Creative Co-production: The Adaption of an Open Innovation Model in Creative Industries

Kaveh Abhari and Elizabeth J. Davidson

Abstract Advanced information systems enable digital media and creative industries to use collaborative networks to boost creative co-production not only across organizational boundaries, but also across geographies. The initial success of crowdsourcing and other open-innovation strategies encourages these industries to consider creative co-production as a viable option for future development. This chapter suggests a general theoretical framework for the implementation of co-production in creative industries based on three components: co-creation environment, network coordination, and experiential communication. The proposed framework is sufficiently general yet grounded in the phenomenon to guide future research and development.

1 Introduction

Enabled by advance information systems, collaborative value creation (co-creation) can be broadly defined as the process in which more than two organizationally independent creative actors work together to co-create creative designs, media content, or innovative solutions. This process, referred to as *creative co-production* in this chapter, is a new paradigm where creative ideas from various internal and external sources are integrated in a network to generate a new creative content or solution [20]. *Co-creation networks* can be conceptualized as a knowledge-based and technology-enabled creative network, in which self-motivated and self-selected individual actors work together to co-create creative ideas or solutions [10].

Co-creation networks can provide important solutions for the complexities of the creative industries, notably the rising cost of innovation and shorter content life cycles in media industries. These networks can also address some current challenges such as

K. Abhari (✉) · E.J. Davidson
University of Hawaii at Manoa, Honolulu, USA
e-mail: abhari@hawaii.edu

the quality and cost of creative content creation in a fast-paced, dynamic networked society. Built upon the collective intelligence of network participants, co-creation networks represent an alternative business model for generating new ideas and bringing them to market from the more traditional in-house media production and individual or firm-centric content generation models.

Creative industries have adopted this approach in different forms to provide useful solutions to the market. For example, companies such as crowdSPRING (creative designs), 12designer (marketplace for creative solutions), 99designs (design crowdsourcing), OpenIDEO (collaborative design platform), and Zooppa (creative marketing platform) directly involve external creative labors in their creative media design. These companies solicit new ideas for creative design then reward the winning ideas or share revenues, based on the external actors' influences on the creative production.

Co-creation networks are typically designed and implemented based on the *open innovation paradigm* [9, 20]. Despite these solid theoretical underpinnings, there is as yet no commonly accepted theoretical framework for analyzing and differentiating these networks [27, 31]. In this chapter, we begin to investigate these challenges by addressing three pivotal questions: First, what are the key components of co-creation networks? Second, what are the relationships between these components? Third, how can these components be articulated or arranged in creative co-production? This chapter first highlights theoretical and practical evidence that addresses these questions and then outlines a framework that hypothesizes the relationship between the key components.

2 Theoretical Foundations

The digital media and creative industries are facing significant challenges in utilizing information systems in cost-efficient and high quality content creation and collaborative production [17]. These challenges range from the creative content creation process to deployment and integration of new systems [18]. Creative industries are constantly adopting new collaborative information systems to address these challenges at four levels of operation, knowledge, management, and strategy. Co-creation network is one of those systems. For example, at the operation level, these systems can advance the media industries towards a smart media environments and personalized contents [19]. The collaborative nature of the new systems can enhance knowledge creation and dissemination across the industries. At the management level, these systems support managers to make informed decisions, for example on coordination, licensing, royalty management, investments, and budgeting. And finally, at the strategy level, co-creation networks open possibilities for new business models and revenue streams [17].

This following section first discusses the notion of open innovation as a theoretical foundation and justifies its adoption in creative industries. The concepts of

co-creation and co-creation network are then reviewed to theorize the concept of creative co-production. Then, the important aspects of network-based value co-creation and coordination are addressed.

2.1 Open Innovation Business Model

Although the idea of dynamic innovation dates back to the early 1970s, the concept of open innovation gained prominence in 2003 with publication of Henry Chesbrough's book *Open Innovation: The New Imperative for Creating and Profiting from Technology*. Chesbourgh's paradigm suggested collaboration with external partners to develop and market creative ideas and open innovation as a business model empowered by external creative communities. Theoretical and practical evidence suggests that adopting this paradigm is unavoidable due to accelerating trends in globalization and advance information system use, increasing cost of creative production, and shortened product life cycle [4, 14]. Thus, open innovation has drawn increasing attention as a new paradigm in creative industries, given ever changing market conditions [5, 6, 20, 22].

The concepts of open innovation or co-creation as a business process are mainly rooted in von Hipple's arguments on integrating end-users into the R&D process to better understand potential needs and desire, as well as to utilize their hidden knowledge and competencies [29]. After three decades, scholars and practitioners have recognized the value of external networks in co-creation processes, and as a result, they suggested open innovation as a business model (e.g. [14]). The open innovation paradigm recommends the systematic use of purposive inflows and outflows of knowledge to accelerate internal creative production and expand the markets for external consumption [5]. Based on this paradigm, by sharing risks and rewards, creative industries can integrate internal and external resources to encourage collaborative production, evaluation, and distribution of creative ideas and new contents.

2.2 Co-creation Network

A co-creation network is a typically advanced knowledge-based information system in which actors realize value through reciprocal service exchanges [2, 24]. Creative co-production networks are characteristically creative service ecosystems, in which creative labor (e.g. by individuals, firms, community) is based on reciprocal creative service offerings. In this creative ecosystem, value is co-created through the dynamic exchange of creative ideas between the internal and external actors.

With the rapid growth and use of information system for inter-organizational communication and technology-mediated communities, open innovation relies

increasingly on virtual collaboration platforms for facilitation and coordination of co-creation processes. Co-creation networks utilize virtual platforms for networking information, efficient collaboration, and fast-paced creative co-production among members from different working groups [7]. These platforms provide interactive environments, in which creative workers can learn from each other and collectively contribute to creative production process [10].

Although co-creation networks vary in terms of institutional arrangements, business model orientation, and supporting technologies, they share some key characteristics. Co-creation networks are governed by a central integrator (network coordinator) that regulates participation, communication, and contribution of participants. Typically, the process of co-creation (problem-solving) is coordinated in cooperation with independent creative participants and company-affiliated solution seekers, who use a technology-enabled platform to plan, develop, evaluate, and market new ideas. Creative co-production in these networks comprises a wide range of activities such as sharing information, using creative tools, spreading best practices, communicating experiences, combining knowledge from different sources, evaluating new concepts, and supporting commercialization. To better understand and design co-creation networks in digital media and creative industries, we must understand the key concepts underpinning value networks including coordination and structure, solution solicitation mechanisms, individual actor behaviors, co-creation patterns, and supporting information systems. We use these concepts to propose a framework for co-creation networks to guide future research on the development, implementation, and differentiation of these networks.

3   Creative Co-production

Collective action theory and the network theory suggest that collective actions in a well-organized network can facilitate achieving goals such as creative co-production [14]. Hence, creative co-production can be depicted as a series of collective actions when actors have a collective intention to co-create. Creative co-production is a form of community-based ideation and value co-creation with a wide range of applications in creative industries [16]. The process of creative co-production refers to active participation in collective processes of creative idea generation and dissemination as well as creative idea development and evaluation [33]. From the organizational perspective, creative co-production can be a systematic approach to engage various internal and external actors in generating creative solutions to enhance competitive advantages [20]. Adopting this approach, creative industries have developed their own creative co-production (co-innovation) platforms (e.g., Threadless, Zazzle, Cafepress) to engage a community in creative production processes. This interest in creative co-production led to the emergence of intermediary platforms such as crowdSpring and Jovoto, which facilitate the relationships between the external creative community and businesses. The mission of these networks is mainly to establish virtual networked teams, in which creative

ideas and innovative solutions are co-developed, co-evaluated and co-disseminated through sharing and integrating operand resources such as creativity, skills, knowledge, and competencies.

In co-creation networks, all creative projects and associated communicative, collaborative, and coordinative actions can create, reproduce and transform the structures. External actors' goals, motivations, and expectations may also affect the structure or even the mission of the co-creation networks. Gloor [10] discussed features such as internal honesty, trust, transparency, and ethical principles that contribute to the formation, stability, and productivity of network structure. Since these factors depend largely on the behavioral characteristics of individual actor communities, actor characteristics to a greater degree than internal rules and protocols, can affect network structure evolution. Since co-creation networks typically have dynamic and constantly changing structures, the co-production framework cannot follow the structure of the networks. Instead, we can use (a) those characteristics that drive structure formation, (b) those that make co-creation possible within the structure, and (c) the goals of structure (network outcome), which exist ontologically independent from the structure. According to Monge and Contractor's arguments on complex system theory [21], the causes of structure are (a) rules and roles, which are collaboratively determined by the network coordinator (central integrator) and other individual contributors (resources), as well as the attributes or traits of the system such as the communication mechanisms and co-creation platform.

4   Creative Co-production Model

This section outlines an initial effort to conceptualize creative co-production with a holistic and relatively universal approach in in the media and creative industries. We model a co-creation network in creative industries using the relationship between creative co-production and four key antecedents: co-creation environment, experiential communication, network coordination and creative resources (Fig. 1).

4.1   Co-production Environment

The co-creation environment is the vehicle of creative co-production in media and creative industries. It is a virtual platform enabling the use of creative instruments to assist actors in learning and practicing creative co-production. The co-creation environment is an inimitable organizational resource offering collaboration opportunities [20] to drive value co-creation processes [8, 15]. Hacker's action theory suggests that the creative actors' contributions are associated with the quality of the environment that they experience as a platform for their actions [32]. Co-creation environment settings also support co-production by providing

Fig. 1 A model of a creative co-production network
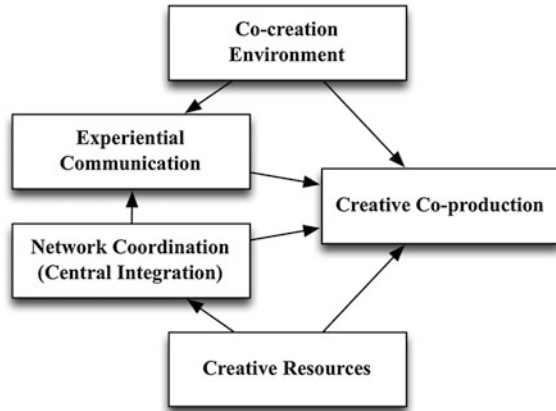
experience opportunities that affect creative labor behavior. These settings have determinative impacts on different aspects of co-creation such as experiencing value, accessing, adapting and integrating resources, establishing relationships, and initiating collaboration [1].

The co-production environment has three important roles: (a) facilitate creative co-production (e.g. by offering tools and interfaces), (b) motivate action (e.g. by facilitating knowledge sharing), and (c) satisfy personal needs (e.g. enabling social connection with other actors). Co-creation platforms provide an environment that can simultaneously enable creative co-production, encourage actors, and fulfill their individual desires beyond innovation. The experiential benefits of these platform (e.g. emotive, social, pragmatic, cognitive, interfacial, and materialistic benefits) can boost intention to creative co-production [12]. Therefore, we propose that:

The better the media co-creation environment design in terms of facilitating co-creation, motivating actions, and satisfying actors' creative needs, the higher levels of creative co-production among participants.

4.2   Experiential Communication

In co-production, actors need to communicate creative ideas within the network to achieve superior solutions. In addition, the interaction between the creative agents shapes the network dynamic and its outcomes. Actors' communication is primarily shaped around the network's objectives and products as well as the actors' communal motivations in performing creative co-creation tasks. Therefore, an inherent part of any co-production network is effective communication to exchange creative ideas and consummate co-production.

In creative co-production networks, experiential benefits play a significant role in determining the level and the quality of creative exchanges among the actors and

between actors and the central integrator. The co-production environment can improve three components of interactions: (a) the content of communication, by providing action-oriented materials, (b) the process, by providing practical ways to interact, and (c) the actors, by informing them of events and actions. Communicative action and structures in creative co-production networks are mutually constituent, and provide a frame for sensemaking and legitimization of members' communicative and collaborative actions [25]. Füller [8] also discussed value-based communication as a critical driver of creative co-production in virtual contexts. For example, communication provides actors the opportunity to learn from their networks and allocate knowledge on issues relevant to creative tasks. This process, in addition to knowledge formation, can support knowledge dissemination across the network facilitating the creative co-production process.

Effective communication in co-production networks is competence-based communication, which refers to *experiential communication* by which an individual actor can evaluate, compare and test other actors' skill, competency, creativeness, and knowledge [11]. Experiential communication is thus a medium for collaborative interaction by which individual actors can conveniently test and anticipate other actors' competences and contributions of creative ideas or knowledge. These types of communication are driven by internal transparency and direct knowledge sharing, and work as catalysts of creative co-production. The co-creation environment provides an experiential system to enable this experience before and during collaboration. The co-creation environment also facilitates experiential communication by providing high levels of social and professional exchange among the actors. Therefore, we propose:

The effective co-creation environment design can promote higher levels of experiential communication among the participants leading to higher level of creative co-production.

As noted earlier, successful creative co-production depends on a series of productive communication exchanges between actors [8, 30]. Creative co-production can be thus stimulated when users are engaged in competence-based interactions and communication. Therefore, we propose that:

The higher the level of experiential communication at three levels of content, process, and actor, the higher the level of creative co-production.

4.3 Network Coordination

Co-production network coordinators (central integrators) are the agents responsible for establishing network goals and rules and providing a shared institutional structure for integrating key resources, motivating co-creation, and regulating the participation [13, 23]. The network coordinator pays careful attention to four coordination domains to accelerate creative co-production. First, the network coordinator manages the creative co-production processes in a way so that all individual actors have fair co-creation opportunities and their ideas are not overlooked. The processes are designed to offer the actors the possibility to ideate and

collaborate in the areas of their interest based on their personal motivation and/or competencies without limitation. The network coordinator therefore facilitates communication and exchange of information, ideas, and knowledge. Second, central integrators (network coordinator) are responsible for continuous improvement of the network components such as the co-creation environment, socio-professional networking platform, or commercialization platform. Third, as a part of network governance, the central coordinator orchestrates actors' relationships and interactions based on the network structure, rules, and goals. The network coordinator manages actor relationships by facilitating communication and collaboration among actors at different levels. Without maintaining these relationships, network coordinators cannot gain insights about the community and potential markets. Finally, the network coordinator invests in virtual community building to make the business sustainable. For example, by employing various social networking tools, the network coordinator creates a socio-professional environment that not only reflects actors' backgrounds, competencies, interests and achievements but also offers means of communication for both collaboration and competition in creative co-production. It provides the members opportunities to be promoted in the community and involved at a higher level of co-production.

To model co-production coordination based on the above-discussed components, we suggest four core coordination dimensions: (a) ideation motivation, (b) idea management, (c) regulation, and (d) actor relationship management. These coordination components play important roles in orchestrating the collaboration and communication process to boost creative co-production and enhance the productivity of the network. The concept of ideation refers to encouraging creative idea proposition and distribution that can be used to generate or develop creative ideas. Network coordinators are in charge of motivating ideation to maintain the network's productivity. Creative idea management refers to knowledge acquisition, information distribution, information interpretation, and organizational memory [14]. Coordinating actor relationships is also critical for maintaining co-production performance. Lastly, network coordinators need to regulate creative co-production processes for assuring stability and productivity and enhancing the network's good standing. Therefore, we propose that:

The better the design and enactment of network coordination—in terms of ideation motivation, idea management, regulation, and actor relationship management—the higher the level of creative co-production.

The network coordinator needs to pay careful attention to the individual actors' interactions with other creative members as well as with the co-creation environment to facilitate a higher level of creative co-production. To do so, central integrators coordinate meaningful competence-based communication between actors that may lead to higher engagement and higher contribution. In order to drive these experiential communications, the network coordinator needs to co-create relationships among the actors, regulate interactions, encourage creative idea or knowledge inputs, and manage the insight distribution and applications. Therefore, we propose that:

The better the design and enactment of network coordination, the higher the level of experiential communication among actors.

4.4　Creative Resources

Creative co-production heavily relies on the integration of internal and external creative resources in collaborative production, evaluation, and distribution of creative ideas and new contents. In addition to operand resources such as technology, creative resources mainly refer to individual or institutional contributors with valuable and rare operant resources such as creativity, skills, knowledge, and competencies. To integrate the creative resources and build a creative networked enterprise, creative co-production processes should be properly designed and coordinated to engage creative external actors with different operand resources. Developing such a network requires a robust information system structure and well-coordinated processes [14].

A network coordinator typically coordinates co-production process and is in charge of resource integration. The central coordinator defines the network rules for creative resource acquisition and integration but not resource utilization. Like other co-creation systems, integrating resources is critical for the network productivity, stability, and survivability. While the network coordinator integrates resources to achieve desirable outcomes, resource utilization is spontaneously determined based on the actors' needs and goals. Hence, the success of creative co-production depends on the availability of resources as well as the capability of the central network coordinator in integrating these resources [28]. Therefore, we propose that:

Availability of creative operand resources is a key prerequisite of efficient creative co-production.

5　Conclusion

Creative co-production networks are still at an early stage of development in media and creative industries. Nonetheless, we anticipate the number of these networks will continue to increase rapidly. This review addressed the theoretical foundations of co-production and proposed a model consisting of creative resources, coordination, experiential communication, and co-creation environment. The model proposed in this chapter helps explain the relationships between key antecedents of creative co-production. Since none of the variables are associated with specific types of actors, platform owners or contents, the model is not limited to any specific network structure and therefore is widely applicable to different business models.

Future research can adopt this theoretical lens to study existing co-production networks for better theorization, classification, and comparison in creative industries. The impacts of these drivers on platform efficiency and general performance are important to be addressed by future empirical studies as well. Exploring the relationship between these components with social, technological, and network-product cortexes could be another research avenue. Future research could also address how co-production opportunities affect actor behavior and experience

and ultimately influence the network outcomes. Therefore, understanding creative co-production behavior in the virtual co-creation environment is essential to realizing more value from the development and use of co-creation models in creative industries. Finally, the domain of creative labor engagement in co-production networks offers a rich agenda for future research.

References

1. Akaka, M. A., Vargo, S. L., & Lusch, R. F. (2012). An exploration of networks in value cocreation: A service-ecosystems view.
2. Allee, V. (2000). Reconfiguring the value network. *Journal of Business Strategy, 21*(4).
3. Balasubramanian, S., & Mahajan, V. (2001). The economic leverage of the virtual community. *International Journal of Electronic Commerce, 5*(1), 103–138.
4. Chesbrough, H. (2007). Business model innovation: It's not just about technology anymore. *Strategy & Leadership, 35*(6), 12–17.
5. Chesbrough, H., Vanhaverbeke, W., & West, J. (2008). *Open innovation: Researching a new Paradigm*. OUP Oxford.
6. Dawson, B. K., Young, L., Tu, C., & Chongyi, F. (2014). Co-innovation in networks of resources—A case study in the Chinese exhibition industry. *Industrial Marketing Management, 43*(3), 496–503.
7. Fan, S., Sia, C., & Zhao, J. (2012). *Towards collaboration virtualization theory. PACIS, 2012*, 1–8.
8. Füller, J. (2010). Refining virtual co-creation from a consumer perspective. *California Management Review, 52*(2), 98–122.
9. Gassmann, O., Enkel, E., & Chesbrough, H. (2010). The future of open innovation. *R&D Management, 40*(3), 213–221.
10. Gloor, P. A. (2006). *Swarm creativity: competitive advantage through collaborative innovation networks*. New York: Oxford University Press.
11. Golfetto, F. (2003). Communicating competence. An Experiential Communication approach for business markets. In *Proceedings of the 19th IMP-Conference. Lugano, Switzerland*.
12. Jeppesen, L. B., & Frederiksen, L. (2006). Why do users contribute to firm-hosted user communities? The case of computer-controlled music instruments. *Organization Science, 17*(1), 45–63.
13. Kahnert, D., Menez, R., & Blättel-Mink, B. (2012). Coordination and motivation of customer contribution as social innovation: The case of Crytek. In H. W. Franz, J. Hochgerner, & J. Howaldt (Eds.), *Challenge social innovation: Potentials for business, social entrepreneurship, welfare and civil society* (pp. 293–306). Springer.
14. Ketchen, D. J., Ireland, R. D., & Snow, C. C. (2007). Strategic entrepreneurship, collaborative innovation, and wealth creation. *Strategic Entrepreneurship Journal, 1*(3–4), 371–385.
15. Kohler, T., Fueller, J., Matzler, K., & Stieger, D. (2011). Co-creation in virtual world: The design of the user experience. *MIS Quarterly, 35*(3), 773–788.
16. Lee, G. K., & Cole, R. E. (2003). From a firm-based to a community-based model of knowledge creation: The case of the Linux Kernel development. *Organization Science, 14*, 633–649.
17. Lugmayr, A. (2013a). Brief introduction into information systems & management research in media industries. In *IEEE International Conference on Multimedia and Expo Workshops (ICMEW)* (pp. 1–6).
18. Lugmayr, A. (2013b). Issues & approach in defining a European research agenda on information systems and management in creative eMedia industries. In *Proceedings of the 1st Workshop on Defining a European Research Agenda on Information Systems and*

Management in eMedia Industries (pp. 17–25). International Ambient Media Organization (AMEA).

19. Lugmayr, A., Serral, E., Scherp A., Pogorelc, B., & Mustaquim M. (2013). Ambient media today and tomorrow. *Multimedia Tools and Applications,* 1–31.

20. Lee, S. M., Olson, D. L., & Trimi, S. (2012). Co-innovation: convergenomics, collaboration, and co-creation for organizational values. *Management Decision, 50*(5), 817–831.

21. Monge, P. R., & Contractor, N. S. (2003). *Theories of communication networks*. *Computer* (Vol. 91, p. 406). Oxford University Press.

22. Origho, A. O., Japheth, O., & Ukpere, W. I. (2014). Innovation through global collaboration: A new source of competitive advantage (a study of Nigerian Breweries PLC). *Mediterranean Journal of Social Sciences, 5*(1), 709–724.

23. Ritala, P., Hurmelinna-Laukkanen, P., & Nätti, S. (2012). Coordination in innovation-generating business networks—The case of Finnish Mobile TV development. *Journal of Business & Industrial Marketing, 27*(4), 324–334.

24. Romero, D., & Molina, A. (2011). Collaborative networked organisations and customer communities: value co-creation and co-innovation in the networking era. *Production Planning & Control, 22*(5–6), 447–472.

25. Sarker, S., Lau, F., & Sahay, S. (2000). Building an inductive theory of collaboration in virtual teams. In *Proceedings of the 33rd Hawaii International Conference on System Sciences* (pp. 1–10).

26. Scholten, S., & Scholten, U. (2011). Platform-based innovation management: Directing external innovational efforts in platform ecosystems. *Journal of the Knowledge Economy, 3* (2), 164–184.

27. Sorensen, E., & Torfing, J. (2011). Enhancing collaborative innovation in the public sector. *Administration & Society, 43*(8), 842–868.

28. Storbacka, K., Frow, P., Nenonen, S., & Payne, A. F. (2012). Designing business models for value co-creation. In S. L. Vargo & R. F. Lusch (Eds.), *Marketing research* (Vol. 9, pp. 51–78). Emerald Group Publishing Limited.

29. Von Hippel, E. (1978). A customer-active paradigm for industrial product idea generation. *Research Policy, 7*(3), 240–266.

30. Von Hippel, E. (2005). Democratizing innovation: The evolving phenomenon of user innovation. *Journal für Betriebswirtschaft, 55*(1), 63–78.

31. Wittke, V., & Hanekop, H. (2011). In V. Wittke & H. Hanekop (Eds.), *New forms of collaborative innovation and production: An Interdisciplinary perspective*. Göttingen: Universitätsverlag Göttingen.

32. Zijlstra, F. R. H. (1993). Efficiency in work behaviour: A design approach for modern tools. TU Delft, Delft University of Technology.

33. Zwass, V. (2010). Co-creation: Toward a taxonomy and an integrated research perspective. *International Journal of Electronic Commerce, 15*(1), 11–48.

Author Biographies

Kaveh Abhari is a lead researcher at STEMD[2] R&D Group and Information Technology Management instructor at the Shidler College of Business, University of Hawaii at Manoa. His research focuses on the adaptation and integration of social technologies to spur learning and innovation. He contributed to several interdisciplinary studies on the applications of information and communication technology in the field of education, innovation management, and business administration. Dr. Abhari has a PhD in Communication and Information Sciences with more than twelve years of professional experience as a researcher, consultant and business developer across industries.

Elizabeth J. Davidson is a professor in the Department of Information Technology Management in the Shidler College of Business, University of Hawaii at Manoa. Dr. Davidson studies how organization members identify opportunities for using information technology and orchestrate IT initiatives. She also studies how new organizational forms develop in social media platforms. A common theme in these projects is the nature of complex, collaborative knowledge work and the mediating role of IT. Dr. Davidson worked as project manager and business analyst in the information technology industry in several Fortune 250 companies in the U.S. prior to receiving her Ph.D. in Information Technologies from MIT's Sloan School of Management. She serves as Editor-in-Chief of Information and Organization. edavidso@hawaii.edu