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Organization Culture and Open Innovation in Sustainable Agri-business: A Case Study of Jain Irrigation Systems Limited

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Abstract

Purpose – The purpose of the paper is to exploring linkages among organization culture, open innovation and sustainable business framework in the context of agri-business based firm.

Design/methodology – A conceptual model and theoretical framework based on competency value has been established through exhaustive literature review and verified through secondary data obtained from the report published by an agro-business firm on the continuum of annual basis followed by structured qualitative interview of the experts indulged in concerned industry.

Findings – The qualitative analysis demonstrates competency value framework for case-organization gaining sustainable business with the aid of open innovation. Research findings suggest that case company incorporate product innovation, process innovation in the adhocracy culture. Moreover, the firm accomplishes continued growth through sustained open innovation leading to customer satisfaction and sustainable business. Also, it is able to meet fair return to all other stakeholders withholding corporate philosophy of being transparent, farmers oriented, and market leader. Their results can be valuable to other companies.

Research limitations/implications – The limitation of the study resides in its general applicability. Like other case studies, the specific conditions obtained in one organization may not be found more generally in a different organization of the industry segment generally due to varying leading strategic orientation of individual firms. Thus the results of the study may have applicability to other firms falling in same industry segment and meeting with almost similar circumstances.

Originality/value – The paper explains the linkage and impact of cultural dimensions on sustained innovation directed towards complete customer satisfaction, quality excellence and finally leads to sustainable business growth of a firm.

Keywords: Organization Culture, Open Innovation, Adhocracy Culture, Sustainable Business, Agri-business

1. INTRODUCTION

Corporate sustainability has received increasing attention over the last decade (Doh & Guay, 2006; Dahlscrud, 2008; Scherer & Palazzo, 2011). The term corporate sustainability used to provide a viewpoint that a firm needs to pay attention on covering triple bottom line of sustainability i.e. social, environmental and economic (Elkington, 1998; Leyh *et al*., 2014). The organization gains economic sustainability through coevolving with both social and environmental sustainability together (Broccardo *et al*., 2019) due either legal or ethical boundaries.

To be economically sustainable organizations paying attention to spend time and money in effectively utilizing organization practices such as marketing strategy, finance, proper resources, fund, and skilled and versatile workforce, appropriate workplace, work environment, flexibility to work and innovation in the firm. Innovation that mostly inherent in sustenance of the firms as Sagarin *et al.* (2010) point out that innovation is inevitable in building the image and identity of the organization. Firm survival and growth depend on organizational innovativeness (Yu *et al*., 2013).They suggest that organization innovativeness is vital for achieving organizational sustainability. In the same line of thought Wassmer *et al.* (2014) have also provided evidence of the long linkage between innovation and sustainability. So, if an organization is running in the race of sustainability and willing to win, innovativeness cannot be avoided. Freidman (2011) suggests need of effective innovative practices to ensure the shift succeeding sustainability.

Innovation, in an organization carried out through intention and internal innovative stimulus or adopted and crafted by outside world of the organization. Thus in the one hand, crowdsourcing concept, resources and eligible man-powers or it can be produced in collaboration with others. On the other hand it could be commercialized through licensing out or spinning-off the produce derived from innovation (Naqshbandi, 2016; Battistella *et al*., 2017). If organizations are nurturing and implementing some new ideas, new technologies or processes prefers two phenomenal thoughts 'closed-innovation' and/or 'open innovation-boundary-less approach to extract nut-shell, explore and collaborate with others outside either to extract new ideas or outsource their partial innovative assignment to collaborators. Thus open innovation is the "use of 'purposive inflows and outflows of knowledge' to accelerate internal innovation and expand the markets for external use of innovation (Chesbrough, 2003)". These approaches strengthen the readiness of the firms to do 'new, advanced or smart' to gain economic sustainability (Friedman, 2011) and maintain leading position in the industry segment.

Deriving and implementing innovation, in innovative firms', is dynamic and continuous processes and evolves over a period of time (Islam *et al*., 2018). This excellence of

innovation dynamism inculcated in the organization through vision, principles, mission statements and sharing past success stories and strong motivation built shared values and beliefs of the organizational innovative culture. This can be visible through employees' and organizational action (Schein, 1992, p.12).

Nevertheless, there remains a lack of studies aiming to figure out the linkage between organization culture, open innovation, and sustainability. In the backdrop of existing literature, the study aims to find out the type of organization culture will promote sustainability through open innovation. While it is recognized that organization culture promotes innovation, few empirical studies have studied the relationship between organization culture and innovation (Zakaria *et al.,* 2004; Oliver & Kendadi, 2006) but there is no study have examined linkage among these three variables. In this context, the study will seek to examine the type of organization culture instrumental for the enhancement of the organization's economic sustainability; the organization culture required to provide ground for open innovation. Our study will examine the innovation practices resulted in economic sustainability to be beneficial for the company for the long run. The paper is organized in five sections follow: the first section develops the theoretical framework and hypothesis for the study, next we will discuss the type of tools and data used in this study under research methodology section. The third section will emphasize findings and discussions of the case, and the paper will conclude with major findings and supporting literature under conclusion. The case is focused on answering the following research questions with the help of literature and gathered primary and secondary data such as; Are innovation practices implanted and nurtured in the culture of the organization? Are innovation practices committed towards economic sustainability of organization? Is organization culture provides ground for open innovation for further attaining more sustainability in the long run?

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Sustainable organization needs to innovate continuously to compete in it industry to retain market position. To achieve the purpose, organization own inbreeded culture plays an important role in imbibing and inculcating innovation practices. Existing literature suggests that adhocracy culture that helps in creating new and innovative product stimulates and promotes innovation (Cameron & Quinn, 2006). The firms' garnished adhocracy environment helps in creating fertile ground for open innovation practices. Gradually, these firms tend to open the dimension of extensive innovations through expending and if need by breaking their own boundaries, enters into innovative, research and developmental collaboration to promote open innovation to bring out continuous newness in internal processes, products and services they offer to their customers over their rivals.

Adhocracy culture and Innovation

Review of numerous recent extent literatures suggest critical and significant role of organization culture in influencing innovation in the organization (Tian, 2018; Laforet, 2016; Dobni, 2008, Cameron & Quinn, 2006). Organization culture encourages innovation as an

enabler in up-brining and supporting creative solution (Lock & Kirkpatrick, 1995), an influencer through basic beliefs, values and assumptions (Tesluk *et al.,* 1997); a supportive infrastructure provider for learning and development (Škerlavaj *et al.,* 2010); a facilitator of Innovation-oriented culture (Brettel & Cleven, 2011). Previous literature explored linkage between organization culture and innovation (Quinn, 1988; Cameron & Quin, 1991, 2006, Despande *et al*., 1993; Deshpandé & Farley, 2004; Denison, 2006; Chang & Lin, 2007; Dobni, 2008). In this context, the competency value framework model given by Cameron and Quinn (2006) is widely used model for the study of organization culture and innovation (Quinn, 1988; Cameron & Quin, 1991, 2006, Despande *et al*., 1993; Deshpandé & Farley, 2004). It categorizes organization culture in four type *i.e* adhocracy, market, clan and hierarchy culture. Moreover, especially adhocracy culture fosters innovation. An adhocracy culture is based on value drivers like innovation outputs, transformation and agility promotes "doing things first" (Cameron, n.d., p. 3) through inculcating innovation practices in the organization. This culture supports external orientation and individual flexibility, the basis of innovation and its implementation. Others like market culture (Laforet, 2009; Zahra *et al.,* 2004) and clan culture (Laforet, 2016; Hurley 1998) also positively influence innovation practices in the organization. However, hierarchy culture inhibits innovation (Naranjo Valencia *et al.,* 2010; Lemon & Sahota, 2004). This culture inculcated value drivers are efficiency, timeliness, consistency and uniformity with a vision of doing thing correct.

Adhocracy culture emphasizes willingness to take risk, market orientation, open communication, individual flexibility and organization learning (Liao *et al.,* 2015; Ruvio *et al.,* 2014; Naranjo Valencia *et al.,* 2010; Tran, 2008; O'Reilly, 1989; Ahmed, 1998; Kitchell, 1995; Deshpande *et al.,* 1993). These determinants are drivers for the organization to create new and novel things by adopting new environment and new ventures together to engage in innovative practices. Moreover, adhocracy culture also plays role of a moderator between organization innovation and sustainability. For example, Sustainability can be enhanced through innovation practices whereas organization culture will catalyse the equation to give positive influence to sustainability through promoting innovation. With the help of above discussion, It can be inferred that the strong linkage between adhocracy culture and innovation (Knosková, 2015; Brettel *et al.,* 2015). So it is reasonable to assume that adhocracy culture will inculcate innovation in the organization. Hence our first hypothesis is:

H_1**:** Innovation practices are inculcated and nurtured in the adhocracy culture of the organization.

Innovation and sustainability

Yu *et al*. (2013) studied role of innovation for competitive sustainability in a dynamic environment. Sustainability is the major driver of success of business. To meet sustainability in the organization, a number of actions required, including harnessing and exploiting the potential of innovation. However, the innovation may be technology driven or business driven (Zawaislak, 2011); process or product innovation (Walker *et al.,* 2011); radical or

incremental (Gopalakrishnan & Damanpour, 1997). Innovation used to create sustainable economic development and competitive advantage in the organization (Howells, 2005; Fagerberg & Srholec, 2008; Brem *et al.,* 2016; Naqshbandi, 2016). Innovation entails improving business operations and business processes with the aim to make it more efficient and effective and also to save time and cost. So here it is important to note that innovation is crucial part of organization for sustainability and survival in the business world.

Therefore, innovation practices are considered to be instrumentally driven for firm sustainability and sustainable development (Howells, 2005; Naqshbandi, 2016; Caiazza, 2017).

H_2: Innovation practices are the key drivers of economic sustainability in the organization.

Organization Culture and Open Innovation

Survival and sustainability of a firm is especially in long run is always remain a challenge to every business. To meet the challenges of survival, organizations inculcate innovation practices in their culture to achieve sustainability. Several researchers suggest that organization culture plays a crucial role in achieving sustainability (Darticléia *et al.,* 2018) through imbibing innovation practices (Cameron & Quinn, 2006). However, few studies emphasize restrictive role of organization culture in attainment of sustainability with their minimum support to innovation (De Long & Fahey, 2000; McDermott & O'Dell, 2001). In another view point, several researchers suggest that organization culture's influence on innovation dependent on its type (Cameron & Quinn, 1998; Despande *et al.,* 1993; Deshpandé and Farley, 2004; Cameron & Quinn, 2006). Likewise, hierarchy culture does not support innovation practices (Lemon & Sahota, 2004); on the other hand adhocracy culture, market culture and even clan culture promote innovation practices in the organization (Laforet, 2016).

Organization promotes innovation practices and also invest huge amount of fund in their R & D with goal of achieving sustainability in the long run. But if we take inventory of the companies investing in-house R&D; the data is around 90 per cent in favour. But there are still some problem lies; why these 90 per cent are not attaining sustainability and are not surviving for long run. One of the answers is their limitation and restriction of doing research. According to Chesbrough (2006), all smart people cannot be hired by a single company. So to dissolve these boundaries of limitations, organizations' have started to open up for ideas to go out and also welcomed others ideas inside. Organization culture are promoting open communication practices, welcome of new people from outside, enhance absorptive capacity, Mergers &Acquisitions , crowd sourcing and also commercializing through licensing out and spin-off practices. All these practices together are known as open innovation. Open innovation provide opportunity knowledge exploration and exploitation. It also give opportunity to broaden the horizon by going beyond boundaries to get more innovative solution and innovative ideas which in turn will harness better result in term of economic performance and finally to achieve economic sustainability. Therefore it is reasonable to

conclude that organization culture which is focused towards attaining economic sustainability should be ready for open innovation practices.

H_3: Organization culture promotes ground for open innovation in long run.

Based on the above crafted and proposed hypotheses, a conceptual framework of study has been presented in Fig 1. Proposed model put forward the linkage among adhocracy culture, innovation practices, sustainability and open innovation. It hypothesize that organization culture openness, flexibility, external orientation and transparency (drivers of adhocracy culture) are pre-requisites of open innovation. And it also proposes that innovation practices are inculcated in adhocracy type of organization culture, which is the key driver of sustainability (Caiazza, 2017; Naqshbandi, 2016, Howells, 2005). So it can be argued that organizations' adhocracy culture provide ground for open innovation (Figure 1)

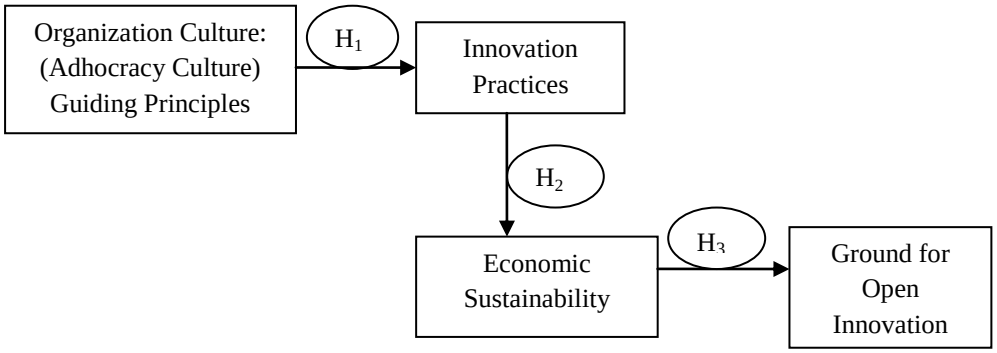

Figure 1: Proposed Conceptual Model of the Study

3. MATERIAL AND METHODS

The validation of the proposed study is concern of qualitative research to capture holistic view of innovation and sustainability especially in agri-business domain. The qualitative method has been chosen to provide broad understanding and perspective of information on innovation practices particularly (Holme and Solvang, 1997; Ritchie *et al*., 2013). This allows researchers to read between the lines and to infer highly relevant situation of the organization (Gillham, 2000, p. 11). These methods focused on collecting focused and exact information about the topic and embody a view of social reality as a "constantly shifting emergent property of individual's creation" (Bryman, 2016). In addition to this, case based research aims to grasp all necessary empirical material to fulfil the need of the study requirements. They allow capturing and retaining holistic and relevant information of real life events; and necessary because they help us understanding dynamics of complex social phenomena (Yin, 1994, p. 3).

Thus based on the great performance in it industry segments, customer satisfaction and published report, we choose Jain Irrigation System Private Limited (JISL) as case for the purpose as they clearly mention their mission on sustainable innovation in agri-business.

The data collection was done through in-depth interviews and secondary data related to JISL publications. The interviews were carried out between April and May 2016 through semi-structured interview. We conducted interviews of top management of the organization personally with an average duration between 30-45 minutes. These interviewees consist of higher level executive from administration, finance, human resources (HR) and innovation departments. The 'administration' and HR executive were asked about background, history of organization, firm's culture and its influence on innovation practices. The higher level executives of JISL were asked about strategy and plan for future sustained innovation, companies' economic performance, their linkage with innovation practices, sources of new idea, experimentation with ideas and its implementation strategies. A detail about innovation practices and support of JISL towards providing ground for open innovation was asked from executive handling innovation practices and implementation.

To include empirical data aimed to gather all necessary information, we collected documents like sustainability reports of year 2009 to 2017 both following GRI and following non-GRI guidelines (GRI, 2006). The analyzed sustainability reports were containing vision, mission, guiding principles, history of innovation practices and economic sustainability performance data of the organization.

Based on Gill (2008), interviews were tape recorded and transcribed verbatim afterwards to protect biases. We made field notes also during and immediately after each interview about observations, thoughts and ideas of interviewees. According to Braun and Clarke (2006), Mitchell *et al.*, (2010), Ritchie *et al.* (2013) these interviews were documented with empirical data though printout prepares the basis of thematic analysis. The thematic analysis conducted in three steps. First, the collection and classification of information based on the three variables and their linkages in the current study (See Table I). In second step, we analysed emerging perspective of the context related to research question. And finally in last step, we explored and comprehensively combined the identified perspectives.

4. FINDINGS AND DISCUSSION

Adhocracy Culture and Innovation Practices in JISL

The study explored linkage between adhocracy culture and innovation practices in JISL through secondary data and qualitative in-depth interviews. The first step was the analysis of secondary data obtained through sustainability report of JISL from year 2009 to year 2017. The Jain irrigation sustainability report supported the linkage as JISL operating functions are aligned with ethics, moral values and founder inbuilt culture (Jain Irrigation Systems limited, 2016). Its operating functions derived from mission, ethos, quality perspective, work culture and guiding principles. Based on four guiding principle JISL performs collaborative and innovative practices (see Table 2). JISL prospers and progressed by growing farmers. To

achieve this the company established innovative, inclusive and sustainable Business model based on agri-solution to the farmers at one step and emerged as global one stop Hi-tech Agri-shop which results in enhanced productivity and improved value added innovative products. JISL also followed "More from Less for More" principle (see Table 2) which is focused on innovative energy efficient and low carbon model with international quality standard. Environmental and inclusive growth principles based on minimal environmental impact and inclusive business model respectively. These principles derived pioneered innovative product of JISL *i.e* "Micro Irrigation System (MIS), progressive investment in renewable energy (state-of-the-art 1.6 MW biogas and 8.5 MW solar power plants) resulted in JISL's manufacturing operations being serviced by captive green energy sources and reduce greenhouse gas emissions respectively. It is clear with the above findings that all four principles promote innovation practices".

In next step, in-depth interviews used to support and infer the linkage between the abovementioned variables. The transcribed verbatim of interview data of Admin and HR explained adhocracy culture and their aligned innovation practices of JISL (See Table 1). From their statements, it can be inferred that both of them are in support of promoting new products, environment friendly innovation practices through 'setting mission and guiding principles or through providing transparent, risk aversion, flexible environment respectively'. Other than Admin and HR, rest were not much aware about the terminologies specifically culture aligned innovation practices.

Based on above mentioned findings, we provide evidence that JISL operative functions derived from guiding principles, ethos, mission and vision of founder promote innovative practices. These practices mentioned in the sustainability report of JISL (Jain Irrigation Systems Limited, 2016) are also cross validated through in-depth interview of Admin and HR. They provide evidence of existing innovation practices such as micro irrigation system, hi-tech agri shop etc. The aforementioned innovation and collaboration practices aligned with guiding principles of JISL's culture indicate that innovation and collaboration practices are inculcated and nurtured in the culture of JISL.

Table 1: Focused Key Variables grounded for Interview Responses from Respondents

Variables	**Responses**				
	HR Head	**R&D Head**	**CFO**	**CEO**	**Consultant**
Adhocracy Culture	√			√	√
Innovation Practices	√	√	√	√	√
Adhocracy Culture → Innovation Practices	√			√	
Innovation Practices → Sustainability	√	√	√	√	
Culture and Innovation Practices → Open Innovation		√	√	√	

Table 2: JISL's aligned Innovative actions with guiding principles (Source: Adapted from JISL's Sustainability Report 2016-GRI) and consolidated by Authors.

S. No.	**Culture: Guiding Principle**	**Innovation and collaborative Action**	**Outcome: Innovative Products/Practices**
1.	Sustenance to sustainable farming: "Farmer's smile is the best bottom line".	-Research and development plus agronomic support -Global one stop Hi-tech agri shop (With aim to create a unique self-sustaining agri-cycle)	Enhanced productivity and low cost - Drip and Sprinkler irrigation - PVC piping system - HDPE piping system - Solar pumps Improved product quality and value added - Turnkey Projects - Agro consulting
2.	"More from Less for More" (MLM) and slogan "More Crop per Drop"	-Low carbon model -Manufacturing operations equipped with state of art modern energy efficient technology and follow international standard for quality	- Drip and Sprinkler irrigation - Green house - Tissue culture - PVC piping system - HDPE piping system - Solar pumps
3.	Environment	Minimal environment impact	- Micro Irrigation System(MIS) - Clean development mechanism (CDM)
4.	Inclusive Growth	Inclusive Business Model to create a complete agriculture value chain	- Micro Irrigation System(MIS) - PVC pipes financing - Food processing division - Training on agri products

Innovation Practices and Economic Sustainability

We analysed data of last five years, from sustainability report of JISL of FY 2017-18 to accumulate JISL innovative and pioneered products and practices contributed to economic sustainability (see Table 3). In addition to secondary data, some in-depth interview also

contributed in articulating and inferring the linkage between innovation practices and economic sustainability of JISL.

Sustainability report acknowledged that JISL pioneered and innovative Hi-tech Agri Input products *i.e* MIS remained the largest contributor, contributing to 46.2 per cent of the company's standalone turn over. Another main contributor of the revenue generation in business vertical of JISL is PVC Pipes business, contributed about 23.8 per cent to the standalone turnover. JISL major growth drivers were Tissue culture and PE Pipes segments; showing the sparkling growth rate of 19.4 per cent & 28.7 per cent respectively in FY 2017-18. Therefore it is established that JISL innovative products are biggest contributor to economic sustainability of JISL. The company has reported a profit of 1,638 million for FY 2017 as against 611 million of FY 2016, recording excellent growth of 168 per cent.

In-depth interviews with top management strengthen these findings as 'they are dedicated to produce new and innovative products in transparent and fair environment since their inception to achieve sustainable growth'. Especially, it can also be inferred from top executive's statement:

[…]'"Yes definitely. Whatever the product they develop based on R&D converted it through technologies, benefiting the farmers. In long run basis organization only survives by earning the money and provide solution to the farmers, they make it sustainable. Both the things will automatically come from innovation".

He was very sure and confident about the economic sustainability. Thus, it is derived that innovative products and practices provide economic sustainability to the company.

Table 3: Economic sustainability (in Million) through business verticals (Sources: Adapted from JISL's Sustainability report 2017 and consolidated by Authors)

Period April to March	**2013**	**2014**	**2015**	**2016**	**2017**	**Mix(2017)**	**CAGR**
Hi-tech Agri Input products (eg. MIS)	23,740	28,486	30,604	30,211	32,245	46.5per cent	8.0per cent
Plastic Division	13,412	16,344	15,220	16,811	17,968	25.9per cent	7.6per cent
Agro-Processing Division	10,541	12,273	14,513	15,499	16,045	23.1per cent	11.1per cent
Other Business Division	3,642	2,756	2,755	2,343	3,135	4.5per cent	3.7per cent
Total	51,334	59,859	63,093	64,865	69,393	100per cent	7.8per cent

Organization Culture and Open Innovation

The literature suggests that organization readiness for open innovation can be summarized with some extracted factors such as knowledge and information sharing, internal sources of Innovation, collaboration with external partners, leveraging potential sources of ideas from outside (Kratzer *et al*., 2017).

Through available facts of published documents of JISL, we found that all these extracted factors exist in JISL. Such as, the factor knowledge and information sharing includes company's sharing of knowledge between individual units and outside world. In context of this JISL, it conducts workshop for knowledge solution for *eg* 7th Grih conference for providing solution to SMART city project (See Table 4). Internal sources of innovation meant to define the internal strengths and capabilities of company training programmes, internal R&D. JISL agronomy team conducts training programme for modern irrigation techniques, other training programmes are also conducted for providing solution to other needs of farmers. Other than training programme, Jain irrigation also does product demonstration at launch of some new techniques or product updation. NaanDan Jain Israel, Jain Irrigation Inc., USA, NDJ Brazil are major farmers training centres of JISL. Moreover, collaboration with external partners includes company's relation with other R&D organization, government and private companies, NGOs, academia on a regular basis. JISL involved in collaboration practices as a part of its business activities. JISL signed several MoUs and partnership deal to implement in innovative practices. Jain Irrigation Systemss Ltd. in partnership with Massachusetts Institute of Technology (MIT), USA has developed a path breaking solar PV based water purification technology and won DESAL prize for its innovation. Further, leveraging potential sources or ideas from outside defines company's engagement with stakeholders, inviting feedback and consultation. Jain Irrigation has the culture of engaging stakeholders in the name of customers meet, farmers meet, associates meet, academia and industry meets. JISL also takes inputs and suggestions from their employees (purchase, marketing, HR, technical department etc.) in form of internal consultation (See Table 4). JISL has always opens up its boundaries to take suggestion and feedback for bringing innovative and dynamic changes.

Table 4: Factors grounding open innovation in JISL (Sources: Consolidation done by Author from work of Kratzer *et al*., 2017 and JISL's Sustainability report 2017)

S No.	Factors	Supporting JISL Practices
1	Knowledge and information sharing	Work Shops: Eg. 7th Grih conference for providing solution to SMART city project.
2	Internal sources of Innovation	Training Programmes: Eg. Naan Dan Jain Israel, Jain Irrigation Inc
3	Collaboration with external partners	R&D organization, government and private companies, NGOs, academia. Eg. PV based water purification technology (MIT collaboration)
4	Leveraging potential	Engaging stakeholders: Eg. Customers meet, farmers

	sources of ideas from outside	meet, associates meet, academia and industry meets.

The aforementioned findings are also ascertained with interviewees' statements. They acknowledged their readiness for collaboration and partnership for knowledge exploration and exploitation [pre-requisite of open innovation] with government agencies for societal and environment benefit. They also added their role as venture capitalist to raise funds for start-ups to promote sustained innovation. R&D Head states about 'appreciating purposive knowledge inflow and outflow and also welcoming outsider for new and innovative ideas for better solution' and this can also be conclude from his statement.

[…] "Sharing the knowledge, up-scaling the innovation and benefiting the farmers; sharing the knowledge in the form of technologies".

Furthermore, it indicates JISL organization culture promotes features required for openness and readiness for open innovation.

JISL was selected for the study based on its exemplary sustainability and citizenship standings. The company is committed to produce quality products for decades. JISL has demonstrated concern for agriculture since inception. Despite of focus of continuing growth throw earning profit, JISL has consistently demonstrated concern for environment and society by providing quality products and covering full range of agriculture products from food, water to energy production and conservation products.

These action and behaviours are result of embedded culture within the organization to pursue a holistic approach following the commitment of leader and founder of the company. Sustainability was introduced into this company as a senior leadership mandate. As in 2009, they have presented their first sustainability report under GRI guidelines. The report stated as a guiding principle that *"Toil and sweat to manage our resources of men, material and money in an integrated, efficient and economic manner. Earn profit, keeping in view commitment to social responsibility and environmental concerns".* The actions of middle and lower level managers and other stakeholders were derived from set vision, mission and values system of founder of the company. The founder's vision led JISL to emerge as pioneer and sustainable company. The company provide transparent and flexible culture for the people working. The company's workshops and training sessions substantiate their concern for bonding and keeping stakeholder's happy under the mission of 'farmers smile is the best bottom line'.

5. CONCLUSION

Extant literature depicted role of adhocracy culture in supporting and promoting innovation practices (Knosková, 2015; Brettel *et al.*, 2015). Our results elucidate the contribution of adhocracy culture in providing ground for open innovation for sustainable development.

Regarding organization culture of JISL, according to sustainability report as well as interview statements; was adhocracy. The results show that adhocracy culture is prevalent in

the company, so this company demonstrate flexibility, transparency, and external orientation and also focused towards innovation practices. It is clear that company is more efficient in demonstrating flexibility, transparency and risk aversion.

The main purpose of determining organization culture is to identify what kind of organization culture is most appropriate for absorption of innovation practices. This study emphasizes the importance of flexible, risk averse and externally oriented culture and that is prevalent in JISL.

Regarding economic sustainability, our findings reported a growth and profitability in the balance sheets of the company. The reports indicate contribution of innovative product in achieving economic sustainability. It acknowledged MIS, an innovative products of JISL, is the main contributor of economic success in long run *viz a viz* economic sustainability. According to reports, MIS contributes 46.2 per cent of the company's standalone turnover. The present study is aligned with the findings of previous literature. Based on previous literature, it can be concluded that innovative products support economic sustainability of the organization (Howells, 2005; Fagerberg and Srholec, 2008; Brem *et al*., 2016; Naqshbandi, 2016).

Regarding the linkage between adhocracy culture and open innovation in JISL based sustainability report and transcribed verbatim of interview data, we found a strong linkage between adhocracy culture and innovation practices of JISL. JISL provide flexible, transparent, externally oriented environment for supporting innovation practices. The adhocracy culture provide ground for open innovation as in JISL, they look forward for collaboration, partnership and fund raising for knowledge inflows and out flows to achieve sustainable growth in long run.

These relations confirm the conceptual model of the present study with a view that adhocracy culture is the pre-requisite for open innovation in the organization and open innovation is instrumentally key driver for sustainable growth. In accordance to this, if a company aims for sustainable growth in this era of competitive world, it should provide ground for open innovation by acquiring adhocracy culture.

It is necessary to mention that this study does not state its applicability in each organization. But it will definitely provide information like which type of culture is required for adoption of open innovation and which type of culture can achieve sustainable growth in long run. The study provides information for business practitioners, top managers and stakeholders by indicating a line of scope for future adoption of right type of culture in the perspective of sustainability and open innovation. Therefore, it can act as a manual for the company to achieve equilibrium between organization culture, sustainability and open innovation.

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