

# The Research on Information Sharing Behavior in Digital Age: Enabling Collaboration for Innovation

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**Abstract:** This paper discusses the relationship between information sharing and collaboration, and explores the ways in which the promotions in information sharing practice can benefit innovation. It points out that information sharing should be recognized as a kind of human behavior, rather than a technical product or a result of rules and regulations. Only from the perspective of the evolution of human behaviour to study the nature of information sharing, can we truly increase its efficiency and finally enabling collaboration for innovation in digital age.

**Key words:** Information Sharing; Information behaviour; Collaboration; Innovation

## 1 Introduction

In current highly interactive environment, sharing information and expertise can be critical in driving both individual and organizational creativity and innovation. Innovation is always fostered by collaboratively work, which make information resources, insights and experiences, and problem solving capabilities fully shared by members of formal or informal group. In fact, true innovation is virtually impossible without collaboration. And information sharing is indispensable to innovation.

This paper discusses the relationship between information sharing and collaboration. And explores the ways in which the promotions in information sharing practice can benefit innovation. It points out that information sharing should be recognized as a kind of human behavior, rather than a technical product or a result of rules and regulations. Only from the perspective of the evolution of human behavior to study the nature of information sharing, can we truly increase information sharing efficiency and finally enable collaboration for innovation in digital age.

## 2 Information Sharing in Digital Age

### 2.1 Information

It is necessary to identify the concept of information before the research. When we reviewed the related research about information, I find that its concepts are diverse and complex. However, it is not surprising that people hold multiple understandings of information, as researchers in varied fields similarly note diverse perspectives of information. Mc Creadie and Rice surveyed six research areas and found six different conceptualizations of information accessed across these domains. Table 1, taken from their article, summarizes discipline-spanning conceptualizations; these were not defined in detail, but are sketched with examples and generalities.

Table 1 covers a broad definition of information. And it is the basis of further explores the activities and phenomenon in information sharing. In the 12 years since their articles, however, the distinctions between different conceptualizations of access have grown less clear. For easy understanding and study, we can simplify table 1 into figure 1.

**Table 1 Conceptualizations of Access to Information**

Category	Examples
<b>Knowledge</b>	Messages sent, information flow, observations, visual sources, evidence, documents, books, periodicals, databases, advice, answers, and education
<b>Technology</b>	Range of technologies and media: computer, telephone, movies, books, newspapers, magazines, music, television, information delivery systems, systems that generate, store, and create information, interface or command language
<b>Communication</b>	Making sense of things (content, comprehension, retention, explanation), making use of information, decision making, connectivity, and communication competence
<b>Control</b>	over the agenda, terms of debate, and content, over processes and flows of information, and over production of culture
<b>Commodities</b>	Information as social and economic good with value, costs, and benefits, distribution of control capacities, availability of resources, and new markets for information industry
<b>Participation</b>	Services (governmental, communication, and information), advocacy, and privacy

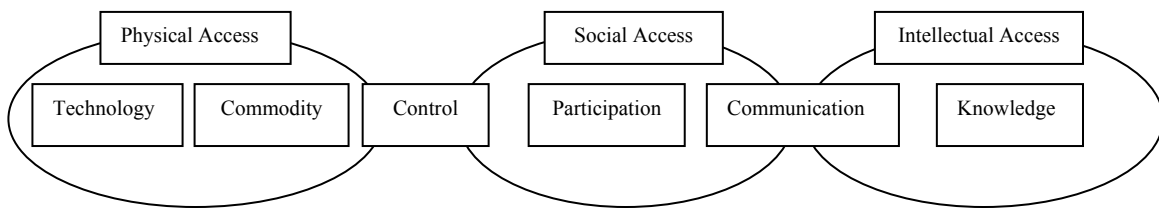


Figure 1 Conceptualizations of Access to Information

**2.2 Information sharing**

As the Internet has grown, new communication and collaboration techniques have rapidly increased. Social networking, web conferencing and instant message have rapidly grown to huge proportions, enabling widespread working collaboration. We are generally connected and the interactions between us are becoming increasingly frequent and convenient, however, we didn't sharing with each other as much as expected.

People have misperceptions that information sharing capacity is equal to the information systems or information tools they adopted. Some organization leaders recognized the importance of information sharing within the agency, and thought that the efficiency of information sharing can be improved by formulate policy and regulations. They did not achieve the desired effect for the reason that they neglected information sharing should be regarded as a kind of human behavior. Although information sharing behavior have been changed a lot by modern information technology and computer intelligence, its core problem still should be why do people share information and how to guide and help people share their information in certain environment.

**3 Information Sharing as a Kind of Collaborate Information Behavior**

**3.1 Information sharing behaviour**

Information sharing behavior has attracted increasing attentions among researchers and practitioners in recent years. Despite a growing body of literature in this area, the nature of information sharing behavior is still unclear. The problem is there is no measure available to observe information sharing behavior, especially its key components, information transfer and exchange, from a comprehensive and quantitative perspective. So we can just give a qualitative theoretical definition of information sharing, as table 2.

**Table 2 Definition of Information Sharing**

Definition	Characteristic	Explanation
Collaboration or Collective Behaviour	Responsibility, Obligation	Information sharing as an umbrella concept that covers a wide range of collaborative behaviour.
Mutual Benefit Behaviour	Relationship and Social Capital	Pursuing economic and rational interests to seeking psychological and social benefits.
Helping Behaviour	Personal Preference or Self-realization	Information value-added as transferred and transformed between people or within organization.

**3.2 Information sharing and collaborate information behaviour**

People in organizations conduct much of their work in collaborative settings. However, in these collaborative environments, information behavior is still commonly perceived at the individual level. Collaborative information behavior differs from individual information behavior with respect to how individuals interact with each other, the complexity of the information needed, and the role of information technology. There are specific triggers for transitioning from individual to collaborative information behavior, including lack of domain expertise. The information retrieval technologies used affect collaborative information behavior by acting as important supporting mechanisms.

The research of Madhu C. Reddy, Bernard J. Jansen shows the comparison between individual and collaborative information behaviour, Figure 2. There is an interaction effect between Behavior and Context in terms of either Individual or Collaborative at each of the Behavioral levels. Each of these interactions is also influenced by characteristics of the environment in terms of interactions, agents and domains. The behavior axis ranges from individual to collaborative, but intersects searching, seeking, and use.

These two factors interplay simultaneously across problems, agents, and interactions. At the individual level, the information problem is relatively simple when compared to the collaborative level.

As the information problem becomes more complex and nuanced, the need of collaborating becomes more pronounced. This is especially true in domains where multiple areas of expertise are needed to address the information problem.

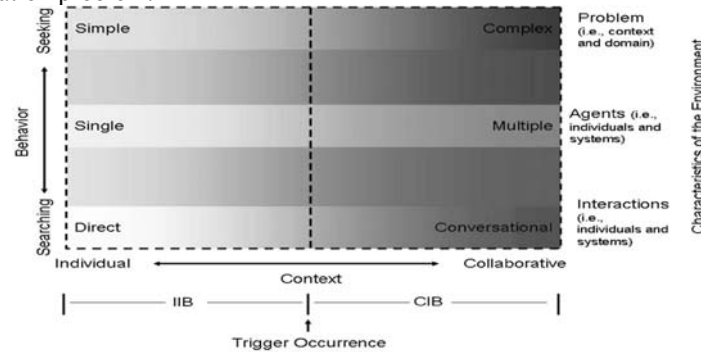


Figure 2 Individual versus Collaborative Information Behaviour

## 4 Information Sharing and Collaborative Innovation

### 4.1 Identify information sharing, collaboration, and collective action

Information sharing is the basis of collaboration, and collective action. As described in Figure 3, Information sharing creates the fewest demands on the participants. Many sharing platforms, allows for the maximum freedom of the individual to participate while creating the fewest complications of group life.

Cooperating is harder than simply sharing, because it involves changing your behavior to synchronize with people who are changing their behavior to synchronize with you. Unlike sharing, where the group is mainly an aggregate of participants, cooperating creates group identity, which enables us to know who we are cooperating with.

Collective action is the hardest kind of group effort, as it requires a group of people to commit themselves to undertaking a particular effort together, and to do so in a way that makes the decision of the group binding on the individual members. All group structures create dilemmas, but these dilemmas are hardest when it comes to collective action, because the cohesion of the group becomes critical to its success.

Information sharing produces shared awareness among the participants, and collaborative production relies on shared creation, but collective action creates shared responsibility, by tying the user's identity to the identity of the group.

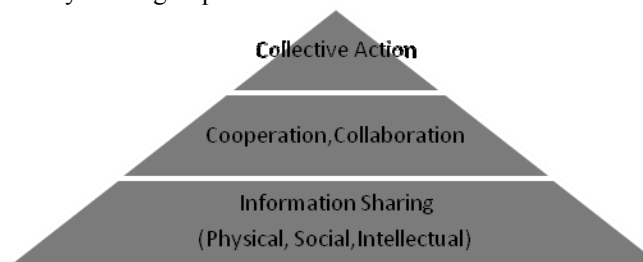


Figure 3 Identify Information Sharing, Collaboration, and Collective Action

### 4.2 Collaboration for innovation

Collaboration is a critical enabler for successful innovation. Innovation is most often used to describe the process which individuals or organizations use to develop and improve products or services. The Collaboration for Innovation study is designed to provide a deeper perspective into evolving trends in product and service innovation within organizations and highlight issues and challenges faced by companies across all industries.

Collaboration contributes to innovation as follows: Firstly, greater innovation is delivered when a larger and more diverse group is able to collaborate to create new products. Secondly, Collaboration is all about the way people work and understanding human interaction is important to deliver collaboration technology. Finally, collaboration brings great openness which enables communities to collaborate on shared concerns, endeavors, and challenges. Greater openness in innovation and science is creating more economic opportunities for citizens and businesses that learn how to tap into global innovation webs.

## 5 Conclusions

Increasing the efficiency of information sharing will promote innovation and organizational core competencies. This paper illustrated that: on the one hand, information sharing behavior is a collaborative information behavior, its function differ from individual information behavior; on the other hand, information sharing is the basis for people's cooperation, collaboration and collective action, which will contribute to crowd sourcing of knowledge, origination transparency and openness, and The effectiveness of information technology.

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