Influential Article Review - Value Creation within Ecosystems

Theresa Dunn

Carol Fletcher

Janis Lamb

This paper examines sustainability. We present insights from a highly influential paper. Here are the highlights from this paper: The objective of this article is to introduce readers to the emerging research stream on business ecosystems, explicating the novelty and the usefulness of ecosystem-based theorizing, and hoping to pave the way for an influential but cumulative body of knowledge. The key tenets within an ecosystem-based perspective are outlined and used to contrast this emerging perspective from other established perspectives of value chains, supply chains, alliances, and networks. The article concludes by discussing the research approaches that can be employed to study ecosystems and the implications for organization design. For our overseas readers, we then present the insights from this paper in Spanish, French, Portuguese, and German.

Keywords: Ecosystem, Creating Values

SUMMARY

- Research on ecosystems represent an emerging paradigm , in which researchers have yet to converge on concepts, assumptions, mechanisms, and approaches. The lack of convergence, in part, stems from differences in research objectives and questions. In part, it stems from the significant theoretical and methodological challenges that accompany such a research endeavor. Often times, the research is framed as research on ecosystems so as to be deemed relevant and important, but the research question, the theoretical development, and the empirical analysis do not consider the interdependencies with respect to the different offers that contribute to the focal offer's user value proposition or the need for coordination and alignment with respect to complementors.Footnote4 Absent those considerations, it is difficult to assess why an ecosystem-based perspective is required for that research in the first place.
- In many cases, however, scholars have explicitly considered ecosystem-level interdependencies to explore phenomenon that have been studied within established literatures such as first-mover advantage , technology substitution , technology standards , industry evolution , firm boundaries, and alliances . This research approach draws on ecosystem-level mechanisms such as those with respect to bottlenecks and complements to highlight the value of these mechanisms to explain firms' strategies and performance outcomes.

- In addition, pursuing empirical research in ecosystems entails developing a high level of contextual knowledge and typically hand collecting data from a variety of sources . Accordingly, researchers tend to focus on a specific empirical setting to explore their research questions.
- Table 3 lists several examples of the empirical studies and details the setting, the data sources, and the operationalization of key constructs within the nascent stream of research on ecosystems. Scholars have drawn on a variety of settings to highlight ecosystem-level mechanisms related to bottlenecks, complementors, and platforms in explaining firms' strategies and their outcomes. Almost all of these studies have drawn on context-specific data sources to measure and operationalize ecosystem constructs. As scholars expand into new lines of inquiry, new types of data sources may have to be leveraged. For example, in many software-based ecosystems, technological interdependencies can be mapped by observing data with respect to application programming interfaces . Input-output tables that capture interindustry flows could provide another valuable source of data to map and study ecosystem-level interdependencies.
- For example, a platform-based ecosystem represents a distinct organizational design configuration than a product-based ecosystem, and this distinction has implications for how firms compete and create value such as the cases of Research in Motion's BlackBerry and Apple's iPhone offers. Moreover, how ecosystems come about, whether through a process of disaggregation from integrated firms to specialized firms, or whether through a process of aggregation in which new or existing components produced by different actors are linked in new ways can have important implications for firms and the underlying architectures.
- The organization design choices with respect to activities pertain to how the different activities are organized across firms. What activities firms undertake themselves and what activities are carried out by other firms in the ecosystem represents logics that extend beyond firm-level capabilities and dyadic transaction costs to entail ecosystem-level complementarities and interdependencies .
- Finally, actors in the ecosystem also face the problem of how to design their internal organizations so as to manage the interdependencies with other actors.

HIGHLY INFLUENTIAL ARTICLE

We used the following article as a basis of our evaluation:

Kapoor, R. (2018). Ecosystems: broadening the locus of value creation. Journal of Organization Design, 7(1), 1–16.

This is the link to the publisher's website:
https://jorgdesign.springeropen.com/articles/10.1186/s41469-018-0035-4

INTRODUCTION

The use of the term "ecosystem" within business settings has grown exponentially over the last decade (Fig. 1). As I have pursued a research agenda on business ecosystems during this period of increasing interest, I have faced several important questions from colleagues, reviewers, students, and attendees at seminars and conferences. Some of them seem to have been polite inquiries with the goal of understanding the contribution of the research while others seem to have been artifacts of dissonance stemming from a label or a buzzword that smells more like managerial hype rather than a legitimate object of academic inquiry. Most of the questions that I have faced can be captured by the following:

1. Is the term "ecosystem" simply a metaphor borrowed from natural sciences in order to identify a phenomenon, or is it a basis for new theory?
2. What is the difference between an ecosystem and a value chain or a supply chain?
3. How is research on ecosystems different from that on alliances or networks?

My primary objective for this article is to introduce readers to the nascent research stream on ecosystems, explicating the novelty and the usefulness of the contribution and, in so doing, offer answers to these questions above. Through this article, I also shed light on some of the challenges that accompany this emerging research paradigm and the various opportunities that exist for scholars to participate in and build this paradigm.

CONCLUSION

Ecosystems represent an increasingly prevalent organizational form that is a departure from the Chandlerian firm, the long-standing focus of the field of organization design. This shift presents new considerations for organizational design at the level of the ecosystem, at the level of the actors, and at the level of the underlying activities that make up the different offers.

The design of the ecosystem in terms of the technological architecture and in terms of the input-output flows have a significant impact on how value gets created in an ecosystem, the roles played by the different actors, and the interdependencies between them. For example, a platform-based ecosystem represents a distinct organizational design configuration than a product-based ecosystem, and this distinction has implications for how firms compete and create value such as the cases of Research in Motion's BlackBerry and Apple's iPhone offers. Moreover, how ecosystems come about, whether through a process of disaggregation from integrated firms to specialized firms, or whether through a process of aggregation in which new or existing components produced by different actors are linked in new ways can have important implications for firms and the underlying architectures.

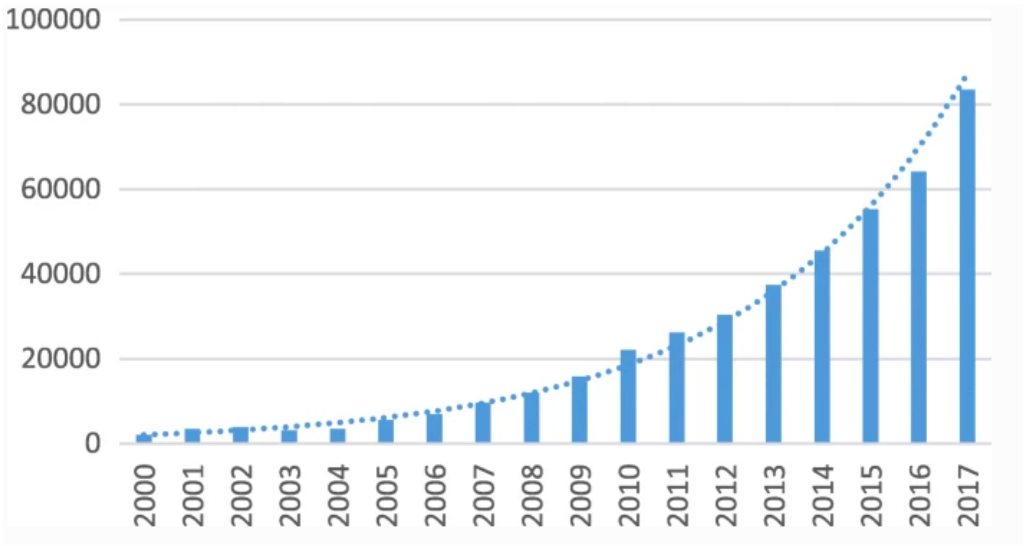
The organization design choices with respect to activities pertain to how the different activities are organized across firms. What activities firms undertake themselves and what activities are carried out by other firms in the ecosystem represents logics that extend beyond firm-level capabilities and dyadic transaction costs to entail ecosystem-level complementarities and interdependencies (Gawer and Henderson 2007; Kapoor and Lee 2013; Hannah and Eisenhardt 2017).

Finally, actors in the ecosystem also face the problem of how to design their internal organizations so as to manage the interdependencies with other actors. The buyer-supplier interdependence is managed through well-defined procurement and sales functions on the supply-side and the demand-side respectively. However, the firm-complementor interdependence entails both supply- and demand-side coordination. This amplifies the organization design complexity in terms of the interface that manages the interorganizational interdependence between the firm and the complementor and the intra-organizational interdependence between the firm's activities that interact with the complementor's (Kapoor 2014).

To conclude, research on ecosystems represent a vibrant and important research stream for scholars. I hope that this article has presented why such a stream is not only relevant and novel but that it also promises to generate theoretical insights that can create enormous value for both scholars and practitioners.

APPENDIX

FIGURE 1
NUMBER OF ARTICLES MENTIONING THE TERM "ECOSYSTEM" IN CORPORATE/INDUSTRIAL NEWS



(Source: Factiva)

FIGURE 2
DIFFERENT ROLES IN AN ECOSYSTEM: SUPPLIER VS. COMPLEMENTOR

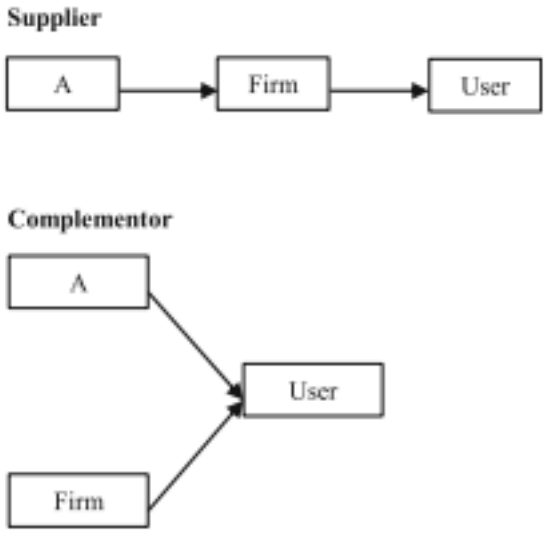


TABLE 1
CONSIDERATIONS FOR ECOSYSTEM RESEARCH

Level	Definition	Example (electric car ecosystem)	Example (smartphone ecosystem)
Activities	Tasks that underlie the different offers that contribute to the focal offer's user value proposition	Electric car manufacturing, battery manufacturing, installation of charging stations, maintenance, and repair	Handset manufacturing, hardware component manufacturing, operating system development, software applications development, wireless service provision
Actors	Agents who undertake activities and produce the different offers	Electric car manufacturers, battery manufacturers, charging service providers, garages	Manufacturers of hardware components and handsets, developers of operating system and software applications, providers of wireless service
Architectures	Technological interactions between offers and input-output flow interactions between actors	Product-based; battery and electric car, charging station and electric car; battery manufacturers as suppliers and charging service providers, and garages as complementors	Platform-based between apps and operating system. Product-based between hardware components, wireless service, and handset; app developers as platform-based complementors, wireless service providers as product-based complementors, hardware component manufacturers as suppliers

TABLE 2
DISTINCTIONS BETWEEN STRATEGY RESEARCH ON ALLIANCES, NETWORKS, AND ECOSYSTEMS

	Strategic alliances	Strategic networks	Business ecosystems
Definition	Voluntary arrangements between firms involving exchange, sharing, or codevelopment of products, technologies, or services (Gulati 1998).	Strategic networks are composed of interorganizational ties that are enduring, are of strategic significance for the firms entering them, and include strategic alliances, joint ventures, long-term buyer-supplier partnerships, and a host of similar ties (Gulati, Nohria, and Zaheer, 2000)	Set of actors that contribute to the user value proposition of a focal product or service, designed with or without a platform-based technological architecture
Connections between firms	Alliance	Alliance	Interdependence between activities/technologies
Unit of analysis	Firm or alliance	Firm or network (typically alliance)	Innovation or firm or ecosystem
Key theoretical considerations	Alliance governance (formal/relational), alliance capability, partners' resources	Structure of ties, access to information, status, brokerage (information, resources), embeddedness	Structure of interdependence (technology, inputs-outputs), complements, bottlenecks, platforms

TABLE 3

DIFFERENT EMPIRICAL RESEARCH DESIGNS USED FOR ECOSYSTEM RESEARCH

Representative studies	Ecosystem construct	Setting	Selected data sources	Operationalization of ecosystem construct
Ethiraj (2007)	Bottleneck	Personal computer (PC) components	Industry journals, PC Magazine, and PC World	Component constraints identified in the product reviews
Adner and Kapoor (2010)	Bottleneck (suppliers, complementors)	Semiconductor lithography	Industry journal, Solid State Technology; Interviews	Count of articles that discuss the technical problems in components and complements
Kapoor and Lee (2013)	Organizational form for complementors	Healthcare	American Hospital Association annual surveys	Hospital-physician organizational form (arm's length, alliance, integrated)
Hannah and Eisenhardt (2017)	Bottleneck	Residential solar system	Interviews; newspaper and magazine articles, blogs, analyst reports	Component that most constrains the growth or performance of the ecosystem due to poor quality, poor performance, or short supply
Kapoor and Furr (2015)	Bottleneck	Solar photovoltaic (PV)	Industry journal, Photon International annual equipment surveys	Commercially availability of deposition and contact equipment in an emerging industry
Zobel et al. (2017)	Bottleneck	Solar photovoltaic (PV)	PV Insights, Bloomberg New Energy Finance, Fraunhofer ISE	Share of cost for components and complements in solar PV systems (BOS)
Toh and Miller (2017)	Complements	Communications equipment	Patents	Jointly cited patents from different patent classes
Kapoor and Agarwal (2017)	Platform-ecosystem complexity	Smartphone	comScore US smartphone-installed base database	Sum of the squares of the monthly shares of the US-installed base for smartphone OEMs
Wen and Zhu (2017)	Platform complementors' innovation and pricing strategy	Smartphone	Mobile app analytics firm	Updates to smartphone app and app pricing
Agarwal and Kapoor (2018)	Platform complementors' connectedness	Smartphone	Apple iTunes	App's connection with platform components/ modules and other apps

REFERENCES

Adner R (2012) The wide lens: a new strategy for innovation. Penguin, New York

Adner R (2017) Ecosystem as structure: an actionable construct for strategy. J Manag 43(1):39–58

Adner R, Feiler D (2018) Innovation interdependence and investment choices: an experimental approach to decision making in ecosystems. Organ Sci

Adner R, Kapoor R (2010) Value creation in innovation ecosystems: how the structure of technological interdependence affects firm performance in new technology generations. Strateg Manag J 31(3):306–333
Adner R, Kapoor R (2016) Innovation ecosystems and the pace of substitution: re-examining technology S-curves. Strateg Manag J 37(4):625–648
Agarwal S, Kapoor R (2018) Two Faces of Value Creation in Business Ecosystems: Leveraging Complementarities and Managing Interdependencies, Working paper
Altman EJ (2016) Dependency challenges, response strategies, and complementor maturity: joining a multi-sided platform ecosystem, working paper
Altman EJ, Tripsas M (2015) Product to platform transitions: Organizational identity implications. In The Oxford handbook of creativity, innovation, and entrepreneurship: multilevel linkages. Oxford University Press, Oxford
Ansari S, Garud R, & Kumaraswamy A (2016). The disruptor's dilemma: TiVo and the US television ecosystem. Strateg Manag J 37(9):1829–1853.

Baldwin CY (2018b) Bottlenecks, modules and dynamic architectural capabilities. In D. J. Teece and S. Heaton (Eds.) The Oxford Handbook of Dynamic Capabilities. https://doi.org/10.1093/oxfordhb/9780199678914.013.011
Baldwin, Carliss Y (2018a) Design Rules, Volume 2: How Technology Shapes Organizations: Chapter 5 Complementarity. Harvard Business School Working Paper, No. 19–036, October 2018.
Baldwin, Carliss Y (2018c) Design Rules, Volume 2: How Technology Shapes Organizations: Chapter 6 The Value Structure of Technologies, Part 1: Mapping Functional Relationships. Harvard Business School Working Paper, No. 19–037, October 2018.
Baldwin, Carliss Y (2018d) Design Rules, Volume 2: How Technology Shapes Organizations: Chapter 14 Introducing Open Platforms and Business Ecosystems. Harvard Business School Working Paper, No. 19–035, October 2018.
Boudreau K (2010) Open platform strategies and innovation: granting access vs. devolving control. Manag Sci 56(10):1849–1872
Casadesus-Masanell R, Yoffie DB (2007) Wintel: cooperation and conflict. Manag Sci 53(4):584–598
Dyer JH (1997) Effective interfirm collaboration: how firms minimize transaction costs and maximize transaction value. Strateg Manag J 18(7):535–556
Ethiraj SK (2007) Allocation of inventive effort in complex product systems. Strateg Manag J 28(6):563–584
Fisher ML (1997) What is the right supply chain for your product? Harv Bus Rev 75:105–117
Ganco M, Kapoor R, Lee GK (2018) Innovation in ecosystems. Working Paper
Gawer A, Cusumano MA (2002) Platform leadership: how Intel, Microsoft, and Cisco drive industry innovation. Harvard Business School Press, Boston
Gawer A, Henderson R (2007) Platform owner entry and innovation in complementary markets: evidence from Intel. Journal of Economics & Management Strategy 16(1):1–34
Gulati R (1998). Alliances and networks. Strateg Manag J 19(4):293–317
Gulati R, Nohria N, & Zaheer A (2000) Strategic networks. Strategic management journal, 21(3):203–215
Hannah D (2016) Value creation and capture in a world of bottlenecks. Working Paper
Hannah DP, Eisenhardt KM (2017) How firms navigate cooperation and competition in nascent ecosystems. Strateg Manag J. https://doi.org/10.1002/smj.2750
Hart O, Moore J (1990) Property rights and the nature of the firm. J Polit Econ 98(6):1119–1158
Hawley AH (1986) Human ecology: a theoretical essay. University of Chicago Press, London
Helfat CE, Raubitschek RS (2018) Dynamic and integrative capabilities for profiting from innovation in digital platform-based ecosystems. Res Policy 47(8):1391–1399
Helper S, MacDuffie JP, Sabel C (2000) Pragmatic collaborations: advancing knowledge while controlling opportunism. Ind Corp Chang 9(3):443–488

Henderson RM, Clark KB (1990) Architectural innovation: the reconfiguration of existing product technologies and the failure of established firms. Administrative science quarterly, pp 9–30
Hughes TP (1993) Networks of power: electrification in Western society1880–1930. JHU Press, Baltimore
Jacobides MG, Cennamo C, Gawer A (2018) Towards a theory of ecosystems. Strateg Manag J. https://doi.org/10.1002/smj.2904
Johnson, PF, Mark, Ken (2017) Apple Inc.: managing a global supply chain. Ivey case study
Kale P, & Singh H (2009). Managing strategic alliances: what do we know now, and where do we go from here?. The Academy of Management Perspectives, pp45–62.
Kapoor R (2014) Collaborating with complementors: what do firms do?. In Collaboration and competition in business ecosystems(pp. 3–25). Emerald Group Publishing Limited, Bingley
Kapoor R, Agarwal S (2017) Sustaining superior performance in business ecosystems: evidence from application software developers in the iOS and Android smartphone ecosystems. Organ Sci 28(3):531–551
Kapoor R, Furr NR (2015) Complementarities and competition: unpacking the drivers of entrants' technology choices in the solar photovoltaic industry. Strateg Manag J 36(3):416–436
Kapoor R, Lee JM (2013) Coordinating and competing in ecosystems: how organizational forms shape new technology investments. Strateg Manag J 34(3):274–296
Kapoor R, McGrath PJ (2014) Unmasking the interplay between technology evolution and R&D collaboration: evidence from the global semiconductor manufacturing industry, 1990–2010. Res Policy 43(3):555–569
Kuhn T (1962) The structure of scientific revolutions. University of Chicago
Lee HL, Padmanabhan V, Whang S (1997) Information distortion in a supply chain: the bullwhip effect. Manag Sci 43(4):546–558
Leontief W (1986) Input-output economics Second Ed. Oxford University Press, New York
McIntyre DP, Srinivasan A (2017) Networks, platforms, and strategy: emerging views and next steps. Strateg Manag J 38(1):141–160
Mentzer JT, DeWitt W, Keebler JS, Min S, Nix NW, Smith CD, Zacharia ZG (2001) Defining supply chain management. J Bus Logist 22(2):1–25
Milgrom P, Roberts J (1990) Rationalizability, learning, and equilibrium in games with strategic complementarities. Econometrica 58(6):1255–1277
Moore JF (1993) Predators and prey: a new ecology of competition. Harv Bus Rev 71(3):75–86
Parker G, Van Alstyne MW (2014) Platform strategy. School of Management Research Paper No. 2439323, Boston U. https://doi.org/10.2139/ssrn.2439323
Podolny JM, Page KL (1998) Network forms of organization. Annu Rev Sociol 24(1):57–76
Poppo L, Zenger T (1998) Testing alternative theories of the firm: transaction cost, knowledge-based, and measurement explanations for make-or-buy decisions in information services. Strateg Manag J 19(9):853–877
Porter ME (1985) Competitive advantage: creating and sustaining superior performance. Free Press, New York
Porter ME (1996) What is strategy? Harvard Business Review 74(6):61–78
Rietveld J, Schilling MA, Bellavitis C (2017) Platform strategy: managing ecosystem value through selective promotion of complements. Working Paper
Rivkin JW (2000) Imitation of complex strategies. Manag Sci 46(6):824–844
Rochet JC, Tirole J (2006) Two-sided markets: a progress report. RAND J Econ 37(3):645–667
Siggelkow N (2001) Change in the presence of fit: the rise, the fall, and the renaissance of Liz Claiborne. Acad Manag J 44(4):838–857
Sterman JD (1989) Modeling managerial behavior: Misperceptions of feedback in a dynamic decision making experiment. Manag Sci 35(3):321–339
Teece DJ (1986) Profiting from technological innovation: implications for integration, collaboration, licensing and public policy. Res Policy 15(6):285–305

Toh PK, Miller CD (2017) Pawn to save a chariot, or drawbridge into the fort? Firms' disclosure during standard setting and complementary technologies within ecosystems. Strateg Manag J 38(11):2213–2236
Van Alstyne MW, Parker GG, Choudary SP (2016) Pipelines, platforms, and the new rules of strategy. Harv Bus Rev 94(4):54–62
Wen W, Zhu F (2017) Threat of platform-owner entry and complementor responses: evidence from the mobile app market. Working Paper
Zobel AK, Hoppmann J, Núñez Jiménez A (2017) Unblocking bottlenecks in nascent innovation ecosystems: how bottlenecks impact firm collaboration. Working Paper

TRANSLATED VERSION: SPANISH

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

VERSION TRADUCIDA: ESPAÑOL

A continuación se muestra una traducción aproximada de las ideas presentadas anteriormente. Esto se hizo para dar una comprensión general de las ideas presentadas en el documento. Por favor, disculpe cualquier error gramatical y no responsabilite a los autores originales de estos errores.

INTRODUCCIÓN

El uso del término "ecosistema" en los entornos empresariales ha crecido exponencialmente en la última década (Fig. 1). A medida que he seguido una agenda de investigación sobre los ecosistemas empresariales durante este período de interés creciente, me he enfrentado a varias preguntas importantes de colegas, revisores, estudiantes y asistentes a seminarios y conferencias. Algunos de ellos parecen haber sido consultas educadas con el objetivo de entender la contribución de la investigación, mientras que otros parecen haber sido artefactos de disonancia derivados de una etiqueta o una palabra de moda que huele más a bombo gerencial en lugar de un objeto legítimo de investigación académica. La mayoría de las preguntas a las que me he enfrentado pueden ser capturadas por lo siguiente:

1. ¿Es el término "ecosistema" simplemente una metáfora tomada de las ciencias naturales para identificar un fenómeno, o es una base para la nueva teoría?
2. ¿Cuál es la diferencia entre un ecosistema y una cadena de valor o una cadena de suministro?
3. ¿En qué se diferencia la investigación sobre los ecosistemas de las alianzas o redes?

Mi objetivo principal para este artículo es introducir a los lectores en la naciente corriente de investigación sobre los ecosistemas, explicando la novedad y la utilidad de la contribución y, al hacerlo, ofrecer respuestas a estas preguntas anteriores. A través de este artículo, también arrojé luz sobre algunos de los desafíos que acompañan a este paradigma de investigación emergente y las diversas oportunidades que existen para que los estudiosos participen y construyan esteparadigma.

CONCLUSIÓN

Los ecosistemas representan una forma organizativa cada vez más prevalente que es una desviación de la firma Chandlerian, el enfoque de larga data del campo del diseño de la organización. Este cambio presenta nuevas consideraciones para el diseño organizacional a nivel del ecosistema, a nivel de los actores, y a nivel de las actividades subyacentes que componen las diferentes ofertas.

El diseño del ecosistema en términos de la arquitectura tecnológica y en términos de los flujos de entrada-salida tienen un impacto significativo en cómo se crea el valor en un ecosistema, los roles desempeñados por los diferentes actores y las interdependencias entre ellos. Por ejemplo, un ecosistema

basado en plataforma representa una configuración de diseño organizacional distinta a la de un ecosistema basado en productos, y esta distinción tiene implicaciones en la forma en que las empresas compiten y crean valor, como los casos de las ofertas de blackberry de Research in Motion y iphone de Apple. Además, la forma en que se producen los ecosistemas, ya sea a través de un proceso de desagregación de empresas integradas a empresas especializadas, o si a través de un proceso de agregación en el que los componentes nuevos o existentes producidos por diferentes actores están vinculados de nuevas maneras puede tener implicaciones importantes para las empresas y las arquitecturas subyacentes.

Las opciones de diseño de la organización con respecto a las actividades se refieren a cómo se organizan las diferentes actividades entre las empresas. Las actividades que las empresas realizan y qué actividades llevan a cabo otras empresas en el ecosistema representa lógicas que van más allá de las capacidades a nivel de las empresas y los costos de transacción dyadic para implicar complementariedades e interdependencias a nivel de ecosistema (Gawer y Henderson 2007; Kapoor y Lee 2013; Hannah y Eisenhardt 2017).

Por último, los actores del ecosistema también se enfrentan al problema de cómo diseñar sus organizaciones internas para gestionar las interdependencias con otros actores. La interdependencia comprador-proveedor se gestiona a través de funciones de compras y ventas bien definidas en el lado de la oferta y en el lado de la demanda, respectivamente. Sin embargo, la interdependencia de la empresa-complemento implica tanto la coordinación del lado de la oferta como de la demanda. Esto amplifica la complejidad del diseño de la organización en términos de la interfaz que gestiona la interdependencia interorganizacional entre la empresa y el complemento y la interdependencia intraorganización entre las actividades de la firma que interactúan con las del complemento (Kapoor 2014).

Para concluir, la investigación sobre los ecosistemas representa una corriente de investigación vibrante e importante para los estudiosos. Espero que este artículo haya presentado por qué una corriente de este tipo no sólo es relevante y novedosa, sino que también promete generar ideas teóricas que pueden crear un enorme valor tanto para los eruditos como para los practicantes.

TRANSLATED VERSION: FRENCH

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

VERSION TRADUITE: FRANÇAIS

Voici une traduction approximative des idées présentées ci-dessus. Cela a été fait pour donner une compréhension générale des idées présentées dans le document. Veuillez excuser toutes les erreurs grammaticales et ne pas tenir les auteurs originaux responsables de ces erreurs.

INTRODUCTION

L'utilisation du terme « écosystème » dans les milieux d'affaires a connu une croissance exponentielle au cours de la dernière décennie (fig. 1). Comme j'ai poursuivi un programme de recherche sur les écosystèmes d'affaires au cours de cette période d'intérêt croissant, j'ai été confronté à plusieurs questions importantes de la part de collègues, d'examinateurs, d'étudiants et de participants à des séminaires et des conférences. Certains d'entre eux semblent avoir été des enquêtes polies dans le but de comprendre la contribution de la recherche tandis que d'autres semblent avoir été des artefacts de dissonance découlant d'une étiquette ou un mot à la mode qui sent plus comme hype de gestion plutôt que d'un objet légitime de l'enquête académique. La plupart des questions auxquelles j'ai été confronté peuvent être saisies par ce qui suit :

1. Le terme « écosystème » est-il simplement une métaphore empruntée aux sciences naturelles pour identifier un phénomène, ou est-ce une base pour une nouvelle théorie ?

2. Quelle est la différence entre un écosystème et une chaîne de valeur ou une chaîne d'approvisionnement?
3. En quoi la recherche sur les écosystèmes diffère-t-elle de celle des alliances ou des réseaux?

Mon objectif principal pour cet article est d'introduire les lecteurs au flux de recherche naissant sur les écosystèmes, en expliquer la nouveauté et l'utilité de la contribution et, ce faisant, offrir des réponses à ces questions ci-dessus. À travers cet article, je fais également la lumière sur certains des défis qui accompagnent ce paradigme de recherche émergent et les diverses possibilités qui existent pour les chercheurs de participer et de construire ce paradigme.

CONCLUSION

Les écosystèmes représentent une forme organisationnelle de plus en plus répandue qui s'écarte de l'entreprise chandlerienne, l'objectif de longue date du domaine de la conception organisationnelle. Ce changement présente de nouvelles considérations pour la conception organisationnelle au niveau de l'écosystème, au niveau des acteurs, et au niveau des activités sous-jacentes qui composent les différentes offres.

La conception de l'écosystème en termes d'architecture technologique et en termes de flux d'entrée-sortie a un impact significatif sur la façon dont la valeur est créée dans un écosystème, les rôles joués par les différents acteurs, et les interdépendances entre eux. Par exemple, un écosystème basé sur une plate-forme représente une configuration de conception organisationnelle distincte qu'un écosystème basé sur des produits, et cette distinction a des implications pour la façon dont les entreprises sont en concurrence et créent de la valeur, comme les cas du blackberry de Research in Motion et de l'iphone d'Apple. En outre, comment les écosystèmes se produisent, que ce soit par le biais d'un processus de désagrégation des entreprises intégrées aux entreprises spécialisées, ou si par un processus d'agrégation dans lequel les composants nouveaux ou existants produits par différents acteurs sont liés de nouvelles façons peuvent avoir des implications importantes pour les entreprises et les architectures sous-jacentes.

Les choix de conception de l'organisation en ce qui concerne les activités se rapportent à la façon dont les différentes activités sont organisées entre les entreprises. Les activités que les entreprises entreprennent et quelles activités sont menées par d'autres entreprises de l'écosystème représentent des logiques qui vont au-delà des capacités au niveau de l'entreprise et des coûts de transaction dyadiques pour impliquer des complémentarités et des interdépendances au niveau des écosystèmes (Gauer et Henderson, 2007; Kapoor et Lee 2013; Hannah et Eisenhardt 2017).

Enfin, les acteurs de l'écosystème sont également confrontés au problème de la conception de leurs organisations internes afin de gérer les interdépendances avec les autres acteurs. L'interdépendance acheteur-fournisseur est gérée par des fonctions d'approvisionnement et de vente bien définies, respectivement du côté de l'offre et de la demande. Toutefois, l'interdépendance entre les entreprises et les compléments implique à la fois une coordination de l'offre et de la demande. Cela amplifie la complexité de conception de l'organisation en termes d'interface qui gère l'interdépendance interorganisationnelle entre l'entreprise et le complément et l'interdépendance intra-organisationnelle entre les activités de l'entreprise qui interagissent avec le complément (Kapoor 2014).

En conclusion, la recherche sur les écosystèmes représente un volet de recherche dynamique et important pour les chercheurs. J'espère que cet article a présenté pourquoi un tel flux n'est pas seulement pertinent et nouveau, mais qu'il promet également de générer des idées théoriques qui peuvent créer une valeur énorme pour les chercheurs et les praticiens.

TRANSLATED VERSION: GERMAN

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

ÜBERSETZTE VERSION: DEUTSCH

Hier ist eine ungefähre Übersetzung der oben vorgestellten Ideen. Dies wurde getan, um ein allgemeines Verständnis der in dem Dokument vorgestellten Ideen zu vermitteln. Bitte entschuldigen Sie alle grammatikalischen Fehler und machen Sie die ursprünglichen Autoren nicht für diese Fehler verantwortlich.

EINLEITUNG

Die Verwendung des Begriffs "Ökosystem" innerhalb der Geschäftswelt hat in den letzten zehn Jahren exponentiell zugenommen (Abb. 1). Da ich in dieser Zeit von wachsendem Interesse eine Forschungsagenda zu Unternehmensökosystemen verfolgt habe, habe ich mich einigen wichtigen Fragen von Kollegen, Gutachtern, Studenten und Teilnehmern von Seminaren und Konferenzen gestellt. Einige von ihnen scheinen höfliche Anfragen mit dem Ziel gewesen zu sein, den Beitrag der Forschung zu verstehen, während andere Artefakte der Dissonanz zu sein scheinen, die von einem Etikett oder einem Schlagwort stammen, das eher nach Manager-Hype als nach einem legitimen Objekt akademischer Untersuchung riecht. Die meisten Fragen, denen ich mich gestellt habe, können durch folgendes erfasst werden:

1. Ist der Begriff "Ökosystem" einfach eine Metapher, die aus den Naturwissenschaften entlehnt ist, um ein Phänomen zu identifizieren, oder ist er eine Grundlage für eine neue Theorie?
2. Was ist der Unterschied zwischen einem Ökosystem und einer Wertschöpfungskette oder einer Lieferkette?
3. Inwiefern unterscheidet sich die Forschung an Ökosystemen von denen in Allianzen oder Netzwerken?

Mein vorrangiges Ziel für diesen Artikel ist es, die Leser in den entstehenden Forschungsstrom über Ökosysteme einzuführen, die Neuheit und den Nutzen des Beitrags zu erklären und damit Antworten auf diese Fragen zu geben. Durch diesen Artikel beleuchtete ich auch einige der Herausforderungen, die dieses aufkommende Forschungsparadigma begleiten, und die verschiedenen Möglichkeiten, die es für Wissenschaftler gibt, an diesem Paradigma teilzunehmen und esaufzubauen.

SCHLUSSFOLGERUNG

Ökosysteme stellen eine immer häufiger emittierte Organisationsform dar, die eine Abkehr von der Chandlerian-Firma darstellt, dem langjährigen Fokus des Bereichs Organisationsdesign. Diese Verschiebung wirft neue Überlegungen für die Organisationsgestaltung auf der Ebene des Ökosystems, auf der Ebene der Akteure und auf der Ebene der zugrunde liegenden Aktivitäten auf, aus denen die verschiedenen Angebote besteht.

Die Gestaltung des Ökosystems in Bezug auf die technologische Architektur und die Input-Output-Ströme haben einen signifikanten Einfluss darauf, wie Wert in einem Ökosystem geschaffen wird, welche Rolle die verschiedenen Akteure spielen und welche Interdependenzen zwischen ihnen besteht. Beispielsweise stellt ein plattformbasiertes Ökosystem eine eindeutige Organisationsdesignkonfiguration als ein produktbasiertes Ökosystem dar, und diese Unterscheidung hat Auswirkungen darauf, wie Unternehmen miteinander konkurrieren und Werte schaffen, wie die Fälle von Research in Motions blackberry- und Apples iphone-Angeboten. Darüber hinaus kann die Art und Weise, wie Ökosysteme entstehen, sei es durch einen Prozess der Aufgliederung von integrierten Unternehmen zu spezialisierten Unternehmen oder durch einen Aggregationsprozess, bei dem neue oder bestehende Komponenten, die von

verschiedenen Akteuren hergestellt werden, auf neue Weise miteinander verknüpft werden, wichtige Auswirkungen auf die Unternehmen und die zugrunde liegenden Architekturen haben.

Die Organisationsentwurfsentscheidungen in Bezug auf Aktivitäten beziehen sich darauf, wie die verschiedenen Aktivitäten unternehmensübergreifend organisiert sind. Welche Tätigkeiten Unternehmen selbst durchführen und welche Aktivitäten von anderen Unternehmen im Ökosystem durchgeführt werden, stellt Logiken dar, die über die Fähigkeiten auf Unternehmensebene und dyadische Transaktionskosten hinausgehen und Komplementaritäten und Interdependenzen auf Ökosystemebene mit sich bringen (Gawer und Henderson 2007; Kapoor und Lee 2013; Hannah und Eisenhardt 2017).

Schließlich stehen die Akteure des Ökosystems auch vor dem Problem, wie sie ihre internen Organisationen so gestalten können, dass sie die Interdependenzen mit anderen Akteuren bewältigen können. Die Käufer-Lieferanten-Interdependenz wird durch klar definierte Beschaffungs- und Vertriebsfunktionen auf der Angebots- bzw. Nachfrageseite gesteuert. Die Unternehmenskomplementor-Interdependenz erfordert jedoch sowohl eine angebots- als auch nachfrageseitige Koordinierung. Dies verstärkt die Komplexität des Organisationsentwurfs in Bezug auf die Schnittstelle, die die interorganisatorische Interdependenz zwischen dem Unternehmen und dem Komplementor steuert, und die intraorganisatorische Interdependenz zwischen den Aktivitäten des Unternehmens, die mit den Komplementoren interagieren (Kapoor 2014).

Abschließend möchte ich sagen, dass die Forschung an Ökosystemen einen lebendigen und wichtigen Forschungsstrom für Wissenschaftler darstellt. Ich hoffe, dass dieser Artikel gezeigt hat, warum ein solcher Strom nicht nur relevant und neu ist, sondern dass er auch verspricht, theoretische Erkenntnisse zu generieren, die sowohl für Gelehrte als auch für Praktiker einen enormen Wert schaffen können.

TRANSLATED VERSION: PORTUGUESE

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

VERSÃO TRADUZIDA: PORTUGUÊS

Aqui está uma tradução aproximada das ideias acima apresentadas. Isto foi feito para dar uma compreensão geral das ideias apresentadas no documento. Por favor, desculpe todos os erros gramaticais e não responsacule os autores originais responsáveis por estes erros.

INTRODUÇÃO

A utilização do termo "ecossistema" em contextos empresariais tem crescido exponencialmente ao longo da última década (Fig. 1). Ao prosseguir uma agenda de investigação sobre os ecossistemas empresariais durante este período de crescente interesse, deparo-me com várias questões importantes de colegas, revisores, estudantes e participantes em seminários e conferências. Alguns deles parecem ter sido inquéritos educados com o objetivo de entender o contributo da investigação, enquanto outros parecem ter sido artefactos de dissonância decorrentes de um rótulo ou de um chavão que cheira mais a hipérbole de gestão do que a um objeto legítimo de investigação académica. A maioria das perguntas que enfrentei podem ser captadas pelo seguinte:

1. O termo "ecossistema" é simplesmente uma metáfora emprestada das ciências naturais para identificar um fenómeno, ou é uma base para uma nova teoria?
2. Qual é a diferença entre um ecossistema e uma cadeia de valor ou uma cadeia de abastecimento?
3. Como é que a investigação sobre os ecossistemas é diferente da das alianças ou das redes?

O meu principal objetivo para este artigo é introduzir os leitores no fluxo de investigação nascente sobre os ecossistemas, explicando a novidade e a utilidade do contributo e, ao fazê-lo, dar respostas a estas questões acima. Através deste artigo, também esclareça alguns dos desafios que acompanham este

paradigma emergente da investigação e as várias oportunidades que existem para os estudiosos participarem e construirem este paradigma.

CONCLUSÃO

Os ecossistemas representam uma forma organizacional cada vez mais predominante que é um afastamento da empresa chandleriana, o foco de longa data do campo de design da organização. Esta mudança apresenta novas considerações para o design organizacional ao nível do ecossistema, ao nível dos atores, e ao nível das atividades subjacentes que compõem as diferentes ofertas.

O desenho do ecossistema em termos da arquitetura tecnológica e em termos dos fluxos de entrada-produção têm um impacto significativo na forma como o valor é criado num ecossistema, nos papéis desempenhados pelos diferentes intervenientes e nas interdependências entre eles. Por exemplo, um ecossistema baseado em plataformas representa uma configuração de design organizacional distinta do que um ecossistema baseado em produtos, e esta distinção tem implicações na forma como as empresas competem e criam valor como os casos de pesquisa em ofertas de blackberry da Motion e iphone da Apple. Além disso, a forma como os ecossistemas surgem, seja através de um processo de desagregação de empresas integradas a empresas especializadas, quer através de um processo de agregação em que componentes novos ou existentes produzidos por diferentes intervenientes estejam ligados de novas formas podem ter implicações importantes para as empresas e as arquiteturas subjacentes.

A organização projeta escolhas no que diz respeito a atividades relacionadas com a forma como as diferentes atividades são organizadas entre empresas. Que atividades as empresas se desenvolvem e que atividades são exercidas por outras empresas no ecossistema representam lógicas que vão além das capacidades de nível firme e dos custos de transação diádicos para implicar complementaridades e interdependências ao nível dos ecossistemas (Gawer e Henderson 2007; Kapoor e Lee 2013; Hannah e Eisenhardt 2017).

Finalmente, os atores do ecossistema também enfrentam o problema de como conceber as suas organizações internas de modo a gerir as interdependências com outros intervenientes. A interdependência entre compradores e fornecedores é gerida através de funções de aquisição e venda bem definidas do lado da oferta e do lado da procura, respectivamente. No entanto, a interdependência do complementor de empresas implica a coordenação do lado da oferta e da procura. Isto amplifica a complexidade do design da organização em termos da interface que gere a interdependência interorganização entre a empresa e o complementor e a interdependência intra-organizacional entre as atividades da empresa que interagem com as do complementor (Kapoor 2014).

Para concluir, a investigação sobre os ecossistemas representa um fluxo de investigação vibrante e importante para os estudiosos. Espero que este artigo tenha apresentado por que razão tal fluxo não é apenas relevante e novo, mas também promete gerar insights teóricos que possam criar um enorme valor tanto para os académicos como para os praticantes.