SYNOPSIS

EXPLORING INNOVATION THROUGH OPEN NETWORKS: A REVIEW AND INITIAL RESEARCH QUESTIONS

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The open innovation strategy as an emerging approach towards innovation is beginning to receive attention from organisations and researchers. Open innovation signifies the opening up of internal R&D by leveraging inflow and outflow of knowledge. Open network is one mechanism of open innovation, which brings solvers from different domains to work on the problems posted by seekers. As a relatively new phenomenon, many aspects of open networks remain to be understood. Under-explored areas include the motivation of solvers and seekers using open networks and the influence of open network usage on innovation performance. Since solvers and seekers serve as the foundation for the realisation of the open innovation strategy, such understanding is imperative to encourage participation and realise benefits from open networks. This article thus investigates the potential factors that can promote solvers’ and seekers’ participation in open networks and the outcomes of open network usage by seekers. Towards this end, we delve into both the knowledge exchange and open innovation literatures to explore solvers’ and seekers’ motivation of participation in open networks. Specifically, the study proposes salient individual and organisational antecedents of participation deriving from relevant theories from information systems and organization studies, such as social exchange theory, knowledge brokering, and exploration—exploitation dichotomy perspectives. In this manner, this article aims to contribute to the theoretical understanding of the digital knowledge market for innovation in open networks and to offer insights to organisations for leveraging such external knowledge.

CREATIVITY IN RESEARCH AND DEVELOPMENT LABORATORIES: A NEW SCALE FOR LEADER BEHAVIOURS

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The self-image of R&D employees is usually that of individuals who are independent in thought and action, make things work, but avoid waste of time, capital, or labour. When an occupational group sees itself, and is also seen by others, as playing the critical role in the achievement of broader societal goals, it tends to demand quite different kind of authority relationships as compared to those who are seemingly performing less critical roles. However, leaders of R&D teams are often more experienced in technical than managerial tasks. The effectiveness of such leaders can be substantially improved if the skills necessary to lead R&D professionals are known. In a previous qualitative study, authors had identified a set of leader behaviours that may impact employee creativity in the R&D context. The item inventory was derived through an inductive, or bottom-up, investigation of leadership behaviour in R&D laboratories across India. Based on the consistency score, a final list of 52 behaviour items representing 13 behaviour categories was generated. The leader behaviours identified included the following: clarifying, problem-solving, monitoring, buffering, inspiring, supporting, developing, informing, recognising, consulting, delegating, team building, and leading by example.

In the present study, the authors performed a quantitative analysis of the behaviour inventory to (a) provide evidence regarding the underlying factor structure; and (b) assess the psychometric properties of the factors. Five hundred and eighty four scientists from 11 R&D laboratories scattered across the country were surveyed. Exploratory and confirmatory factor analyses of the rating responses disclosed five leader behaviour factors: (a) task-orientation, (b) recognising and inspiring, (c) empowering, (d) team-building and developing, and (e) leading-by-example. Given acceptable evidence for convergent and discriminant validities of the factors, the authors argue for the use of the leader behaviour scale in future research in and management of creativity in R&D departments.