



From Groups to Communities: A Resource Mobilization Theory Perspective on the Emergence of Communities

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Accepted: 2 January 2023 / Published online: 17 January 2023
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Abstract

Groups and communities have been key topics in the information systems (IS) research agenda. While communities are assumed to emerge at the intersection of overlapping groups and their practices, prior research has mainly focused on their dynamics and evolution. This has resulted to limited empirical support regarding the emergence of communities. We address that lacuna by tracing the emergence of communities through the prism of resource mobilization theory. In doing so, we make use of a unique longitudinal dataset and incorporate Topic Modelling, Bipartite Network Analysis, and Community Detection. We show that new communities are formed at the intersection of overlapping groups and practices. In addition, we contribute to the IS literature by demonstrating that their emergence occurs due to resource mobilization that gives rise to a shared mindset. We also reveal that multiple resources are incorporated into the practices of an emerging community. By combining large datasets and innovative computational approaches, we help IS theory and practice to move away from traditional "what" questions towards the more insightful "how" ones. We discuss the theoretical and practical implications of our work and delineate an agenda for future research on the topic.

Keywords Community emergence · Resource mobilization theory topic modelling · Latent Dirichlet allocation · Network analysis · Community detection · Bipartite network

1 Introduction

The extant information systems (IS) literature has investigated various types of communities, such as communities of consumption (e.g., Algharabat & Rana, 2021; Mirkovski et al., 2019; Wang et al., 2019), brand communities (e.g., Fetais et al., 2022; Kannan et al., 2000; Santos et al., 2022), experiential communities (e.g., Canevez et al., 2022;

Dennehy et al., 2020; Kamboj et al., 2018; Prakasam & Huxtable-Thomas, 2021) and consumer tribes (e.g., Gloor et al., 2020; Xu et al., 2019). This line of research has documented that: i) social interactions strengthen the bonds amongst community members, ii) identity-relevant symbolic meanings encourage community membership, and iii) practices, such as welcoming, badging, and signalling prolong the vitality of a community. Whilst the topic has always been fundamental for the broader IS research agenda, prior studies have primarily focused on inter-personal (e.g., Dong et al., 2021; Gutierrez et al., 2016; Shi et al., 2021) or resource dynamics (e.g., Dennehy et al., 2020; Wang et al., 2021), paying scant attention to the origins of communities; while concurrently, studies that focus on community emergence prioritize how communities *spark* into existence (e.g., Priharsari & Abedin, 2021; Weijo et al., 2014), but leave the fundamental research question on *where do new communities come from* broadly unanswered.

We address that lacuna by tracing the emergence of a community through the prism of resource mobilization theory (RMT) (e.g., Edwards & Gillham, 2013; Jenkins, 1983; McCarthy & Zald, 1977). Consumers draw upon resources

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to enact practices (Feldman, 2004; Feldman & Orlikowski, 2011) and prior studies suggest that new communities emerge at the nexus of overlapping practices (Wang et al., 2021). Such practices can lead to changes because individuals draw upon their existing knowledge to guide their behaviours. Sometimes, individuals draw upon knowledge and resources from one practice, thereby mobilizing it to another, resulting in new communities (Polese et al., 2021). While it is assumed that new communities come into being through the introduction of multiple resources into the practices of an existing one, this assumption has received limited empirical support to date (Sprong et al., 2021). Both academics and practitioners, therefore, are left with incomplete prescriptions on new community creation: specifically, i) should organizations focus on creating new communities or on developing unifying projects to bring together members of existing ones; and ii) should organizations promote single products or bundles of complementary ones.

To provide an answer to the aforementioned research question, we explore the emergence and evolution of communities through a longitudinal lens and focus on a community of consumption. Specifically, we explore the academic community around the topic of ‘consumer identity’ through a unique longitudinal dataset. In doing so, we use the academic outputs of consumer identity researchers (CIR) and incorporate novel computational approaches such as Topic Modelling (TM), Network Analysis (NA), and Community Detection (CD) on a corpus of academic outputs to trace resources across groups. Such an approach allowed us access to a wealth of data often missing in prior research on communities, while the novel context of our study contributes to better understandings, without negating the generalizability of insights for both research (Struijk et al., 2022) and practice (Davison, 2022).

Four key implications for the broader IS theory and practice (e.g., Davison, 2022; Struijk et al., 2022) stem from understanding the emergence of communities. Regarding the practical implications of our work, we demonstrate that practitioners who wish to create new communities should aim to unite existing groups. When it comes to our theoretical contributions, we portray that as resources are mobilized across groups, a similar mindset develops, and as individual mindsets become shared among groups, new communities emerge. We provide, therefore, sorely needed empirical evidence on the way new communities emerge at the nexus of overlapping practices. Third, we showcase that multiple resources are incorporated into the practices of an emergent community. In doing so, we help the extant IS theory as well as practice to take a small step away from the traditional “*what*” questions and go towards the more insightful “*how*” ones, while we contribute to the line of IS research on theorising using large datasets, and novel computational approaches (Kar & Dwivedi, 2020).

The rest of the paper is organized as follows: in the next section, we present the analytical framework of our study. This is followed by a description of our methodology, where we present our data collection and analysis. The penultimate section of the paper presents a discussion of our findings and details the implications of our study for the broader IS theory and practice. We conclude the paper by delineating an agenda for future research on the topic.

2 Theoretical Background

Tracing the origins of resources can help us discover the origins of emergent communities and inform IS theory as well as practice on how to best create new ones. To do so, we draw upon the foundations of RMT (e.g., Edwards & Gillham, 2013; Jenkins, 1983; McCarthy & Zald, 1977), which emphasizes the importance of resources (e.g., knowledge, money, or labour) in the development as well as success of groups, and portrays that groups tend to develop when their members mobilize sufficient resources. As the RMT stems from the field of sociology, it has mainly been used in studies on social movements (e.g., Eltantawy & Wiest, 2011) except for recent research which focuses on community-based resource mobilization of entrepreneurs (Murray et al., 2020). To further elucidate the emergence of communities, we extend its application to academic communities, and we introduce RMT to the extant IS research agenda.

The term *community* describes individuals exhibiting a shared mindset or ideology constituted through the enactment of similar practices and behavioural patterns (e.g., Angelopoulos & Merali, 2015, 2017; Wasko & Faraj, 2005). In line with this, we conceptualize a community as individuals interconnected through the mobilization of resources (e.g., knowledge). The extant IS literature contextualizes the term *community* by offering qualifiers (e.g., brand community, community of practice, research community, etc.). A brand community represents individuals connected through shared affinity for a specific brand (e.g., Fetais et al., 2022; Kannan et al., 2000; Santos et al., 2022). A community of practice describes individuals engaged in a joint enterprise (du Plessis, 2008; Ribeiro et al., 2010). Similarly, a research community refers to individuals engaged in specific scientific research and knowledge creation (e.g., Zhang et al., 2019). Despite conceptual differences, what binds communities is the enactment of repeated behavioural patterns that produce relatively similar mindsets (e.g., Angelopoulos & Merali, 2015, 2017). Mindsets represent mental rules of viewing the world that guide practice enactment (Feldman & Orlikowski, 2011). Recursively, practices guide mindset formation, while mindsets guide action enactment (Hawkins, 2015). Therefore, mindsets and actions are mutually constituting and concurrently created (Feldman, 2004).

Understanding how individual mindsets transition into shared ones has received considerable research attention within and around the extant IS literature (e.g., Angelopoulos & Merali, 2015, 2017; Heirman et al., 2015; McAlexander et al., 2002; Thompson & Coskuner-Balli, 2007). For instance, Thompson and Coskuner-Balli (2007) show that the ideology of a community gradually becomes accepted and promoted when members regularly enact shared practices and interact with others. McAlexander et al. (2002) in their work on a community of Jeep owners, show that practice enactment and social interaction develop a connection among the community members and deepen their connection with their Jeep. Therefore, both material and non-material interactions are just as important as human ones in community formation (e.g., Angelopoulos & Merali, 2017). Even in communities that predominately provide social-linking value, material artifacts still need to be incorporated into community practices (e.g., Angelopoulos & Merali, 2017), while non-material ones can also spur community formation (e.g., Wasko & Faraj, 2005). Thus, both material and non-material resources can spark shared commitment and support the development of a shared mindset.

Moreover, individuals can be members of multiple and often overlapping groups, which can result in resource-mobilization (e.g., Angelopoulos & Merali, 2015, 2017) when material artifacts, skills, or knowledge migrate from one group to another. Such resource mobilization across groups can enable individuals to introduce novel resources or practices into their group potentially gaining an advantage by introducing innovations, accruing social capital by demonstrating taste, and prolonging the existence of the group by expanding its boundaries. We set, therefore, to explore the origins of a new community through the prism of RMT.

3 Methodology

3.1 Context

Our focal community represents an ideal context to study community emergence (Chandran & Alammari, 2021; Xu et al., 2019). Specifically, academics share traditions, such as going to conferences, and suffer through similar rituals, such as publishing, and evaluations. Their professional training develops a sense of consciousness that is different from other professions, as they have a responsibility to protect scientific research, and integrity, along with their self-selected fields of study. Moreover, members of the community are subject to normative pressures typical of a community, such as consuming publications from socially approved journals, and promoting dominant paradigms (Kuhn, 1962/1970), along with dressing styles and modes of speech (Jawitz, 2009). Communities provide their members with a sense of

belonging, and a focus for coalescing a collective identity (e.g., Angelopoulos & Merali, 2017; Wasko & Faraj, 2005); academic communities also provide a sense of belonging.

We use academic outputs as our data source to investigate community emergence and evolution. Published academic outputs represent simultaneously both material as well as non-material artifacts of the research practice and can offer insights into such practice. Moreover, they collectively represent the mindset of the community and can be simultaneously analysed both as a single resource, as well as a representation of a shared mindset. Furthermore, publishing academic articles provides a coordinating mechanism, uniting community members and overlapping social systems together under an accepted set of rules for action (Jarzabkowski et al., 2012). Concurrently, studying such academic outputs facilitates resource tracing, as online articles are dematerialized thereby expediting analysis and storage. What is more, academic outputs are socially judged (peer-reviewed, discussed, and cited), ensuring that they represent legitimate practice outputs that demonstrate sufficient competency, making them meaningful community artifacts. There are multiple overlapping groups, practices, and structures related to how and what to research that can present pathways for resource mobilization among existing groups. Accordingly, academic publishing is a unifying project enacted at the intersection of multiple structures, where resource dynamism is most present.

3.2 Data

We extracted all academic outputs related to “consumer” and “identity” from five databases (ABI Inform, EBSCO Business Premier, Psychinfo, Sociological Abstracts, and Web of Science). A total of 13,769 academic outputs were initially obtained, but after removing duplicates, non-English articles, letters to the editor, book reviews, and articles not specifically focused on consumer identity (e.g., consumer identity theft), the total number of academic outputs in our dataset was down to 3,328. Then, we used the Scimago Journal List to categorize the journals by field. When two or more fields were listed for a journal, we selected the one with the highest quartile ranking for the longest period. To maintain an adequate sample size without losing granularity, we divided the dataset into five periods of five years each: i) 1979–1995, ii) 1996–2000, iii) 2001–2005, iv) 2006–2010, and v) 2011–2015. We adopted a clock-time logic to maintain an adequate sample size. As a robustness check, however, we also conducted TM for the entire corpus (1979–2015) by year without accounting for the fields, and the results for these were consistent with those presented in the following sections of the paper.

The first paper explicitly focused on consumer identity was published in 1979, while 1995 served as a turning point

in CIR. For instance, Firat and Venkatesh (1995) won the best paper award in 1998, for their theoretical work on identity construction in the postmodern era. Furthermore, the work of Schouten and McAlexander (1995) on subcultures of consumption is highly influential for CIR (Wang et al., 2019). Thus, 1979 represents the beginning of our dataset of academic outputs with 1995 being an informal turning point in CIR. In Table 1 we showcase the number of academic outputs for each of the five periods and each field.

3.3 Methods

We followed standard procedures of recovering and cleaning data and ran TM to visualize the results (Muñoz-Leiva et al., 2021). To facilitate text mining, the corpus of academic outputs was pre-processed by removing numeric characters, punctuation symbols, and general stopwords (e.g., “and”, “so”), to facilitate interpretation (Humphreys & Wang, 2018). In this stage, we also created and used our own context-specific stopwords dictionary (in Appendix), to ensure that relevant polymorphous words/concepts were not inadvertently removed. When necessary, words in plural were changed into singular, and concepts with similar meanings were also changed (i.e., communities to community, brands to brand; but we kept branding).

We used TM to identify latent topics in each of the five periods, along with the probabilities of their occurrence. In essence, TM uses an unsupervised machine learning approach for text analysis to unearth the conceptual resources that are commonly used together by detecting novelty and emergence, developing inductive classification systems, and understanding cultural dynamics (Hannigan et al., 2019). We used Latent Dirichlet allocation (LDA) (Blei et al., 2003) with Collapsed Gibbs Sampling

for parameter estimation (Porteous et al., 2008), which identifies latent topics and determines their probability of occurrence via a Bayesian probabilistic technique. LDA is widely used in the broader social sciences (Piris & Gay, 2021), including human resources (e.g., Canhilal et al., 2017), marketing (e.g., Arvidsson & Caliandro, 2016), and IS (e.g., Georgiadou et al., 2020).

The media industry, for instance, uses TM for recommending articles to users. Recruitment specialists use such approaches to identify candidates by examining the latent topics in CVs and job specifications. In a nutshell, LDA considers documents as a “bag of words” to identify topics in which certain words occur more frequently and measures the probability of a certain topic showing up in a certain document. Accordingly, we identify dominant mindsets by building on the linguistic connection between cognitive framework and field of study (Thornton et al., 2012). We conceptualized words as resources, and topics as dominant mindsets and we looked at the probability of a mindset appearing in each one of the five periods within and across academic fields of study, which we conceptualise as groups, and we use the terms interchangeably henceforth. The relative probability of a mindset reveals how prominent it was during each one of the five periods and groups. To assist in resource tracing, we further explore mindset sharing across groups using NA (Asratian et al., 1998; Newman, 2001). We constructed a weighted correlation bipartite network (Horvath, 2011), by using the mindsets and groups (fields of study) as the nodes of the network (Newman, 2001) and the probability from TM as the weight of their network ties. Furthermore, we used CD (e.g., Gupta & Deodhar, 2021) with a random walks approach (Pons & Latapy, 2006) on each one of the five periods, to identify which groups were drawing upon the same mindsets across periods and,

Table 1 Number of academic outputs analysed by year and field

Field	Years					Total
	79–95	96–00	01–05	06–10	11–15	
Arts & Humanities	12	24	106	114	182	438
Business, Management & Accounting	33	14	14	217	350	628
Computer Science	1	4	4	20	29	58
Decision Science	0	0	1	11	4	16
Economics, Econometrics & Finance	9	8	18	41	82	158
Engineering	0	1	2	4	11	18
Environmental Sciences	4	6	12	14	15	51
Health Professions	6	2	25	51	50	134
Marketing	25	44	78	235	154	536
Medicine	5	7	10	20	36	78
Psychology	25	16	72	43	160	316
Social Sciences	67	91	156	206	158	678
Sociology	18	27	45	55	74	219
Total	205	244	543	1031	1305	3328

ultimately, incorporating the same conceptual mindset into their practices (Fig. 1a–e).

3.4 Analysis

First, we performed LDA on the entire corpus of the academic outputs. This provided an overview of the resources commonly used together within the community. Then, we calculated the probability of each mindset (topic) appearing within each one of the five periods and across all groups (see Table 2). Since a mindset is a collection of resources (concepts/words) commonly used together, they give insights into the general perspective and shared consciousness of a group (Thornton et al., 2012). Therefore, we can obtain a sense of the perspectives held in each group over time. Our analysis suggests that there are seven dominant mindsets running throughout the corpus of the academic outputs. In Table 2 we present the thresholds used to determine the number of mindsets present in the corpus of the academic outputs. Our analysis shows that the “social-culture” and “social-community” mindsets are the dominant ones across the community with some specializations depending upon the field. Specifically, the “social-culture” resources were used together in 25% of the articles followed by “social-community” at 20%. The “social” resource appears to be a key resource due to its presence in four of the seven mindsets, being present in 74.3% of the academic outputs.

After performing LDA on the entire corpus to identify the shared resources, we used the probability of each mindset within each one of the five periods and across all groups to visually show the results. In Fig. 2, orange represents the fields and green represents the mindsets, while the size of the nodes represents their degree of centrality (Freeman, 1978), and the width of ties represents their weight. This analysis gives a high-level perspective of the community. Next, to determine the origins of key resources, such as “social”, “community”, and “culture” we analysed each one of the five periods individually. This enabled us to trace

resources across time and within each field. The next sections reveal the main resources utilized through time and within fields (see Table 3 and Fig. 3 for topic estimation calculations), by applying LDA to discrete periods and not the entire corpus as in the prior analysis. Accordingly, this longitudinal analysis highlights the key resources used together within each academic output as well as calculates the probability for each mindset to be present within each field.

4 Findings

4.1 Distinct Existing Groups

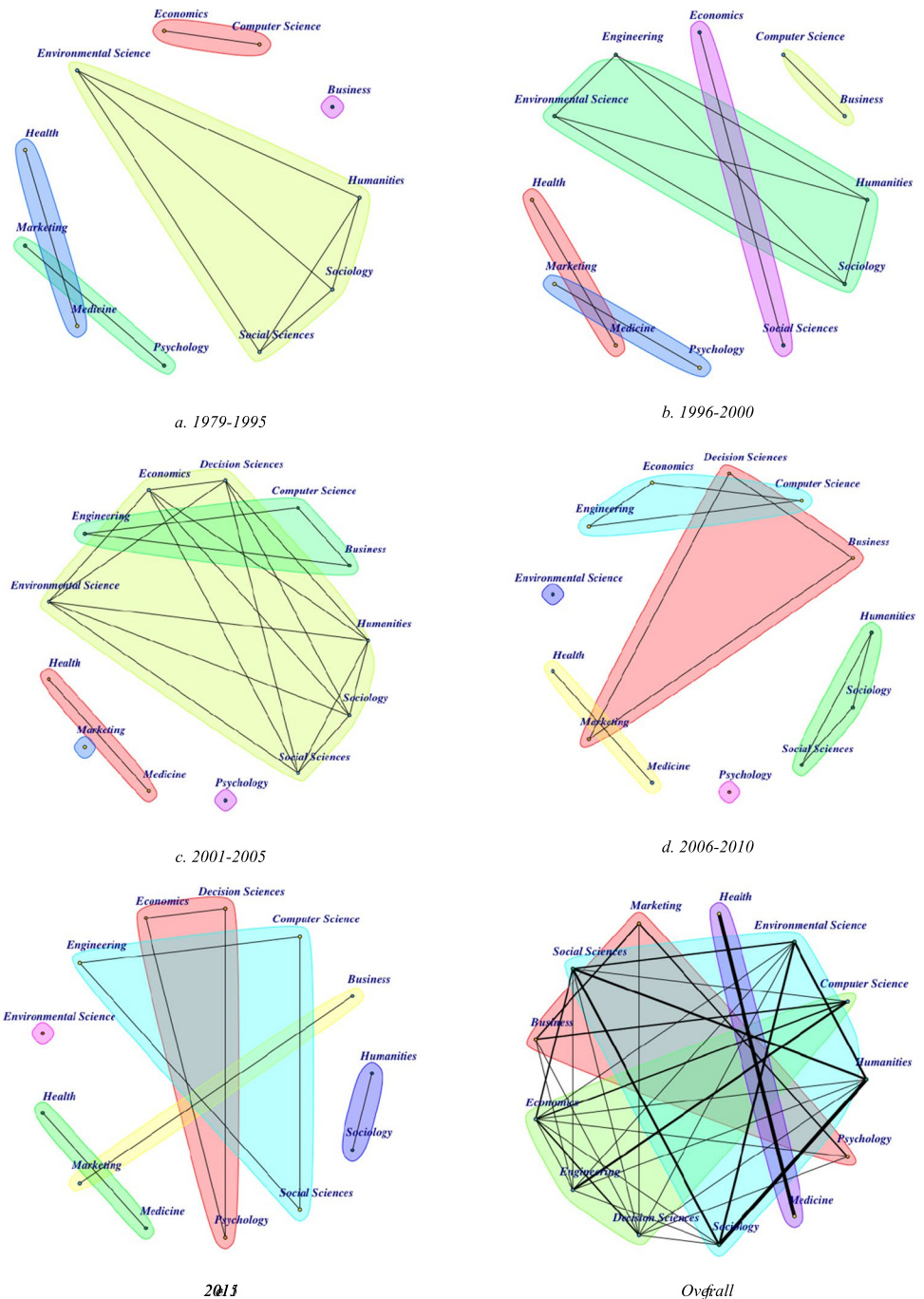
The first stage of community emergence represents a state before the actual emergence, as identified within the first period (see Table 3). During the first period, no mindset was present in most of the academic outputs in our dataset. The probability of each mindset appearing in an academic output averaged between 13 and 20%. In essence, this translates to the community not exhibiting a similar mindset as its members did not use the same conceptual resources. No mindset accounts for more than 20% of the academic outputs, and each group appears to focus on field-related topics. In Fig. 1a, we visually depict this state, which showcases only a few connections among fields. However, the first period sheds light on the origins of the community. As indicated by the analysis of the entire corpus of academic outputs, “social” and “culture” are key resources of the community. Table 3 shows that the “social-culture” mindset primarily sprung from the social science and sociology groups. This is because the “social” and “culture” resources are incorporated into two mindsets, each with a high probability of being in an academic output from those groups. Accordingly, the first period represents a state in time before the community started using shared resources.

Table 2 Mindsets for the entire corpus

Mindset	Resources composing mindset*					Mindset probability
Social-Culture	Culture	Ethnic	Gender	Social	Women	0.26
Social-Community	Community	Group	Management	Service	Social	0.20
Psychological Self	Intention	Product	Psychology	Self	Social	0.16
Health Care	Care	Health	Mental	Recovery	Service	0.13
Marketing and Branding	Brand	Marketing	Organization	Product	Social	0.12
Organizational Politics	Class	Corporate	Ethics	Organization	Politics	0.07
Place and Leisure	Home	Leisure	Place	Tourism	Urban	0.06

* In alphabetical order

Fig. 1 Resource sharing across fields and over time. **a** 1979–1995, **b** 1996–2000, **c** 2001–2005, **d** 2006–2010, **e** 2011–2015, **f** Overall

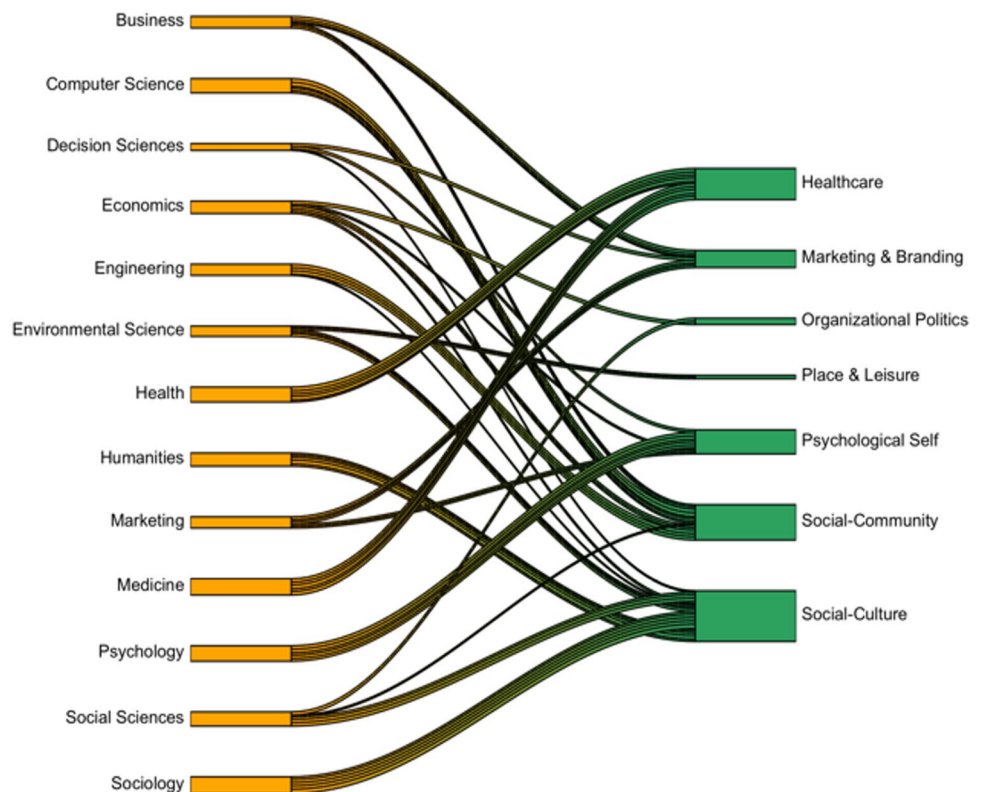


4.2 Drawing on Similar Resources

The second stage of community emergence occurs when differing, existing groups begin to incorporate similar resources into their practices. Here, evidence of resource mobilization arises, where resources once used within an existing group migrate to others. However, the group does not exhibit a dominant or shared mindset; rather, individuals *import* new concepts into their current group. For example, one mindset was incorporated into academic

outputs 26% of the time (Table 3). This resource configuration represents the dominant mindset for the economic, econometric, and finance fields, as well as the social sciences. The other fields produce publications drawing on other resources. Furthermore, the other mindsets averaged just under 20%, with the “social” resource being present in three of them and the “women” and “ethnic” present in two. This indicates that the “social”, “ethnic”, and “women” resources were popular in this period but a shared mindset on how to approach consumer identity

Fig. 2 Visualization of mindsets for the entire corpus



did not exist, marking the sharing of similar resources (Fig. 1b), but before they become shared mindsets. Accordingly, insights into the origins of the community are most evident in this and the preceding period. The “social” resource is present in three of five mindsets indicating that the groups primarily discuss identity in terms of social relations, and that identity is socially constructed. However, the dispersion of the “social” resource indicates that its origin lies in the first period—in the sociology and social sciences groups. The “community” resource also arises in this period, primarily within sociology and health. The “culture” resource is dominant within arts and humanities (68.6% of the academic outputs), but this mindset also includes “social”. Accordingly, the second period is characterized by fragmentation, as groups rely upon similar resources, but do not share them and it indicates the initiation of building the community to lay the foundations of the “bonds with individuals possessing domain-relevant knowledge” (Murray et al., 2020; p. 964).

4.3 Resource Sharing Across Groups

The third stage is resource sharing across groups, where existing groups heavily draw upon the same resources, as identified within the third period. Figure 1c visually depicts an increase in resource mobilization, as multiple existing groups become linked together. The “culture”, “ethnic”,

“social”, and “women” resources are all in one mindset that is also present in over 28% of the academic outputs (see Table 3). This mindset also has a modest presence across all groups. The “social” resource is still present in three mindsets, indicating its continued importance. Accordingly, a similar mindset has emerged, as the same collection of resources is now incorporated into a large percentage of academic outputs. Specifically, a “social-culture” mindset has a 28.4% probability of being resourced into a consumer identity article during this period. Furthermore, this is the primary mindset in five of the thirteen groups. Thus, groups approach their research with a “social-culture” perspective in this period, which hints that consolidation is occurring. The third period also provides evidence of more concentration and stabilization as the top two mindsets include “social” and either “community” or “culture”. In sum, mindset alignment occurred during the first decade of the new millennium when the community stabilized, forming a shared “social-culture-community” perspective.

4.4 Shared Mindset

The fourth stage is the formation of a shared mindset, where individuals share a similar perspective via sharing resources. In essence, individuals are engaging in the same actions and have developed a similar mindset. Thus,

Table 3 Probability of mindsets across years within adjacent fields

Mindsets	Probability of Mindset	Arts & Humanities	Business	Computer Science	Decision Sciences	Economics, Econometrics & Finance	Engineering	Environmental Science	Health Professions	Marketing	Medicine	Psychology	Social Sciences	Sociology
1979–1995	1 0.18	0.10	0.25	0.16	/	0.07	/	0.23	0.19	0.32	0.07	0.064	0.30	0.27
	2 0.18	0.06	0.09	0.08	/	0.07	/	0.09	0.59*	0.06	0.72*	0.062	0.09	0.08
	3 0.18	0.06	0.08	0.15	/	0.07	/	0.07	0.06	0.49*	0.08	0.764*	0.08	-
	4 0.17	0.06	0.5*	0.36*	/	0.59*	/	0.09	-	0.06	-	-	0.07	-
	5 0.15	0.66*	0.06	0.18	/	0.09	/	0.38*	0.10	-	-	-	0.06	-
	6 0.14	0.06	-	0.07	/	0.11	/	0.14	-	-	0.06	-	0.39*	0.56*
1996–2000	7 0.26	0.07	0.17	0.24	/	0.90*	0.17	0.36*	0.05	0.06	0.06	0.04	0.89*	0.10
	8 0.20	0.09	0.05	0.24	/	-	0.28*	0.22	0.66*	0.09	0.08	0.06	-	0.57*
	9 0.19	0.08	0.11	0.10	/	-	0.17	0.18	0.12	0.07	0.64*	0.70*	-	0.06
	10 0.18	0.08	0.43*	0.27*	/	-	0.18	0.11	0.07	0.68*	0.11	0.10	-	0.08
	11 0.17	0.69*	0.26	0.15	/	-	0.20	0.14	0.09	0.10	0.11	0.10	-	0.18
2001–2005	12 0.28	0.42*	0.16	0.27	0.29*	0.35*	0.19	0.24	0.23	0.24	0.17	0.20	0.40*	0.55*
	13 0.19	0.07	0.07	0.07	0.15	-	0.10	0.57*	0.54*	-	0.51*	0.10	0.077	0.12
	14 0.18	0.06	0.64*	0.11	0.12	0.08	0.17	-	0.06	0.60*	0.14	0.12	0.110	0.07
	15 0.14	-	-	0.07	0.18	0.18	0.17	0.08	0.11	0.10	0.13	0.55*	0.075	0.13
	16 0.13	0.37	-	0.44*	0.12	0.33	0.18	-	-	-	-	-	-	0.09
	17 0.08	-	0.05	-	0.14	-	0.20*	-	-	-	-	-	0.29	-
2006–2010	18 0.29	0.38	0.21	0.18	0.13	0.22	0.06	0.60*	0.30	0.35	0.12	0.20	0.40*	0.66*
	19 0.27	0.13	0.25	0.67*	0.20	0.57*	0.59*	0.20	0.10	0.19	0.13	0.25	0.13	0.15
	20 0.16	0.06	0.51*	-	0.50*	0.13	0.15	-	-	0.42*	0.05	0.07	0.08	0.05
	21 0.16	-	-	0.06	-	-	-	-	0.54*	-	0.66*	0.46*	-	0.07
	22 0.06	0.39*	-	-	0.06	-	0.10	-	-	-	-	-	-	-
	23 0.05	-	-	-	0.05	-	-	0.07	-	-	-	-	0.33	-
2011–2015	24 0.29	0.17	0.38	0.12	0.20	0.39*	0.15	0.33	0.14	0.58*	0.23	0.60*	0.18	0.26
	25 0.28	0.19	0.17	0.74*	0.50*	0.21	0.45*	0.14	0.17	0.14	0.14	0.29	0.29	0.14
	26 0.12	-	-	-	-	-	-	0.07	0.62*	-	0.56*	0.05	-	0.06
	27 0.12	0.07	-	-	0.08	0.29	0.08	0.33*	-	-	-	-	0.12	0.45*
	28 0.12	0.11	0.40*	0.10	0.12	0.07	0.26	-	-	0.25	-	-	-	-
	29 0.09	0.43*	-	-	-	-	-	0.08	-	-	-	-	0.31*	0.08

Table 3 (continued)

Mindsets	Probability of Mindset	Arts & Humanities	Business	Computer Science	Decision Sciences	Economics, Econometrics & Finance	Engineering	Environmental Science	Health Professions	Marketing	Medicine	Psychology	Social Sciences	Sociology
Set 1:	Brand, Culture, Group, Market, Social			Set 11: Culture, Discourse, Organization, Social, Women					Set 21: Care, Group, Health, Mental, Service					
Set 2:	Attitudes, Health, Mental, People, Work			Set 12: Culture, Economic, Ethnic, Social, Women					Set 22: Class, Ethics, Organization, Women, Worker					
Set 3:	Gender, Product, Psychology, Role, Self			Set 13: Community, Health, Mental, Place, Social					Set 23: Advertising, Citizenship, Media, Television, South					
Set 4:	Management, Market, Marketing, Organization, Policy			Set 14: Brand, Gender, Group, Marketing, Product					Set 24: Brand, Culture, Food, Product, Social					
Set 5:	Business, Care, Production, Rural, Shopping			Set 15: Attitudes, Children, Individuals, Psychology, Social					Set 25: Community, Group, Online, Social, Use					
Set 6:	Culture, Language, Product, Social, Society			Set 16: Business, Economy, History, Labour, Organization					Set 26: Care, Health, Mental, Risk, Service					
Set 7:	Class, Goods, Politics, Product, Symbolic			Set 17: Black, Indian, Practices, Product, Rural					Set 27: Economic, Ethnic, Home, Market, Social					
Set 8:	Community, Ethnic, Food, Public, Social			Set 18: Culture, Gender, Politics, Social, Women					Set 28: Brand, Employee, Identification, Marketing, Organization					
Set 9:	American, Ethnic, Experience, People, Women			Set 19: Community, Environment, Management, Product, Social					Set 29: Culture, Organization, Politics, Social, Tourism					
Set 10:	Group, Marketing, Relationship, Psychology, Social			Set 20: Brand, Group, Identification, Marketing, Organization										

∖ Indicates no articles extracted for each of the periods;

- Indicates probability value ≤ 0.05 and suppressed for viewing clarity;

* Indicates highest probable mindset within a field;

Bold for mindsets with a probability value ≥ 0.20 ;

Bold and italics for mindsets with a probability value ≥ 0.30

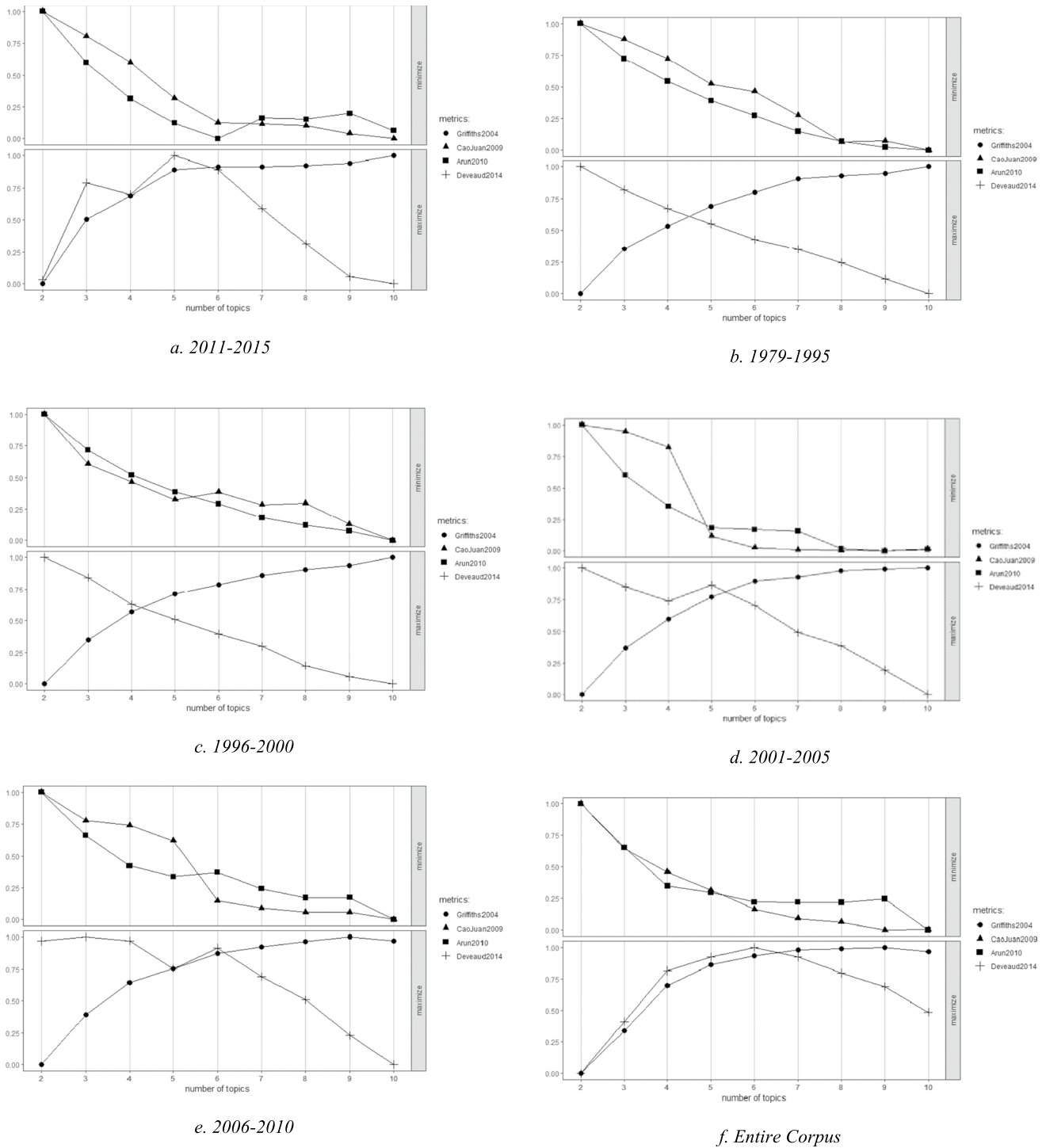


Fig. 3 Results of estimated number of Topics. **a** 2011–2015, **b** 1979–1995, **c** 1996–2000, **d** 2001–2005, **e** 2006–2010, **f** Entire Corpus. Note: We used LDA to determine the number of topics for each

one of the five periods, based on likelihood maximizing (Griffiths & Steyvers, 2004) and Kullback–Leibler divergence minimizing (Cao et al., 2009)

by using the same resources, individuals view “consumer identity” similarly, regardless of their field. The fourth period best represents this stage (Table 3). For example,

CIR drew on “social” over 50% of the time and took a “social-culture” or a “social-community” perspective 29.2% and 27.4% of the time, respectively. The “politics”

and “*product*” are again in a prominent mindset. The “*ethnic*” appears to have lost favour with the “*environment*” making its first appearance as a key resource. Thus, while some of the primary resources vary across each of the five periods, the “*social*”, “*culture*”, and “*community*” resources maintain prominence, indicating these are the key conceptual resources drawn upon by CIR. The “*social-culture-community*” was the main mindset through the fourth period, accounting for 56.6% of the publications. The “*social*” is only included in these two mindsets and has not been in only two since the earliest period. Notably, “*culture*” also appears with “*social*” in this period. Besides one field, the top two mindsets are resourced into over 20% of the academic outputs for each group. Collectively, these resources are incorporated into over 50% of the academic outputs in eight groups. The top two mindsets account for most of the academic outputs and are resourced into the practices of all groups with a high probability of suggesting the emergence of a shared mindset. This period also shows the engagement of the community to strengthen its identity (e.g., Murray et al., 2020).

4.5 Community Structurization

The presence of a shared mindset needs to stabilize or be maintained for the community to persist (Biraghi et al., 2018). We identify that the community remained independent during the fifth period, with the “*social culture*” and “*social community*” being the main mindsets (see Table 3). Again, each mindset has over a 25% chance of appearing in an academic output across all groups. The ability of the “*social-culture-community*” perspective to maintain prominence while incorporating new resources suggests that it is a foundational mindset for the community.

Moreover, the top two mindsets during this period account for a large percentage of the academic outputs across all groups. The “*social-culture*” mindset is resourced in 28.7% of articles, ranging from 11.9% to 60.1% across groups. The “*social-community*” mindset is similar, with 27.5% of the articles taking this approach, ranging from 13.5% to 73.8% across all groups. Besides the arts and Humanities and Health Professions groups, these two mindsets accounted for over 20% of the articles in each group and over 50% in four of the groups. Of the five groups that do not have either of these mindsets as their most popular, two (Arts and Humanities and Social Sciences) include “*social*” and “*culture*” in their primary mindset. This suggests that a “*social-culture*” mindset is the dominant epistemological perspective.

Further, the Business and Marketing fields published over 30% of their academic outputs drawing on “*social*”

and “*culture*” resources but also on “*identification*” and “*marketing*” resources. Sociology academic outputs also used “*social*” and “*culture*” resources but instead intertwined them with “*economics*” and “*ethnic*” ones. Looking across groups, it becomes apparent that each one draws on the “*social-culture-community*” mindset while focusing on field-specific issues. This finding supports the idea that communities form at the nexus of overlapping groups. Additional evidence comes from Fig. 1d and e, which show that resource mobilization has subsided compared to the third period. Thus, each group in this period draws from one of the top two mindsets while focusing on issues particular to its field indicating that the community has stabilized and persists through time.

4.6 Community Emergence

The complementary findings from the use of TM, NA, and CD in our study, unearthed insights that provide a clear view regarding community emergence. By using mindsets and academic fields as nodes, and the probability from the TM as the weight of their ties, we constructed a weighted correlation bipartite network. We then used a random walk CD approach on each period to identify which fields were drawing from the same mindset across time and, thus, incorporating the same epistemological perspective into their outputs (see Fig. 1a-e).

Our findings reveal that during the first period a community did not exist as there was no shared mindset since six different mindsets were drawn upon with similar probability. Additionally, most groups demonstrated strong field-related perspectives indicating no overarching community existed. For example, Arts and Humanities has one mindset drawn upon 65% of the time and then the next most probable mindset being drawn upon 10% of the time. During the second and third periods, similar mindsets are evident but are still not highly shared across the groups. The “*social*” is a key resource in numerous mindsets, and thus it is important but used with differing resources depending upon the group. Only after the end of the third period, CIR shared a “*social-cultural-community*” mindset across existing groups. Collectively, this mindset accounts for over 50% of the academic outputs during the fourth period. Moreover, the “*social*” was only present in the top two mindsets rather than many as in earlier periods. Accordingly, a new community has emerged, as CIR aligned their consumption practices and enacted similar behaviours based on a shared mindset. As we move past the end of the fourth period, each group draws upon either the “*social-culture*” or “*social-community*” perspective at a high frequency while returning to addressing field-related issues. During the fifth period, the “*social-culture-community*”

mindset has been internalized as over 50% of the academic outputs draw upon it while each field is re-focused on field issues. Tracing where the resources of a community came from suggests that the overlapping practices of social science and sociology researchers provided the key resources dominating the CIR mindset. While overlapping practices enabled resources to be mobilized across groups, a shared mindset did not emerge till the end of the second period, and only became apparent during the fourth period (Table 3). Thus, the community can be conceptualized as a sub-group that transitioned into an over-group. It now overlays a consumer identity “social-culture-community” mindset on top of the practices of adjacent groups whereas during its development the community was underneath more dominant groups, such as sociology, psychology, and the social sciences. Now, the community can focus on topics important to their respective academic field while still contributing to an overarching, more encompassing interdisciplinary scholarly discussion.

5 Discussion

5.1 Key Findings

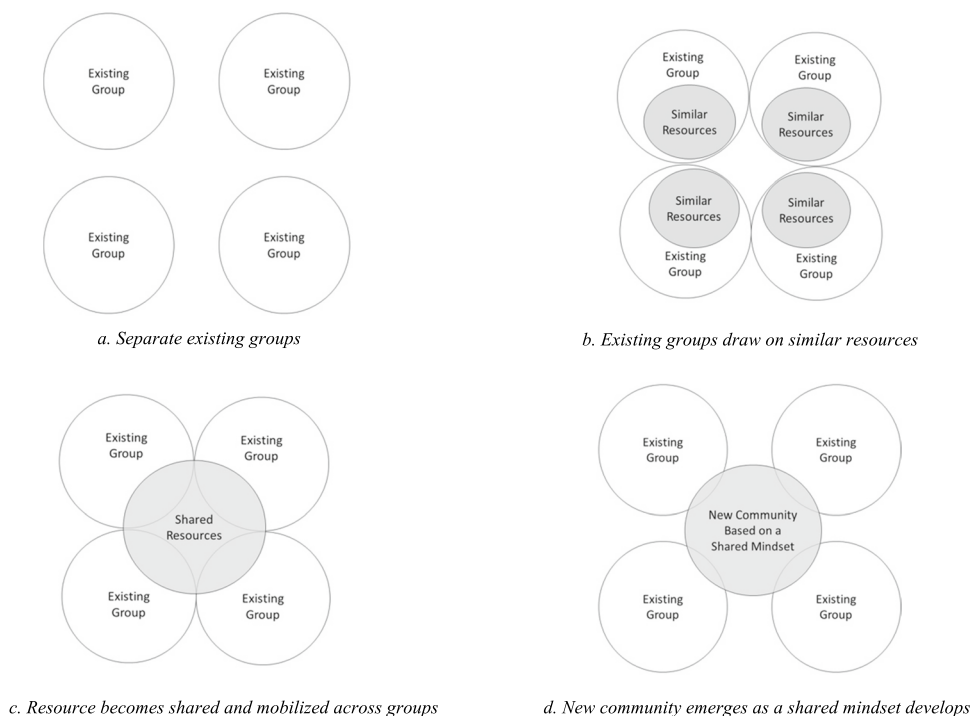
Communities emerge through the interactions of their members (Angelopoulos & Merali, 2015, 2017; McAlexander et al., 2002), which provide them with

opportunities for exchanging knowledge, resolving conflicts, and developing a shared mindset (Schouten & McAlexander, 1995). Such interactions allow the community members to learn by talking with and observing others enacting practices (Feldman, 2004; Feldman & Orlikowski, 2011). Such practices can stabilize over time as they are dispersed, replicated, and re-invented across time and space (Shove & Pantzar, 2005), and can provide opportunities for resource-mobilization into differing practices, as well as supporting new community emergence and stabilization.

While prior work recognizes the overlapping nature of group membership (e.g., Angelopoulos & Merali, 2015, 2017), our work indicates that a new community emerges at the intersection of practices from differing groups, where resource-mobilization occurs. This finding provides empirical support for the notion that communities arise at the nexus of overlapping practices and groups. The same is true for academic outputs; the publication process provides a unifying project for individuals across numerous existing groups to interact, enabling researchers to enact practices and use resources belonging to multiple groups, simultaneously. Therefore, the resources of a community are scattered across various groups and need a unifying project to trigger their use together. While overlapping practices enable resources to be mobilized, using similar resources is not enough to form a community; a community needs a shared mindset (Muniz & O’Guinn, 2001). The resource-mobilization during the

Fig. 4 Community emergence.

a Separate existing groups, **b** Existing groups draw on similar resources, **c** Resource becomes shared and mobilized across groups, **d** New community emerges as a shared mindset develops



third and fourth periods enabled the development of a shared mindset, where over 25% of the time problems were approached with the same perspective. Accordingly, the tipping point of community emergence occurs when at least one-quarter of actions in the community use the same resources. In our context, the unifying project—successfully publishing an academic output—has a 25% probability of using the same resources regardless of the other fields or groups the research may be a member of. This is evident in the fact that the “*social-culture-community*” mindset was maintained while researchers focused on topics germane to each group, indicating community stabilization (Polese et al., 2021). Thus, communities coalesce around shared resources, which when used together, give rise to new communities.

The community of our study overlays existing, more institutionalized groups; CIR are not underneath other groups rather they unite them. Communities are, then, best conceptualized as a stabilized nexus of overlapping practices rather than subcultures, or otherwise underneath another group. Figure 4a–d illustrates a theoretical account of community emergence as identified in the community of our study. First (Fig. 4a), existing groups are separate, enacting practices without resource sharing and similar perspectives. Second (Fig. 4b), practices within a group draw on similar resources but lack a shared meaning. Resource sharing draws existing groups together, but they still lack a unifying, shared mindset. Next (Fig. 4c), as multiple resource use stabilizes, a shared mindset begins to develop across existing groups. This is the stage where a shared mindset and identity with symbolic actions and narratives is conveyed to sustain the new community (Murray et al., 2020). Finally (Fig. 4d), a new community emerges when the shared mindset results in the enactment of relatively stable practices, identified through the consistent use of similar resources.

5.2 Theoretical Implications

Distilling the implications of these findings for the broader IS theory we can derive three key contributions that are related to understanding the emergence of communities. First, we demonstrate that multiple resources are incorporated into the practices of a new emergent community. Therefore, we showcase that resource mobilization is an accurate answer to the research question of how new communities emerge. Second, we showcase that as resources are mobilized across communities, their members develop a similar perspective, and as individual perspectives become shared new communities emerge. We, therefore, provide empirical evidence that new communities form at the nexus of overlapping practices.

In our attempt to elucidate the emergence of communities, we further extend RMT, and introduce it to the IS research agenda. RMT emphasizes the importance of resources in the development as well as the success of groups, and portrays that groups tend to develop through sufficient resource mobilization by their members. We further contribute to the theory by showing that resource mobilization can give rise to a shared mindset, while multiple resources need to be incorporated into the practices of an emergent community.

Our work has a clear focus on the extant IS research agenda (Struijk et al., 2022) and its theoretical implications can go beyond the focal topic of community emergence. In doing so, we ultimately help IS theory to take steps away from the traditional “*what*” questions and move towards the more insightful “*how*” ones, while we contribute to the line of IS research on theorising using large datasets and novel computational approaches (Kar & Dwivedi, 2020). Concurrently, we contribute to the ongoing discussions on community emergence and evolution within the broader IS literature, especially on those around communities of consumption (e.g., Wang et al., 2019), brand communities (e.g., Fetais, et al., 2022; Kannan et al., 2000; Santos et al., 2022), experiential communities (e.g., Canevez et al., 2022; Dennehy et al., 2020; Kamboj et al., 2018; Prakasam & Huxtable-Thomas, 2021) and consumer tribes (e.g., Gloor et al., 2020; Xu et al., 2019), as well as those around interpersonal (e.g., Dong et al., 2021) or resource dynamics (e.g., Wang et al., 2021) on communities. Finally, as the IS field is increasingly adopting such computational approaches (e.g., Georgiadou et al., 2020), and is opening up to new perspectives (e.g., Kar & Dwivedi, 2020), the approach we have incorporated in can further enhance the endeavours on theorizing through the use of large datasets, and, as we have demonstrated, become powerful tools for meta-analysis applications.

5.3 Practical Implications

Research on community emergence is also valuable for IS practitioners, as they are perpetually seeking to create new market opportunities and communities. Our study suggests that practitioners should strive to unite existing groups to assist in the emergence of new communities. Linking existing groups and combining adjacent logics can be part of organizational market development activities (e.g., Carlson et al., 2021; Wang et al., 2019). Practitioners can analyse existing markets to find potential links, some of which may be advocated by consumers themselves (e.g., Fetais, et al., 2022; Kannan et al., 2000; Santos et al., 2022). Thus, practitioners should explore opportunities for supporting activities that multiple

communities value, to promote unifying projects that will be able to pull members from diverse groups into a new community. While organizations can support communities (e.g., Carlson et al., 2021; Tseng, 2022), communities can also emerge without direct firm support (e.g., Wang et al., 2019). Our findings provide empirical support to these notions by empirically demonstrating that consumer-driven community emergence is supported by overlapping practices and resource mobilization from existing practices to new ones. If successful, new communities can emerge when individuals develop a shared mindset by using similar resources in a similar way, and practitioners should support consumers in such efforts.

Understanding that communities coalesce around multiple resources suggests that practitioners may want to promote complementary products or product bundles when trying to develop a new consumer community. A community—whether it be a brand community or consumer tribe—engages in numerous practices that unite individuals together over a common project or a mutual goal (e.g., Wu & Bernardi, 2020; Zheng et al., 2020). Communities rely on numerous resources and skills, some of which are provided by differing members. For example, Mini Cooper community members not only own Mini Coopers but also record the ‘life events’ of their cars in a specialized designed “baby book” produced by fellow community members along with purchasing numerous items to personalize their car (Schau et al., 2009). Similarly, MG community members engage in various practices to demonstrate the authenticity of their cars; some provide photos of their car restoration while others avoid driving their restored cars and instead buy trailers and hire mechanics to maintain them in a museum state (Leigh et al., 2006). Therefore, being a community member requires implementing numerous practices and using multiple resources; practitioners, thus, should consider supporting these ancillary practices. By tracing where the resources of a new community originate, we highlight the notion that multiple resources are needed to form a new community. Prior research implies that communities form around multiple resources, but empirical evidence for these notions has been lacking to date. Thus, practitioners should promote product bundles that draw products and resources from differing groups to further advance their community creation endeavours.

5.4 Limitations and Future Research

Although we followed a structured and thorough research design, there are limitations that we need to acknowledge. First, while existing research offers

guidance on how to build, grow, and manage communities, less is known about what are the specific mechanisms that facilitate resource mobilization to support community emergence. Therefore, we purposely designed our study to trace resource movement, but this came at the expense of understanding what happens at the individual level. Future research, thus, is needed at the ground level during the emergence phases. For example, prior research shows that social interaction and rituals increase community vitality (i.e., Schau et al., 2009), however the questions around whether and how such practices advance resource mobilization remain unanswered. One more limitation of our study stems from our focus on a single community, which informed our understandings of its emergence, but other communities may experience different patterns of emergence. Further, in this study we have made explicit our focus on how groups give rise to communities. In doing so, we consciously treat groups as monolithic and homogeneous entities. This is despite the fact that they actually consist of heterogeneous individuals with varying levels of commitment, identification with the group, and participation in interactions. We encourage future research to address this limitation by incorporating a micro perspective and focusing on the emergence and evolution of communities from the perspective of their participants’ interactions over time. Additionally, within academic communities publishing can be related to a member’s economic livelihood and is not a pure leisure activity. Therefore, we encourage future research to trace community emergence in other types of communities and especially online communities. Furthermore, we incorporated an unsupervised machine learning approach on a large corpus of academic outputs. The results show that the focal community emerged through the mobilization of concepts, topics, and resources across existing groups. Prior research has assumed that communities emerge through resource mobilization but have not provided empirical evidence to support these claims. Our findings are encouraging, as they appear to confirm prior assumptions. Therefore, we encourage future research to further test and refine our findings. Finally, our work helps the extant IS theory and practice to move away from the traditional “*what*” questions and towards the more insightful “*how*” ones. In doing so, we have left open the “*why*” questions, and we therefore call for future research to further attend to this topic and provide insights by explicitly assessing causality.

Appendix

Custom dictionary of stopwords

"across", "adapted", "addition", "aims", "also", "although", "among", "analyses", "analysis", "approach", "areas", "argue", "argues", "around", "article", "aspects", "associated", "author s", "based", "become", "benefits", "better", "can", "case", "categories", "central", "certain", "c hallenges", "change", "changes", "characteristics", "claims", "collected", "concept", "conce ptual", "conditions", "conducted", "considered", "construct", "construction", "contemporar y", "context", "contexts", "contribute", "contributes", "control", "create", "critical", "current", " data", "demonstrate", "demonstrates", "designmethodologyapproach", "develop", "devel oped", "differences", "different", "dimensions", "discussed", "discusses", "document", "doc umentt", "drawing", "effect", "effects", "empirical", "especially", "ethnographic", "even", "ex amine", "examined", "examines", "existing", "explore", "explored", "explores", "factor", "fac tors", "finally", "find", "findings", "first", "focus", "focused", "focuses", "form", "formation", "for ms", "found", "four", "framework", "future", "general", "greater", "high", "higher", "however", "identified", "identify", "impact", "implications", "importance", "important", "including", "incr easing", "increasingly", "indicate", "indicated", "indicates", "industry", "information", "insigh ts", "interaction", "interviewed", "interviews", "investigate", "investigated", "investigates", "i ssue", "issues", "key", "less", "level", "levels", "like", "likely", "limitationsimplications", "litera ture", "little", "low", "main", "make", "makes", "making", "many", "may", "means", "methods", "might", "model", "modeled", "models", "much", "multiple", "negative", "new", "offer", "offers ", "often", "one", "ones", "order", "originalityvalue", "others", "outcomes", "paper", "part", "pa rticipants", "particular", "particularly", "patterns", "perceived", "perspective", "popular", "po sitive", "positively", "potential", "practical", "preferences", "present", "presents", "previous", "problems", "proposed", "provide", "provides", "purpose", "qualitative", "quantitative", "qu estion", "questions", "rather", "recent", "references", "regarding", "related", "research", "res ponses", "result", "resulted", "results", "sample", "scale", "second", "show", "showed", "sho wssignificant", "significantly", "source", "specific", "specifically", "state", "states", "strong", " studies", "study", "suggest", "suggested", "suggests", "survey", "take", "terms", "test", "theo retical", "theoretically", "theories", "theory", "three", "thus", "toward", "towards", "two", "type s", "understand", "understanding", "united", "upon", "used", "using", "variables", "various", " view", "way", "ways", "well", "whether", "will", "within", "years", "yet", "identity", "consumptio n", "behavior", "behaviour", "examples", "age", "ideas", "behaviors", "forces", "building", "co nsumer", "consumers", "degree", "difference", "name", "characterized", "crucial", "surveys ", "boundaries", "credibility", "enabled", "analysed", "comprehensive", "development", "be comes", "introduced", "process", "must", "processes", "major", "themes", "argued", "signifi cant", "field", "influence", "several", "shown", "include", "defined", "given", "evidence", "des cribed", "primary", "significance", "statistical", "definition", "support", "discussion", "notion", "concluded", "concepts", "great", "author", "number", "common", "shows", "made", "conte nt", "explain", "elsevier", "nuclear", "dirty", "hence", "possible", "published", "method", "via", "term", "consider", "despite", "abstract", "abstracts"

Data Availability The data that support the findings of this study are available from the repositories named within the article but restrictions apply to the availability of these data, which were used under insituational license for the current study.

Declarations

Conflict of Interests All the named authors have contributed equally to conducting the underlying research and preparing the manuscript, and none of them has any conflicts of interest, financial or otherwise.

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