Impact of Shared Leadership on Innovation Self-Efficacy and Self-Organization among Human Capital in Knowledge Ecosystem

Sujata Dhopte[1*], Anupama Iyer[2]

[1]Department of Economics, M.K. Sanghvi College of Commerce and Economics, Mumbai, India
[2]Pacific Academy of Higher Research and Education University, Udaipur, India

[*]*Corresponding Author: anupa.iyer@gmail.com, Tel.: +91-98206 - 21744*

Abstract— The study investigates the impact of Shared Leadership on Innovation Self-Efficacy and Self-Organization among members of the human capital within a knowledge ecosystem. It aims to understand the effect of shared leadership style on human capital component of the knowledge ecosystem with respect to innovation self-efficacy behaviours and their self-organization. The study also examines how ecosystem processes impact self-organization of the human capital and its impact on organizational innovation. Thus, the study recommends the development of shared leadership style among human capital in the knowledge ecosystem to facilitate learning, knowledge coordination and self-organization.

Keywords— Knowledge Ecosystem, Shared Leadership, Self-Organization in Individuals and Teams, Innovation Self-Efficacy, Innovation Performance, Nature of Knowledge Ecosystem

I. INTRODUCTION

In emerging business models, knowledge management and application are recognized as the key to organizational growth and sustainable competitive advantage. Traditional approaches to leadership face challenges when there is greater need to motivate human capital within the context of a knowledge ecosystem, defiant of supervisory control and facing pressures of self-organization. The concept of shared leadership offers interesting scope to understand behaviours of the human capital within the context of the knowledge ecosystem. This study provides insight to knowledge intensive organizations on the effectiveness of shared leadership style on innovation self-efficacy and self-organization of human capital within the knowledge ecosystem.

The ecological approach to knowledge suggests the presence of a dynamic complex adaptive system of interacting components, people engaged in productive conversations, idea networks, information sharing, within an organizational framework of communication and technology. The knowledge ecosystem comprises of knowledge assets, knowledge processes and tools, organizational culture, organizational structure and technology.

Several decades of classic literature on leadership has espoused the concept of vertical leader, a sole member at the helm driving followers. The vertical leader is an appointed or formal leader of a team who carries out leadership activities to drive the work team towards organizational goals. In contrast to this approach, it is found that in high-performance teams, leadership is often distributed among groups such that those with relevant knowledge, skills or abilities offer their views within specific situations, which are then digested and acted upon by the group as a unit. The resultant outcome is an organization with clear sense of vision, alignment to organizational vision and objectives, persistent effort to learn and adapt and vibrant in its social interactions.

This paper has been structured into five sections. Section I contains the Introduction to Knowledge Ecosystem and Shared Leadership, Section II describes the work related to the study, Section III explains the Research Methodology, Section IV discusses the linkages between the variables of study and results of the research and Section V draws conclusions from the study.

II. RELATED WORK

Literature Review
a) Knowledge Ecosystem:
Knowledge is a capacity of people and communities, and members in the ecosystem are responsible for creation, distribution and evolution of knowledge. David A. Bray defines knowledge ecosystems as incorporating a bottom-up approach towards appropriate 'fit' among knowledge technologies, motivational antecedents, knowledge transfer,

and performance outcomes. Ye Peihua and Xu Baoxiang define knowledge ecosystem as the system which is constituted by the interaction and inter-influence between knowledge entities and knowledge environment. Bray has also defined knowledge ecosystems as incorporating a bottom-up approach towards appropriate 'fit' among knowledge technologies, motivational antecedents, knowledge transfer, and performance outcomes.

George Pór has stated that the Knowledge ecosystem is a complex adaptive system of communities that use, create, integrate and share knowledge through social relationships and knowledge interactions.

In the knowledge context, Chang and Guetl (2007) have described the Collaborative Learning Ecosystem Framework that emphasises 'a holistic approach that highlights the significance of each component, their behaviour, relationship and interactions, as well as the environmental borders in order to examine an existing system or form an effective and successful system'. These outcomes are characteristic of a healthy knowledge ecosystem with innovation, self-organization, collaboration and evolution as its key features.

b) Shared Leadership

One approach to team management has been shared leadership, which is 'a dynamic interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organizational goals or both'. Pearce (2004, p. 48) defines shared leadership as a simultaneous, ongoing, mutual influence process within a team that is characterized by 'serial emergence' of official as well as unofficial leaders. Some of the leader behaviour includes establishing expectations and defining a collective mission, creating a supportive climate, sense making, structuring the team task, providing feedback, and problem solving.

In addition, Kiefer & Senge (1999) describe metanoic organizations as those not dominated by individuals designated as leaders, but rather flow in rhythm to those possessing the most relevant knowledge to offer regarding the problem or opportunity of the moment. This is suggestive of shared leadership, a concept described decades ago, but lacked traction with prominent leadership literature.

In self-organizing systems, order comes from the actions of interdependent agents who exchange information, take actions, and continuously adapt to feedback about others' actions rather than from the imposition of an overall plan by a central authority (Chiles et al., 2004). In organizations, self-organizing systems are seen often as self-organized teams, also synonymous with 'autonomous teams' and 'empowered teams', which are known as a foundation for the success of innovative projects.

Self-organized teams associated with innovative projects, typically perform highly related or interdependent jobs, who are identified and identifiable as a social unit in an organization, and who are given significant authority and responsibility for many aspects of their work, such as planning, scheduling, assigning tasks to members, and making decisions with economic consequences.

Statement of Problem

While there are numerous studies on the classical leadership styles and traditional forms of organizations and team performance, there is limited research on the role of emergent shared leadership approach within a knowledge ecology. Most modern organizations strive for competitive advantage and leverage innovation to drive business objectives. The members of the knowledge ecosystem with cannot be 'managed' or 'controlled' and hence it is important to understand how shared leadership helps build innovation self-efficacy and self-organization in the knowledge ecosystem. It is also important to study the effectiveness of the shared leadership style within the ecosystem.

Research Objectives

1. To study the impact of shared leadership on innovation self-efficacy of the human capital in knowledge ecosystem
2. To identify the impact of shared leadership on self-organization within human capital of the knowledge ecosystem
3. To study the effectiveness of shared leadership style on within the knowledge ecosystem
4. To evolve strategies to develop shared leaders within the knowledge ecosystem

Statement of Hypotheses
Hypothesis 1:

H_{01}: There is no significant difference among the opinions of the respondents in general that shared leadership plays an important role in innovation self-efficacy of human capital within knowledge ecosystem

H_{11}: There is significant difference among the opinions of the respondents in general that shared leadership plays an important role in innovation self-efficacy of human capital within knowledge ecosystem

Hypothesis 2

H_{02}: There is no significant difference among the opinions of the respondents that that shared leadership plays an important role in self-organization of human capital within knowledge ecosystem

H_{12}: There is significant difference among the opinions of the respondents that shared leadership plays an important role in self-organization of human capital within knowledge ecosystem

III. METHODOLOGY

Secondary Data Sources: The study is based on secondary data collected from various sources: books, journals, magazines, reports and electronic media.

Primary Data Sources: The study is explorative in nature and uses Mixed Research Design.

Design. The study uses Non-Probability sampling.

Research Tools: The researchers used tools like a questionnaire and a Structured Interview. The aim of the survey was to find out the impact of shared leadership on innovation self-efficacy and self-organization in the knowledge ecosystem.

Sample group & Sample size: To obtain the required information, a pre-prepared structured questionnaire was used to survey 200 employees at junior and middle management levels in knowledge intensive organizations.

IV. RESULTS AND DISCUSSION

Impact of Shared Leadership and Innovation Self-Efficacy

Innovation at the individual level, is based on an individual's engagement in generating and applying new ideas and approaches in the workplace. Innovation self-efficacy refers to an individual's belief in his or her ability to accomplish tasks necessary for innovating. Individuals with greater self-efficacy are likely to possess higher belief in their ability to innovate products, processes and make changes around their working environment.

Innovation requires a high level of persistence to overcome setbacks. Research has found that self-efficacy beliefs influence intrinsic motivation resulting in task engagement, positive innovation behaviours, and the ability to compete in an innovative culture and emerge successful. This also implies that individuals may not engage or persist in innovative efforts if they do not believe in their abilities. A high level of self-efficacy can help individuals maintain their efforts for goal attainment until their goals are met.

Shared leadership reflects a situation where multiple team members engage in leadership and is characterized by collaborative decision-making and shared responsibility for outcomes. The interaction processes is governed by mutual influence among members of the ecosystem where they lead one another toward the achievement of their goals. Innovation is characterized by complex, knowledge-based work, quick decision-making and other proactive learning and adaptation processes.

The first stage of innovation process is idea generation and describes the creation of new ideas, techniques or instruments. Creativity enhances the quantity and quality of the ideas generated. Creative ideas are likely to develop under supportive leadership climate (Amabile et al. 2004; Hunter and Cushenbery 2011).   Through knowledge exchange and interaction, the process of information sharing will lead to the increased generation of new ideas and therefore enhance creativity.

Under shared leadership, the team members sharing leadership roles, are more likely to contribute ideas and make their tacit information accessible to other team members. In this manner, the team as a whole will receive more ideas resulting in greater idea generation. As team members exchange ideas, through informal internal leadership behaviours of planning and providing feedback, the ability to generate ideas and develop solutions is enhanced. As the entire process is executed by a team rather than as an individual, there is a spread of leadership across the ecosystem, which results in the enhancement of innovation self-efficacy at the individual level and higher levels of innovation performance.

Self-Organization in a Knowledge Ecosystem

The knowledge ecosystem encourages interconnectedness between people and enables knowledge-sharing through social interactions that are self-organized and not driven through top managerial direction or supervisory control. This enables speedier exchange of information, accelerating responsiveness among members and drives value through meeting customer demands for innovation. Instead, leadership within high-performing groups is often distributed such that those with relevant knowledge, skills or abilities offer their views within specific situations, which are then digested and acted upon by the group as a unit.

Self-organization refers to the self-regulatory, self-generated, adaptability seeking behaviours among the members within the ecosystem. It also implies intelligent behaviour, ability to learn within short time span and respond to internal changes and requirements without supervisory control. In a self-organized knowledge ecosystem, members converge to respond to challenges through knowledge sharing and exchange of ideas. The action outcomes are derived out of a confluence of knowledge elements, in a dynamic state of interaction.

The second stage of the innovation process is the implementation of new ideas. This outcome involves idea promotion which is seeking 'buy-in' for creative ideas and idea realization, which involves transforming innovative ideas into strategic action. Idea promotion is related to group processes and members with greater cohesion are likely to engage and participate with a view to achieving common innovation goals.

It is important to note that the knowledge exchanges are characterised by self-selection, self-evaluation and self-

control that are embedded in the ecosystem. Such communities may defy control and engage in knowledge-work with self-direction and autonomy through self-selected dynamic interaction with people, processes and technologies. As self-organized teams spontaneously organize themselves to cope better with internal and external perturbations and conflicts, this enables them to evolve and adapt through innovation and continuous learning and development.

The study has revealed the following aspects related to the human capital in the knowledge ecosystem.

1. The quantitative data analysis ultimately confirms that in case of Hypothesis 1 there is a positive correlation between Shared Leadership and Innovation Self-Efficacy. Hence null hypothesis is accepted, and alternate hypothesis is rejected.

2. Data analysis also verified a significant positive relationship between shared leadership and the other variables included in the study. Using survey data, we found that there is positive alignment between shared leadership and self-organization among members of the knowledge ecosystem. Hence, in the case of hypothesis 2, null hypothesis is accepted.

3. Development of shared leadership skills in knowledge intensive organizations, aligned to the knowledge ecosystem facilitates knowledge exchange and positively influences innovation self-efficacy. The increased individual innovation self-efficacy amongst members can drive greater knowledge exchange and result in continuous learning and development, a key practice for sustained competitive advantage.

4. The design and nurture of a vibrant self-organized knowledge ecosystem can increase empowerment among members due to productive knowledge interactions among leader members and result in greater self-organization and responsiveness that will drive innovation.

5. Self-organization mechanism in the knowledge ecosystem contain processes that seek to self-direct priorities related to tasks, activities and objectives in response to internal and external change requirements. The self-organization enables the knowledge ecosystem to thrive and grow without any managerial control or top management direction, and is an internal response to change, determined by its own members. Hence, there is a strong correlation between the shared leadership and the innovation self-efficacy and self-organizations of the members in these organizations.

Strategies and recommendations

1. Develop and nurture shared leadership skills among members to engage, empower and encourage greater participation in knowledge sharing and interactions to strengthen innovation performance. This may be augmented by adopting innovation-centric and community-centric approaches within knowledge-intensive organizations.

2. It is essential to focus on an organization structure that enhances interaction and participation of all its members and raise awareness about the knowledge ecosystem for innovation, learning, collaboration and adaptation.

V. CONCLUSION

It is important to note that shared leadership within the organization is conducive to fostering the knowledge ecosystem as it drives self-organization among members in the organization. In order to support organizational innovation initiatives, organizations focused on creating and measuring innovation performance must look toward enhancing the ability of their members to innovate by providing the right knowledge and learning environment to facilitate learning and development. This culture of sharing information and collaboration for innovation work is the core of the existence of the knowledge ecosystem.

The organizational action then, is to make a paradigm shift from vertical leadership to building managers with shared leadership skills and abilities across all levels of the organization. This will also ensure wider participation in organizational initiatives and foster and innovation-centric learning culture. In addition, shared leadership in a knowledge ecosystem will create an open culture of trust and communication, greater tolerance and contribute to creativity, engagement and a spirit of well-being within the organization.

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Authors Profile

Dr Sujata Dhopte, Phd, is Faculty, Department of Economics in M.K. Sanghvi College of Commerce and Economics, Mumbai. Her research work has been on the Impact of Globalisation on Higher Education Sector in India on selected parameters. She has over 35 research papers published in the area of Economics, Education and Management and Environment. She has academic experience of around 30 years and has been awarded for her contribution to teaching and research.

Ms Anupama Iyer is pursuing her Phd from Pacific University, Udaipur, India. She holds an MBA in Human Resource Management from NMIMS, Mumbai. She is an HR Consultant and Trainer and is a visiting professor in the area of Human Resource Management, Organizational Behaviour and Strategic Management over the last 12 years and has research experience of around 4 years.