childerhouse *et al.*, 2011; Luque, Garcia & Lopez, 2015). Thus, it was hypothesized that:

H1: II is positively related to external integration i.e. with customers.

H2: II is positively related to external integration i.e. with suppliers.

External Focused Organizational Culture (EFO)

Barney (1986) defined organization culture as “a complex set of values, beliefs, assumptions, and symbols that define the way in which a firm conducts its business” (p.656). It reflects shared values and beliefs that organizational members have in common, which manifests in organizational goals and practices (Barney, 1986; Deshpandé *et al.* 1993; Quinn & Rohrbaugh 1983). Quinn and Rohrbaugh (1983) model which is known as competing value framework was used to represent organization

culture in this study which categorizes the organization culture into two dimensions forming four clusters of matrix (Denison & Spreitzer). This framework is well known for assessing as well as profiling and identifying organization culture dynamics. Clan (group), Control (hierarchy), Rational/Compete (Market) and Adhocracy (developmental) form four clusters of the framework. The two culture characteristics i.e. Clan and Hierarchy are internally focused and represents cohesion i.e. team spirit, human development, standardization, stability and control. Whereas, Adhocracy and Rational culture characteristics are externally focused. Adhocracy (or Developmental) culture characteristics reflect values such as adaptability, flexibility, dynamic, creativity, innovation, growth, and resource acquisition. Similarly the Rational culture reflects values such as reward systems, differentiation, goal setting and relationships or transactions with external partners i.e. customers and suppliers etc. for achieving competitiveness. Organization with these characteristics establishes integration with the external partners for attaining a competitive edge in the market (Braunscheidel *et al.*, 2010).

The two main facades of organization culture i.e. internally focused and externally focused culture, the former accentuates developing systems and people within the firm whereas the later accentuates future developments, organizational external positioning of and interaction with the environment outside the organization with customers and suppliers (Deshpande *et al.* 1993; Liu *et al.* 2010; McDermott & Stock 1999; Quinn & Rohrbaugh, 1983; Zahra *et al.*, 2004). Previous research revealed that adhocracy culture (or developmental) is positively associated with establishing integration with customers and suppliers and enhancing delivery performance (Braunscheidel *et al.*, 2010). Most recent study by Cao *et al.* (2015) concluded that adhocracy culture is significantly and positively related with internal, customer and supplier integration. Firms that have external focus value their organizational overall competitiveness more than internally focused firms i.e. Clan and Hierarchies (Deshpande *et al.*1993; Quinn & Rohrbaugh, 1983). McDermott & O'Dell (2001) highlighted that firms which possesses market culture put emphasis on integration in order to achieve their set goals. Hewett *et al.* (2002) argued that companies with external focused culture show more relationship intensity and look forward to change its ways to better serve the customers and maintain the collaborative relationships with suppliers. Thus it is hypothesized that:

H3: EFO culture (i.e. Adhocracy Culture) positively moderates the relationships between firm and its customers and Suppliers.

H4: EFO culture (i.e. Market Culture) positively moderates the relationships between firm and its customers and Suppliers.

The conceptual framework of present study is provided in Figure 1.

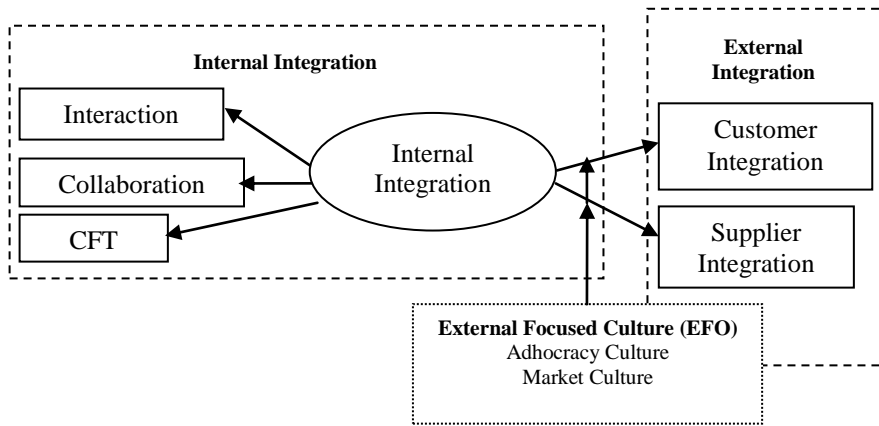


Figure 1: Research Model

Method

Sample

The present study was cross-sectional and quantitative in nature. 234 managers from sixty petroleum companies were approached for requisite data using stratified random sampling for the reason that this strategy yield a smaller error of estimation as compared to any other sampling strategy (Burns & Bush, 2000). Yamane (1973), criteria with 95% confidence interval was employed i.e. $n = \frac{N}{1 + Ne^2}$ to determine the adequacy of the sample (n = 234) with population frame of 700 managers.

Measures

A total of 30 items scored on a 5-point Likert-type scale were employed as follows:

Internal Integration

10 items scale was used to measure II. The construct was measured through three aspects (i.e. Interaction: 3 items scale adapted from Van de Ven and Ferry's (1980); Collaboration: 6 items scale adapted from Khan & Mentzer (1998), and use of Cross Functional Teams (CFT): 2 items scale adapted from Narasimhan & Kim (2002).

Customer Integration

Seven items scale for Customer integration was used to gauge the extent of cooperation and intensity of information sharing between firm and

its customer. All items of the construct were adapted from earlier validated instruments (Frohlich & Westbrook, 2001; Narasimhan & Kim 2002; Zhao *et al.*, 2011).

Supplier Integration

Seven items scale for Supplier Integration was used to gauge the extent of cooperation and intensity information sharing between the firm and its supplier. All items of the construct were adapted from prior validated instruments (Frohlich & Westbrook, 2001; Narasimhan & Kim 2002, Zhao *et al.*, 2011).

Organization Culture

EFO culture i.e. market/rational and developmental/adhocracy was measured through six items scale i.e. three items each scored on five point likert type scale using earlier validated instruments (Deshpande *et al.*, 1993; Ke, Liu & Wei, 2010; McMott & Stock, 1999; Quinn & Spreitzer, 1991). For this purpose organization culture model known as Competing Value Framework (CVF) was employed with external focused dimension only i.e. market/rational and developmental/adhocracy (Quinn & Rohrbaugh, 1983) to comprehend organization's effectiveness. The type of culture which possesses or value differentiation, productivity, competitiveness through robust external positioning and emphasizes interactions with external stakeholders i.e. customer, suppliers is termed as market or rational culture. On the other hand developmental or adhocracy emphasizes flexibility, creativity, innovation, adaptability, resource acquisition, readiness for change, and external orientation (Dension & Spreitzer, 1991).

Construct Validity

To ensure the content validity of the construct, academic professors and relevant industry professional from petroleum companies were consulted and necessary changes were incorporated. Convergent validity for each construct was also assessed. Results revealed signification factor loadings (above 0.50), construct reliability (above 0.50), average variance extracted (above 0.50). These indices ensured the convergent validity (Hair *et al.*, 2006). Likewise, discriminant validity was also assessed through correlations among the constructs. Results demonstrated satisfactory discriminate validity as all correlations were below the threshold value i.e. 0.85 as suggested by Harrington (2009).

Results

The brief statistics pertaining to managers' department profile/functional area, qualification, experience etc. is as follows. Functional area wise: 13(5.6%) managers were from Production/ Manufacturing, 36(15.4%) from Marketing/ Sales, 43(18.4%) from Engineering, 35(15%) from Logistics/ Supply Chain, 24(10.3%) from IT/ MS, 24(10.3%) from Admin/ HR, 35(15%) from Procurement/ Purchase etc. Qualification wise: 79(33.8%) had Bachelors, 127(54.3%) had a Masters degree. Experience wise: 65(27.8%) had 1-3 years, 14(6%) had 3-5 years, and 149(63.7%) had more than 5 years of experience.

Descriptive statistics, Reliability and correlational analysis for variables under study are presented in Table 1.

Table 1
 Descriptive Statistics, Reliability Scores and Extracted Variance of Study Variables

Variables	Mean	SD	Alpha	Items	1	2	3
1. II	4.05	0.517	0.79	10	(0.80)		
2. CI	3.76	0.55	0.88	07	0.25**	(0.71)	
3. SI	3.59	0.482	0.89	07	0.18**	0.21**	(0.73)

Note. * $p < .05$; ** $p < .01$, Internal Integration (II), Customer Integration (CI), Supplier Integration (SI).
 Bold values in parenthesis are the square roots of average variance extracted.

Descriptive results revealed that mean value for customer and supplier integration are tilting towards agreement side on a scale of 1 through 5 indicating that companies under discussions give due importance on integrating with customer and suppliers. Internal integration, customer and supplier integration were found positively correlated. Furthermore results indicated excellent reliability (all alpha values were above 0.60 as suggested by Kerlinger and Lee (2000)) as well as discriminant validity (all correlations among variables were below the threshold value i.e. 0.85 as suggested by Harrington (2009)).

AMOS Version -21 was used to test the relationships between the construct as well as the overall model fitness. Well-known model fitness criteria(s) (i.e. χ^2/Df , CFI, GFI, AGFI and RMSEA) as highlighted by the earlier literature were used in the current study (Gerbing & Anderson, 1992; Hair *et al.*, 2006; Hu & Bentler, 1999; Prajogo, McDermott, & Goh, 2008; Tabachnic & Fidell, 2001). Table-2 presented the model fitness statistics/indices of the hypothesized model along with recommended cutoff values (Gerbing & Anderson, 1992; Hair *et al.*, 2006; Hu & Bentler, 1999; Prajogo, McDermott, & Goh, 2008; Steiger, 1990; Tabachnic & Fidell,

2001). Results demonstrated that all the fit indices values were within the acceptable range.

Table 2
Model Fit Statistics Summary

Model Fit Indices /Statistics	Recommended Criteria/Cut off Values	Research Model Observed Value
χ^2/Df	≤ 3.00	2.55
GFI	≥ 0.90	0.98
AGFI	≥ 0.90	0.94
CFI	≥ 0.90	0.98
RMSEA	≤ 0.08	0.08

Hypotheses Testing

H1: II is positively related to external integration i.e. with customers.

H2: II is positively related to external integration i.e. with suppliers.

First, H_1 and H_2 were examined using SEM path analysis. Significant results were obtained as provided in Table 3, indicating that internal integration was positively and significantly related with customer ($\beta_1=0.35$, $p<0.05$) thus supporting H_1 . Similarly, internal integration was positively and significantly related with supplier integration ($\beta_2=0.214$, $p<0.05$) thus supporting H_2 as shown in Table 3.

Table 3

Contribution of Internal Integration for Customer and Supplier Integration

Variables relationship	Beta Value	Critical Value	p-value
β_1 (CI←II)	0.356	4.06	0.00
β_2 (SI← II)	0.214	2.80	0.00

Note. * $p<0.05$; ** $p<0.01$, Internal Integration (II), Customer Integration (CI), Supplier Integration (SI).

H3: EFO culture (i.e. Adhocracy Culture) positively moderates the relationships between firm and its customers and Suppliers.

Multiple Group SEM methodology was employed to test the moderation hypothesis i.e. H_3 . The moderating variable EFO culture i.e. Adhocracy culture for H_3 was divided into two groups based on median value i.e. low level Adhocracy culture group ($a=85$) and high level Adhocracy culture group ($b=149$). The discrimination of subsamples was verified through employing t-test .The t-statistics value i.e. $t = -16.136$ ($p < 0.05$) demonstrated the significant mean difference between two sub groups i.e. low vs. high levels of adhocracy culture.

First the moderating role of adhocracy culture was examined between internal integration and customer integration. For this purpose paths were analyzed in unconstrained and constrained manner. Chi-Square difference test attained significant chi-square change (i.e. $\Delta\chi^2=3.51$, $p<0.10$), demonstrating that path coefficients differ significantly across the two groups. This revealed that adhocracy culture significantly moderates the relationship between internal integration and customer integration.

Similarly path coefficients were also calculated from internal integration to supplier integration across the two groups for adhocracy culture. Chi-Square difference test produces significant chi-square change (i.e. $\Delta\chi^2=12.38$, $p<0.05$), demonstrating that path coefficients differ significantly across the two groups.

Table 4. Moderation Results- SEM Multi Group Structural Model – Organization Culture (Adhocracy Culture) for Customer and Supplier

Model Description	χ^2	Df	χ^2/df	CFI	RMSEA	$\Delta\chi^2$	Sig.
Unconstrained	13.522	10	1.352	0.989	0.039		***
Constrained (For customer)	17.03	11	1.154	0.98	0.05	3.51	**
Constrained (For Supplier)	25.8	11	2.35	0.935	0.07	12.38	***

Note. CI=Customer Integration; SI=Supplier Integration; ** $p\leq 0.05$; *** $p\leq 0.10$

This revealed that adhocracy culture significantly moderates the relationship between internal integration and supplier integration. Furthermore, satisfactory indices for both i.e. constrained and unconstrained models were attained as highlighted in Table-4. Table-4 presented detailed results of the interaction effect. The results indicated that organizations that hold high echelons of adhocracy culture (value readiness to change, flexibility, creativity, differentiation etc.) had better external integration (with customer and suppliers) thus supporting the hypothesis H₃.

H4: EFO culture (i.e. Market Culture) positively moderates the relationships between firm and its customers and Suppliers.

In the similar manner for H₄, the moderating variable EFO culture i.e. market or rational Culture was also divided into two groups based on median value i.e. lower and higher Market or Rational Culture group. The discrimination of subsamples was verified through employing t-test. The t-statistics value i.e. $t=-20.611$ ($p<0.05$) demonstrated the significant mean difference between two sub groups i.e. low vs. high levels of Market or Rational Culture.

First the moderating role of market or rational culture was examined between internal integration and customer integration. For this purpose paths were measured in an unconstrained and constrained manner. Chi-Square difference test produced significant chi-square change ($\Delta\chi^2=4.6$, $p<0.05$), demonstrating that path coefficients differ significantly across the two groups. This revealed that Market or Rational Culture significantly moderates between internal integration and customer integration. Along the similar lines path coefficients were also calculated from internal integration to supplier integration across the two groups, and significant chi-square change was found (i.e. $\Delta\chi^2=17.1$, $p <0.05$), demonstrating that path coefficients differ significantly across the two groups. This revealed that Market or Rational Culture significantly moderates the relationship between internal integration and supplier integration. Furthermore, fit indices for both constrained and unconstrained models were attained, as highlighted in Table-5. Table-5 presented detailed results of interaction effect. The results indicated that organizations that hold high echelons of market or rational Culture (value efficiency, goal setting/clarity, measurable outcomes, performance, productivity, predictability etc.) had better external integration with customer and suppliers. These results supported H₄.

Table 5. Moderation Results- SEM Multi Group Structural Model –Organization Culture (Market/Rational) for Customer and Supplier

Model Description	χ^2	Df	χ^2/df	CFI	RMSEA	$\Delta\chi^2$	Sig.
Unconstrained	10.8	10	1.352	0.989	0.039		***
Constrained (For customer)	15.4	11	1.40	0.98	0.04	4.6	***
Constrained (For Supplier)	27.9	11	2.53	0.94	0.08	17.1	***

Note. CI=Customer Integration; SI=Supplier Integration; *** $p\leq 0.05$

Discussion and Conclusions

First, the results of the H₁ exhibited significant relationship between II and CI ($\beta_1= 0.35$). It reiterated that for a successful external integration with customer, internal integration is necessary (Gimenez & Ventura, 2005; Huo, 2012; Pagell, 2004; Rosenzweig *et al.*, 2003; Yu, Jacobs, Salisbury & Enns, 2013; Zhao *et al.*, 2011). Focusing on the aspects of interaction, collaboration and using cross functional teams, organizations will be in a better position not only to maintain harmony within the internal functional units but also be able to enhance its absorptive capacity that ultimately facilitate external integration with customers. Thus organizations should put its efforts to maintain its relations with customer by sharing information regarding demand and inventory status as it facilitates integration.

Second, results of the H₂ demonstrated that II and SI were significantly related (i.e. $\beta_2 = 0.214$). It indicated that for a successful external integration with supplier, internal integration is a prerequisite (Gimenez & Ventura, 2005; Huo, 2012; Pagell, 2004; Rosenzweig *et al.*, 2003; Yu, Jacobs, Salisbury & Enns, 2013; Zhao *et al.*, 2011). The results reiterated that for a win-win situation, the company should maintain better relationships with its supplier by involving supplier in the design stage and timely sharing of information regarding production schedules, inventory status. It will not only improve responsiveness towards customers in terms of order fulfillments but it will also help reducing redundant efforts and wastes.

Third, the moderation results as highlighted in Table 4 revealed that adhocracy culture significantly moderates the relationships between II and external integration (i.e. with customer and suppliers). It can be deduced from the results that organizations that are higher on the adhocracy culture i.e. adaptable, dynamic, flexible, entrepreneurial in nature and aspire to maintain fit with external surroundings will be in better position to exploit external resources and integration with partners. These results supported the stance of earlier researchers (e.g., Braunscheidel *et al.*, 2010).

Last, the moderation results highlighted in Table 5 revealed that market culture significantly moderates the relationships between II and external integration (i.e. with customer and suppliers). It can be inferred from these results that organization which holds high echelons level of market culture (i.e. efficiency, goal setting/clarity, competitiveness, set measurable outcomes, performance, productivity, predictability, competitiveness), and aspire to maintain fit with external surroundings is better placed for acquisition and exploitation of resources and integration with partners as opposed to low levels of market culture.

In a nutshell, as do earlier studies, this study also proclaim the superior role of external focused organization culture (i.e. market and adhocracy) and its relevance for attaining better relationships with external partners and improved external integration (Hewett *et al.*, 2002; Ke, Liu & Wei, 2010). To benefit from the opportunities proffered by integration, organization needs to bring certain changes in its culture. This study provides suggestive evidence that by focusing on these two culture types that favors change, entrepreneurship, efficiency, dynamism and aspire to maintain fit between external surroundings, and internal competencies will ultimately be a source of competitiveness.

Theoretical Extensions

Based on the results of the current study several organizational theories seem to offer useful insight for understanding the relationships based on collaboration and integration. For example, resource based view (Barney, 1991) emphasized on exploitation of resources inside or across the firm through forming collaborative relationships and concluded that complementary capabilities of both parties i.e. firm and its stakeholders is a real competitive edge. Transaction cost theory (Coase, 1937), which focuses on hierarchies (make) or market (buy) alternatives also advocated collaborative relationships with partners in reducing the costs associated with buy-decision. As opposed to economic perspective (advocated by Transaction cost theory), Network theory also advocated collaborative relationships based on mutual trust and personal chemistry to gain competitiveness (Thorelli, 1986). Knowledge based view, which also advocated that integration could be enhanced through organization learning through knowledge sharing, which is an important source of competitiveness. Contingency theory supported creating a fit between internal and external environment, and suggested that appropriate strategies might be carried out for external positioning and fit. These theoretical perspectives collectively, provide useful insight in understanding and establishing integrated relationships.

Implications

Findings of the current study proffer worthwhile contribution to the management practices in achieving external integration owing to a suitable organization culture. The study not only provided the ways to create integration for the successful; external integration but also recommended certain culture characteristics organizations need to possess for better external integration. The study concluded that internal integration is prerequisite for external integration. Organizations under study should adopt practices like interaction and collaboration etc. for smoothing the progress of harmony within internal functional units before striving for external integration with customer and supplier.

Findings also revealed that external focused culture i.e. Adhocracy and Rational culture enhances the integration between company and its external stakeholders. Hence, organization should adopt /possess cultural attributes that facilitate external positioning and creating fit with external environment. This necessitate that organizations need to be flexible, dynamic, entrepreneurial, productive, and efficient to enhance integration with partners. In a nutshell, such cultural characteristics/attributes i.e.

adhocracy and market should be promoted within the organizational settings which ultimately help achieve desired outcomes.

Limitations and Future Prospects

Besides notable contributions of the study, results generalizability is limited as data was collected from a single industry i.e. petroleum companies only. For that reason, to substantiate the important findings, future studies should be extended across other industries. Longitudinal design may be employed (as findings of the current study were based on cross section study design) to get better inferences from the causal relations under study.

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