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Digital consumers and the new 'search' practices of born digital organisations

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ABSTRACT

Consumers play an increasingly central role in born digital organisations, including driving new approaches to consumer interaction, communication, and marketing. However, we know little about how born digital organise internally to manage and respond to consumer demands. In this paper, we studied an organisation providing online travel services where its aim was to reorganise internally, in relation to consumers, through developing a set of 'search' practices. The role of search is particularly salient for born digitals, giving rise to new roles and expertise where organisations attempt to pre-empt user actions. Through qualitative research, we show how a born digital organisation creates new practices that we label pre-emptive, reactive, reflective and adaptive. Our main finding is that rapidly and constantly reconfiguring practices, what these new experts call 'constructive disruption', is essential for born digitals to manage relationships with consumers. Our paper contributes by providing a better understanding of practices within born digital organisations, and specifically the practices born digitals use to navigate unpredictable emerging changes and produce constant novelty for customers. We also contribute to the concept of search and provide examples of how it might be employed to better understand digital organising and digital transformation.

1. Introduction

In the digital era, organisations have undergone a transformative shift in their operational paradigms, wherein technology-driven processes and data-driven decision-making have become fundamental in their practices (Baptista, Stein, Klein, Watson-Manheim, & Lee, 2020; Wessel, Baiyere, Ologeanu-Taddei, Cha, & Jensen, 2021). The challenge of digital organising has become salient for organisations digitally born or transformed. Most prior research concentrated on digital innovation and organising required in continuously designing new products, services, or processes in delivering new value (Henfridsson, Nandhakumar, Scarbrough, & Panourgias, 2018; Nylén & Holmström, 2019). However, due to the distinctive nature of these new technologies as they are transforming not only organisational life but also individuals' lives, digital organising and transformation is suggested to be studied through a more holistic approach to incorporate the changing role of consumers (Gregory, Kaganer, Henfridsson, & Ruch, 2018).

The proliferation of digital technologies in the consumer's daily life has bestowed them with new capacities, configured them to act in different ways, and constituted a new generation of consumers (Yoo, 2010). The digital consumer, thought to be more empowered and endowed (Granados & Gupta, 2013), is seen as central to the realisation of the digital organisation or what has been referred to as

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'born digitals' (Huang, Henfridsson, Liu, & Newell, 2017; Sebastian et al., 2017), defined as "organisations that intensely leverage digital technologies as critical elements of their business models from their inception" (Tumbas, Berente, & vom Brocke, J., 2018, p. 2). It has been argued that born digitals are operating according to the contemporary paradigm of "customer-centricity" (Hanelt, Bohnsack, Marz, & Antunes Marante, 2021) which necessitates more innovative actions in creating new customer experiences and value pathways (Nambisan, Lyytinen, Majchrzak, & Song, 2017).

This intertwining of digital technologies and human activities has given rise to "IT consumerisation" defined as the "changing practices and expectations of consumers, shaped by the wide adoption of digital technologies in everyday life" (Gregory et al., 2018, p. 1242). These technologies such as social media platforms, chatbots and artificial intelligence agents, and review and recommendation platforms offer myriad of action possibilities since they are more malleable and open than previous technological forms. While they have transformed how born digitals interact with their customers, current stuides have only looked into their role in digital innovation practices (Huang et al., 2017; Nylén & Holmström, 2019). For example, Huang et al. (2017) showed that born digitals rely on the instant releases of new functions, data-driven operations, and rapid organisational transformations to accelerate their innovation and growth.

The challenge is that born digitals operate within a complex socio-technical environment including a digital ecosystem where various forms of digital platforms provide avenues for communication, collaboration, and commerce. However, the multitude of platforms introduces challenges related to interoperability, data integration, and maintaining a cohesive customer experience across different touchpoints (Kalaignanam, Tuli, Kushwaha, Lee, & Gal, 2021; Nylén & Holmström, 2019). Furthermore, the digital business environment is inherently volatile with technologies evolving at a rapid pace, that include new platforms and apps offering innovative features and disrupting existing business models (Wedel & Kannan, 2016; Wessel et al., 2021). This volatility demands constant adaptability from organisations as it provides for changing consumer behaviours (Hoffman, Moreau, Stremersch, & Wedel, 2022; Wimelius, Mathiassen, Holmström, & Keil, 2021).

Thus, understanding how consumer-facing born digitals organise themselves in this context is vital to our knowledge of processes of digital organising and digital organisations more generally. Despite calls to investigate how organisations innovate in their communication, interaction, care and value-creation approaches with consumers (Huang et al., 2017; Nylén & Holmström, 2019), specific studies of how born digitals organise with regard to their customers are scarce. Thus, we ask the question: *How do born digital organisations reorganise in relation to digital consumers?*

In this paper, we answer this question by investigating the practices that emerge as a born digital organises for and responds to the demands of its consumers. We draw on an inductive qualitative study of an exemplary born digital organisation that provides travel search services. Our analysis suggests that engagements with users in digital organisations are constituted by *pre-emptive*, *reactive*, and *reflective and adaptive* mechanisms, which together make up what might be thought of as a set of 'search' practices[1] (Lester & Piore, 2009; Stark, 2011). We analyse these grounded findings to help build a perspective on the kinds of organising practices that occur in the fast-changing landscape of digital organisations, which Drori et al., (2009, p. 731) characterise as the "shaky and fuzzy 'virtual' world" because born digital are more fragile, where it is harder to sustain competitiveness.

Our paper makes three contributions. First, in responding to recent calls for a more "holistic inquiry" regarding how organisations change with regards to digital consumers (Gregory et al., 2018, p. 1247), we provide a better understanding of digital organising practices within a born digital. Specifically, we show how consumer interfacing digital initiatives transcend the traditional IT role and permeate across the organisation to other roles like marketing. Second, we contribute to the literature on digital innovation in born digitals (Huang et al., 2017; Tumbas, Berente, & vom Brocke, J., 2018) by extending its focus and arguing that research needs to explore the role of marketing and customer interactions. Specifically, we show that a key aspect of digital innovation for born digitals is to continuously (re)create their relationship with digital consumers through a set of mutually interrelated search practices. Finally, we contribute to the concept of search (Stark, 2011) and its use in studying digital organising and digital transformation (Gong & Ribiere, 2021; Vial, 2019). We argue that characterising search as a key practice of digital organising can assist in explicating digital initiatives and programmes transcending functional structures and roles.

2. Theoretical background

2.1. The role of 'digitalised consumers' in born digitals

Consumers' lives have been increasingly intertwined with digital technologies, giving rise to what some term as 'experiential computing' (Yoo, 2010) or 'IT consumerisation' (Gregory et al., 2018). Some characterise the 'digitalised consumer' as a new category of technology user with markedly different mindsets and behaviours to organisational members who use computers and other digital artefacts (Richard, Pitt, Cunningham, & Nel, 1993) as part of work-related tasks within organisational settings (Lamb & Kling, 2003). Specifically, digital technologies are seen as providing consumers with new agencies where they can influence other consumers by sharing opinions (Kim, Wang, Maslowska, & Malthouse, 2016) and distributing content on social media (Palka, Pousttchi, & Wiedemann, 2009). IS scholars have posited that IT consumerisation will, in turn, demand changes in "IT-related activities of workers and managers" (Gregory et al., 2018, p. 1225) as organisations respond to the emergence of more endowed and empowered consumers. Similarly, IS studies have suggested that businesses need to re-organise around customer experience and other pathways of customer

[1] We use the term 'practices' to refer to the activities that form actors' work and not practice theory.

value creation (Nambisan et al., 2017; Tumbas, Berente, & vom Brocke, 2018).

Organisations are not only responding to changes in consumer behaviours and actions but they also operate within a platform ecosystem of various forms of digital technologies and platforms which are more malleable, contingent, and generative than previous IT generations (such as ERP systems) (Klein & Watson-Manheim, 2021). However, managing the complexities associated with this diverse array of platforms and apps is a significant challenge. Each platform has its own set of rules, algorithms, and user behaviour patterns, requiring tailored marketing strategies and approaches. Thus, organisations might navigate the intricacies of integrating data, content, and functionalities across different platforms, in order to balance between customisation and maintaining a unified brand image (Gupta, Leszkiewicz, Kumar, Bijmolt, & Potapov, 2020; Kalaignanam et al., 2021).

The dynamic nature of the socio-technical environment is exemplified by the interconnectedness and interdependencies between platforms and apps. Application Programming Interfaces (APIs) enable data exchange and integration between different platforms, allowing businesses to leverage the capabilities of multiple systems (Constantinides, Henfridsson, & Parker, 2018). Changes in one platform, such as modifications to API specifications or updates to algorithms, can have cascading effects on other platforms and apps within the ecosystem (e.g., the recent Twitter's termination of its free API[2]). Therefore, it is suggested that organisations closely monitor these interdependencies and adapt their practices to ensure seamless operations and user experiences (Begkos & Antonopoulou, 2020; Holmlund et al., 2020).

However, there is a limited scholarly understanding of how organisations manage their organising efforts in relation to this dynamic and volatile digital ecosystem. Filling this gap in research is of particular significance for born digitals (e.g., Google, Facebook or Spotify) as, unlike traditional organisations and because they rely on digital infrastructures and platforms, their work is grounded in constant resource recombinations (Henfridsson et al., 2018; Nylén & Holmström, 2019), the instant releases of new functions, data-driven operations and rapid organisational transformations (Huang et al., 2017).

However, existing studies have mainly paid attention to changes in IT management and IT governance (Bygstad & Iden, 2017; Davison & Ou, 2017), or product innovation (Henfridsson, Mathiassen, & Svahn, 2014; Svahn, Mathiassen, & Lindgren, 2017), and have mostly remained silent about the process of organisational reconfiguration as a result of wider changes brought forth by the enactment of digital consumers, despite a number of scholars arguing for their study (Gregory et al., 2018). For example, Nylén and Holmström (2019, p. 709) categorised the consumer-oriented organisational development as digital innovation "to induce engagement through a meaningful user experience". Wessel et al. (2021) also highlighted the key role of marketing teams' innovations in digital transformation. In addition, Huang et al. (2017) invited researchers to examine the role of marketing efforts as part of digital innovation processes within digital organisations.

Given the complexity and the lack of clearer understanding of how organisational practices adjust to the so-called digital consumer, nascent research suggests that organisations should become more flexible and agile in continuously seeking new solutions and ways to reorganise in relation to digital consumers and managing highly generative technological environments. We found that this might be viewed as a process of constant discovery and search that we explicate in the following section.

2.2. *Digital organising as a continuous process of inquiry and search*

Search has been a central concept in organisational theory and played a significant role in explaining a broad range of organisational behaviours such as organisational learning, new product development, innovation, and knowledge management. Much of this extant literature is focused on what is referred to as "problemistic search" which is "a simple process of learning from performance feedback" (Posen, Keil, Kim, & Meissner, 2018, p. 211). Organisations engage in this type of search in solving identified problems or in response to failures (Madsen and Desai 2010), and it terminates when an alternative solution is found (to restore the performance level). In conducting a problemistic search, organisations search in the vicinity of their existing knowledge (local) and then if no solution is found they switch to a more distant search (Rosenkopf and Nerkar 2001). Rosenkopf and Nerkar (2001) distinguish between local and non-local search to explain how organisations can integrate existing (local) and distant (non-local) sources of knowledge to enable them in their technological development.

Inspired by Dewey's (1998) notion of 'inquiry' and Lester and Piore's (2009) conceptualisation of innovation, Stark distinguishes between search as simple problem-solving versus a more interpretive process. The former concerns identifying problem elements and making decisions about the best approaches to solve problems. The latter form of search, by contrast, is specified by interpretation and seeks areas of ambiguity "since the challenge is to integrate knowledge across heterogenous domains" (Stark, 2011, p. 3). In this regard, Stark argues that "when we see inquiry as an action, we see search less as a process of finding what we already know to be valuable than as distributed practices for recognizing opportunities by re-cognizing resources" (Stark, 2011, p. 9). This notion of search appears useful in studying digital organising practices in relation to digital consumers as Stark introduced this notion in explaining dynamic, unpredictable, and challenging situations within organisations.

Central to Stark's work is the "search for the valuable". He refers to the challenge for contemporary organisations in dealing with multiple evaluation systems and principles: "instead of enforcing single principle of evaluation as the only legitimate framework, [orgnanisations] recognize that it is legitimate to articulate alternative conceptions of what is valuable, what is worthy, what counts" (p. 5). Bringing together individuals with diverse perspectives and values, creates what he refers to as 'dissonance', which foster productive collaborations that result in innovative changes. However, Stark argues that such dissonance can be resourceful because it

[2] https://www.forbes.com/sites/jenaebarnes/2023/02/03/twitter-ends-its-free-api-heres-who-will-be-affected/?sh=58efc63e6266

creates a "productive/creative friction" (in dealing with multiple evaluation criteria) that can help the organisation in recombining the ideas and perspectives in ways that are more innovative and constructive. Such dissonance offers advantage of not only accelerating 'the creation of novelty', but it also means that "no standpoint can be taken for granted as the natural order of things" (p. 18), therefore, fostering processes of organisational reflexivity.

Stark's notion of search has been applied to various contexts. For example, Chenhall, Hall, and Smith (2013) draw on the notion of 'organising dissonance' in explaining the role of accounting in the context of multiple (and often competing) evaluative principles. Their study shows that while such competing principles can create frictions, they could also instigate improvements in accounting practices through infinite discussions and explorations of the account's specific details and mechanisms. According to the authors, this resonates with Stark's idea that such frictions can be productive as they generate opportunities examining different modes of evaluation and performance measurement (search). Similarly, Busco and Quattrone (2018) explain the incompleteness of accounting visuals and performance measures by highlighting how the incompleteness promotes a continuous search for "an unfulfilled perfection" which then creates creative tensions leading to unbounded process of scrutinising, questioning, and searching.

Search can have temporal and spatial dimensions. It can solve an issue with a specific target and fixed time limit, or it can be open-ended and fluid (Lester & Piore, 2009). In addition, it can involve internal sources (Laursen, 2012) or expand the activities to the external environment (Bashir, Papamichail, & Malik, 2017; Laursen & Salter, 2014).

In this regard, there are two underlying reasons for using search as a theoretical basis of our paper. First, highlighting the transformative role of digital technologies, Stark argues that not only search "has become a big business" (pointing to the growing importance of search engines and social media platforms) but that it is also transforming organisational marketing strategies, shifting organisations from "demographic classifications" to "network-based characteristics". Moreover, he views these shifts in marketing as propelling search in organisations' internal processes (e.g., changes in roles and job categories), where organisations are fundamentally "engaged in a search for what is valuable" and how the "rapid analysis of information" facilitates the kind of "interpretive search" that makes "new associations" (2011, p. 175).

Second, we believe this concept addresses gaps in IS scholarship which currently lacks theorising on how born digitals transform internally beyond discussions of IT and digital innovation processes. Moreover, despite the prevalence of search-related activities, there have been few attempts within IS to conceptualise search. Exceptions include Trantopoulos, Wallin, and Woerter (2017) who show how IT acts as a mediator during search processes and influences an organisation's innovation performance (see also Joshi, Chi, Datta, & Han, 2010; Majchrzak & Malhotra, 2013). We think that Stark's conception has the potential to expand this discussion and move us beyond the dominant discourse of problemistic search.

3. Research method

3.1. Research setting

To address the research question of how born digitals reorganise in relation to digital consumers, we conducted an in-depth case study of such an organisation to understand what happens when it transforms how it interacts with its customers. The company selected is an exemplar case (Eisenhardt, 1989; Yin, 2013) of digital organisation (born digital). The firm is a travel search engine

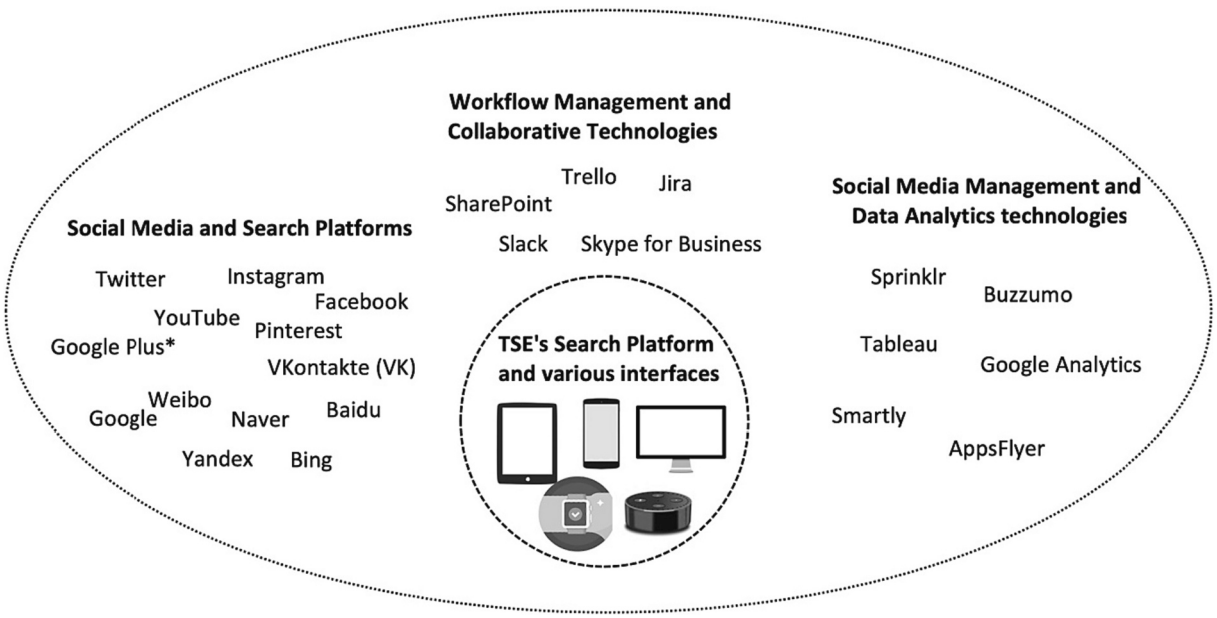

Fig. 1. TSE and its surrounding digital platforms.

organisation, described through the pseudonym TSE is at the forefront of digital marketing transformations.

TSE is a UK-based technology company that offers online travel search services (flight, hotel, car hire) to both consumers and businesses. The company is a multinational organisation that has approximately 1000 employees in ten countries. The internet-based and digital nature of the company's services makes its exploitation, use and management of digital and social media platforms crucial. For example, TSE actively maintains its presence on the major social media platforms, such as Facebook, Twitter, Instagram, YouTube, Google Plus, Pinterest and several country specific platforms such as the Russian VKontakte (VK) and Odnoklassniki (OK), and Chinese Weibo. This requires TSE to utilise several social media management, collaborative technologies and other platforms. Fig. 1 illustrates TSE's platforms, its varied interfaces, and its surrounding platforms.

3.2. Data collection

The data for this study was gathered mainly from semi-structured interviews, online observations, and archival sources. We conducted semi-structured interviews with TSE staff and others following a purposive sampling strategy (Patton, 2015, p. 265). We carried out 25 interviews with TSE staff and 10 further interviews with independent experts. Interviews at TSE were with social media managers (8), content managers (3), social media advertising managers (3), digital media managers (2), data analyst (1), marketing automation analyst (1), and the global head of influence marketing (1). We also conducted follow up interviews with some staff (e.g., interviewing them more than once). Interviewee details are presented in Table 1. The interviews, ranging from 30 to 90 minutes with an average length of 65 minutes, were all audio recorded and transcribed. We have also collected data about participants' backgrounds through their public LinkedIn profiles. These interviews were partially narrative (i.e., questions were formulated to invoke a narrative response) to get closer to the participants' experiences and solicit more comprehensive accounts of events and experiences (Flick, 2009). The interview questions were designed to ask about these actors' work practices at TSE, how they entered the field (in a

Table 1
Interview participants at TSE.

Role	Areas of experience prior to joining TSE	Previous experience (Years)	Years at TSE	No. of Interviews	Interview Date
Social media manager1	Online marketing, social media, content marketing	10	2.5	2	18th July 2016, 23rd November 2016
Social media manager2	Offline marketing, online marketing, copywriting	3	4.5	1	25th July 2016
Social media manager3	Web marketing, content, social media, web analytics	3	2.5	1	27th July 2016
Social media manager4	Journalism, copywriting, social media	4	4.5	1	11th August 2016
Social media manager5	Customer service, social media, copywriting, community management, online advertising	7	2.5	1	2nd February 2017
Social media manager6	Sales, offline marketing, online marketing	3.5	4	1	6th March 2017
Social media manager7	Copywriting, graphic designing, web analytics, social media	7	3.5	1	27th March 2017
Social media manager8	Communications and PR, copywriting, offline marketing, online marketing	5	7.5	2	13th July 2016, 9th September 2016
Content manager1	Journalism, copywriting, creative writing, communications and PR, online marketing, social media	9	4	2	5th July 2016, 20th October 2016
Content manager2	Journalism, copywriting, online marketing, creative writing	6	4	1	10th August 2016
Content manager3	Copywriting, editorials	12	3	1	29th September 2016
Social media advertising manager1	Offline marketing, online marketing	3	4	2	27th October 2016, 5th December 2016
Social media advertising manager2	Online Marketing	0.5	4	1	10th January 2017
Social media advertising manager3	Communications and PR, online marketing, social media	2	3	1	18th January 2017
Global head of Influencer marketing	Web design, offline marketing, Online marketing, web analytics, social media, influencer marketing	3	5	2	15th February 2017, 20th March 2017
Digital media manager1	Offline marketing, social media	1	3	2	20th October 2016, 16th December 2016
Digital media manager2	Online marketing	1	2	1	26th January 2017
Marketing automation analyst	Quantitative methods of analysis	3	2.5	1	7th March 2017
Data Analyst	Python, JavaScript, R, SPSS	5	3	1	3rd April 2017

narrative form), what they do in their jobs, what technologies they use, and so on. All TSE interviews were conducted face to face and held mainly in the company's premises with interviewees having access to their laptops, enabling the interviewee to display or demonstrate of some platforms and technologies they used.

We also conducted 10 expert interviews (Flick, 2009) with specialists in social media, digital media, digital marketing, influencer marketing, and data analytics, in order to gain greater insight into the changing nature of digital practices.. Our interest was in their "capacities as experts for a certain field of activity" (Flick, 2009, p. 165) and to assist in making more sense of TSE interviews and the emerging digital marketing practices in general. The questions asked were defined by the TSE case interviews. In addition, we used these expert interviews as complementary to and validating our TSE interviews (Flick, 2009). Table 2 shows the details of these interviewees.

We supplemented interview data with online observations (Kozinets, 2010, 2018) and archival documents. Our online observations were in the form of non-participant observation and this data that was collected from TSE's search platforms (web and mobile application) and its social media platforms (such as Facebook, Twitter, Google plus, Pinterest and Instagram, in different countries) provided more detail to the interview (Walsham, 2006). Online observation supplemented other data sources on how TSE's platforms changed, how they were linked to their social media, how organisational actors communicated with and responded to users, and how users interacted with TSE on social media.

The focus of this virtual type of observation was on the 'structure' of the social media (how organisational actors are making use of distinct functions of each social media platforms) and 'content' (that are created and shared on the organisation's social media profiles, the users' comments and activities and their interactions with the organisation), similar to the study of TripAdvisor and customers' reviews by Scott and Orlikowski (2009). These observations were conducted weekly over the period of data collection (July 2016–December 2017) for a total of 53 hours, and notes with screenshots were taken during observations. For example, we observed how the France social media manager collaborated with Instagram influencers about solo travelling, how Facebook live or Instagram stories were used when introduced during our fieldwork, or how a post or reply to a user's comment went viral.

Documents have been suggested as useful supplementary data to interviews in case studies (Walsham, 1995; Yin, 2013) as they can allow more in-depth understanding of the topic, processes and events over the course of data collection. The documents used in this study consisted of TSE's company information, brand guideline document, consumer blogs (over 50 entries), knowledge-sharing blog (105 entries), engineering blog (85 entries), LinkedIn profiles of those interviewed along with 54 more employees working in similar roles (73 profiles in total), conference presentation slides from SlideShare (all publicly available). Other documents accessed were descriptions of TSE's job advertisements, case studies on TSE's joint projects or experiments with other companies such as Facebook or third-party marketing platforms, and news articles about TSE. These documents were analysed along with other data sources focusing on their content (Prior, 2008).

Our approach in gathering data from various of primary and secondary sources offered the opportunity for data triangulation, which is of particular significance in case studies (Benbasat, 1987; Eisenhardt, 1989). This is referred to between-method triangulation. We also followed within-method triangulation, which is about using the same method in different ways, as we interviewed independent experts beyond the case as well as interviewing several case informants more than once (Denzin, 1978).

Data were gathered through these three methods simultaneously and iteratively with data analysis. This allowed us to consider adjustments to interview questions as well as assess data saturation. For example, we asked for a second interview with several participants to follow up on some observations or to ask study participants' views on other emerging platforms or practices. In total these data presented us a rich dataset for analysis.

Table 2
Expert interview participants.

Interviewee	Title	Area of expertise	Market, Region	Experience (years)	Interview Date
Expert 1	Independent consultant	Social and digital media	Europe	13	25th October 2016
Expert 2	Independent consultant	Influencer marketing and growth hacking	APAC and Australia	5	26th October 2016
Expert 3	Senior Strategy and Analytics manager at Sprinklr	Social media management and analytics	UK and Europe	5	23rd November 2016, 13th December 2016
Expert 4	Independent consultant	Social media and digital marketing	USA	7	23rd February 2017
Expert 5	CEO of a social media consultancy agency	Social media and digital marketing	Global	15	27th February 2017
Expert 6	Head of digital marketing (a global investment company)	Digital marketing	UK	8	28th February 2017
Expert 7	Independent consultant	Content and social media marketing	US	6	29th March 2017
Expert 8	Independent consultant	Social Media and Influencer Marketing	US	8	5th April 2017
Expert 9	Senior social media manager (a global technology company)	Social media and digital content marketing	US	7	11th April 2017

3.3. Data analysis

To analyse the data, we followed principles of inductive theory building (Eisenhardt, 1989; Glaser & Strauss, 1967). The transcripts of all 35 interviews, virtual observation notes, and documents were stored as a dataset in NVivo. We coded the data with NVivo 11 Software Package initially through open coding based on grounded theory principles (Glaser & Strauss, 1967) to establish the first order codes. Data collection and analysis were conducted concurrently, and our codes were developed through different iterations and the process of constant comparison. In each round of coding, data labelled in one group of existing code was compared to other instances in the same group. This approach was particularly helpful as data gathering and analysis overlapped, and this allowed "the meaning and construction of concepts to remain under review" (Urquhart, 2013, p. 30) until further data was analysed to see if the groupings fit. The analysis was conducted by the first author and verified by the second author to ensure reliability of the codes.

When first reflecting on the practices at TSE, consumer 'search' processes emerged as the critical focus of our informants. This was surmised from the initial way the customer approached the platform and entered commands when searching for a flight or hotel to the various activities that led from this initial user search process. In this first stage of coding, we identified the numerous instances and ways in which different and new work practices were discussed and carried out in the organisation. We observed how our informants talked about their customers' search activities to better understand the practices of TSE informants. We used in vivo terms as occurred in the fieldwork materials. Such codes include 'understanding customers search', 'power of users' content', 'listening to social media', 'changes in Facebook algorithm', 'continuous learning', 'creating disruptions', 'iterating', and so on.

The second stage of analysis was focused on how these work practices were discussed at TSE by comparing the first-order codes and grouping them into categories based on their variations. We found that TSE work practices incorporated learning, explorative, experimental, and interpretive elements that gave us direction in our next round of coding, which resulted in the emergence of the second-order codes. For instance, we coded for discussions of work practices oriented towards the external environment (customers and platforms). These comprised of different ways of remaking the organisation-customer relationship, responding to platforms and (re)defining the organisation internally. Codes in this second round included categories such as: 'comprehending consumer search', 'developing relationship with influential consumers', 'fostering predictive work', 'reacting to platform changes', 're-designing the interface', 'developing new knowledge and expertise', 'creating constructive disruption, and 'adapting and changing'.

As discussed above, organisations face different challenges in their digital organising efforts or when transforming digitally. Our empirical material demonstrated that these challenges are not usually in the form of clearly defined problems, but are ambiguous and require different approaches. In the next phase of coding, we attempted to understand these approaches to see how these new modes of search occur in digital organisations. Based on this understanding, the relationships between the categories developed and we were able to group them into more abstract themes as *pre-emptive practices, reactive practices*, and *adaptive and reflective practices* to show how search occurred at TSE. Table 3 portrays the structure of data coding.

To ensure credibility of our findings (internal validity), we used several tools and techniques in documenting and analysing data. For example, we used a case protocol, case database using Excel and NVivo software, an interview guide, and memoing. This enabled us to monitor the process of data collection and the links between the collected data, the emerging codes and the protocol. Finally, to assess the reliability of our findings, we discussed them with some of our interviewees and received their feedback. This also ensured researchers' objectivity by "checking preliminary findings through communicative validation" (Marton, 2013, p. 5).

4. Findings and analysis

TSE is a travel search website through which users can search for flights, hotels, and car hire. TSE offers search through multiple interfaces: its website for desktop and mobile devices, its mobile app, and its voice assistant apps (e.g., an Alexa skill). It operates in a platform ecosystem surrounded by social media sites, search engines, digital agencies, advertisers, third-parties, social media management technologies, digital media asset platforms and others. At the centre of this ecosystem is the digital consumer whose actions, interactions, and behaviours drives various configurations of platforms to enable value creation. A decade after its launch, as social media's business applications were emerging, TSE decided to focus more on the new ways of marketing to facilitate its growth. In response to rapid developments in the digital environment, particularly more demanding digital consumers, and to enable and accelerate its growth, TSE implemented several changes to how its work practices were organised. When the importance of social media platforms and their ecosystem (associated advertising platforms) was recognised, TSE started exploring these platforms mainly through sharing content. Unlike this initial start, which was part of the marketing function, practices became more integrated into the core of the business operations and within cross-functional teams. TSE moved to a matrix structure to bring individuals with different specialisms together.

Fig. 2 depicts the timeline of changes in TSE's structure. For example, a social media manager, a content manager, a PR manage and a marketing manager in each geographical market were brought together to manage the needs of users in those markets. At TSE, these teams were called squads and were part of four larger groups called tribes with one central tribe for centralised activities and three regional tribes for Asia Pacific (APAC), Europe, Middle East and Africa (EMEA), and the Americas (North and South America). These market-facing and consumer-oriented squads worked with and were also supported by data scientist and more technical marketing experts (e.g., marketing automation squad) to constantly discover new ways of offering value to their users (digital consumers). This was based on the principles of lean and agile methodologies (Rehkopf, n.d.; Schwaber & Sutherland, 2016) to enable more independent and autonomous teams to accelerate growth.

In exploring how born digitals reorganise themselves in relation to digital consumers and dynamic digital business environment, we explain the changes as 'search', and show that it has three forms: pre-emptive practices, reactive practices, and reflective and adaptive

Table 3
Data coding.

First order codes	Second order codes	Themes
'looking for products'; 'searching categories of products'; 'Google'; 'Baidu'; 'Yandex'; 'Naver'; 'Bing'; 'YouTube'; 'seeking information'; 'finding a product or service'; 'finding an inspiration'; 'understanding consumers search'; 'knowledge of how consumers look for information'; 'how the users are consuming their content'; 'how customers find their information'; 'understanding of travellers'	Comprehending customer search	Pre-emptive practices
'democratisation of content creation' 'platform of content for everyone'; 'power of users' content'; 'highly positive outcome of working with influencers'; 'to use their influence'; 'influencer marketing equals having mini TSEs'; 'create content and distribution', 'engaging with audiences'	Developing relationship with influential customers	
'listening to the conversations social media'; 'what people are interested in'; 'creating content based on listening'; 'Sprinklr'; 'Buzzsumo'; 'to check trending topics'; 'Reddit'; 'measuring customer's value'; 'state machine'; 'customer life-time value'; 'predicting customers future values'; 'measurement metrics'; 'adjusting marketing activities'; 'changing metrics'	Fostering predictive work	
'fluid nature of social media'; 'tremendous developments of platforms'; 'staying on your toes'; 'not relying on previous activities and strategies'; 'changes in Facebook algorithm'; 'platforms' algorithms'; 'changing measurements and metrics'	Reacting to platform changes	Reactive practices
'search bots'; 'voice search'; 'being at front of that curve'; 'comfort as key criteria in software'; 'people are used to texting'; 'comfort in conversation search'; 'search through a conversation'; 'conversation, the core of text and voice search'	*Re*-designing the interface	
'new occupations', 'social media'; 'social media advertising'; 'digital media'; 'SEO'; 'content management'; 'influencer marketing'; 'community management'; 'monitoring the trends'; 'self-learning'; 'knowledge sharing'; 'learning by doing'; 'experimenting'; 'A/B tests'; 'data-driven'; 'validating'	Developing new knowledge and expertise	Reflective and adaptive practices
'creating disruptions'; 'questioning assumptions'; 'changing best practices'; 'hypothesising'; 'failing fast and forward'; 'pivoting and learning'; 'iterating'	Creating constructive disruption	
'restructuring'; 'tribes and squads'; 'agility in practices'; 're-combining resources'; 'remobilising teams'; 'facilitating collaboration'	Adapting and changing	

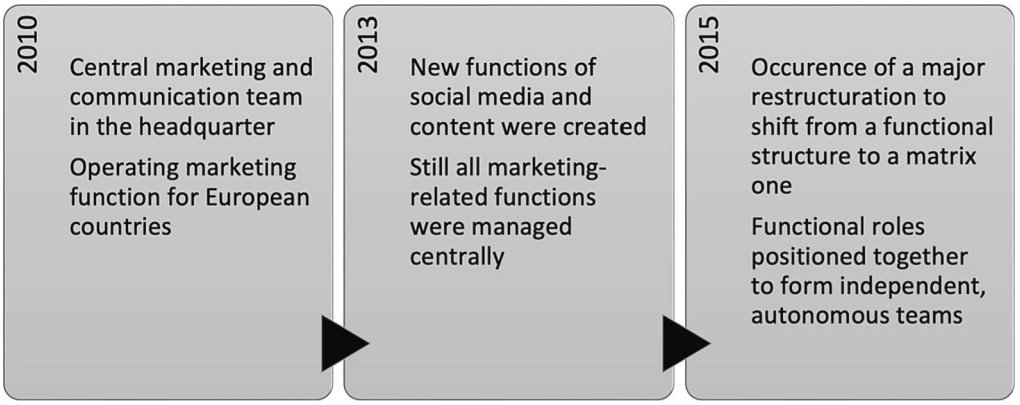

Fig. 2. Transformation of organisational structure at TSE.

practices.

4.1. Pre-emptive search practices

In this form of search the organisation develops a series of new approaches in relation to consumers and platforms. These approaches include comprehending consumer search, developing relationship with influential consumers, fostering predictive work.

4.1.1. Comprehending consumer search

Consumer search increasingly dictates how the digital organisation interacts with its customers. As mentioned above, the main way TSE interfaced with its customers was when they entered one of their platforms in search of a flight or other services. Consumer search of the platform was a trigger that once detected, initiated an organisational response. Internal actors (managers) would themselves search to understand what the customer was attempting to consume, how they landed on TSE's search platform and from where they were directed. A content manager explained the importance of this: "we try to understand [what] the users are looking for, the information; I think that's the most important thing to understand, how the users are consuming their content, how they get their information and how they find it" (content manager 2, interview).

Search was important for the new roles in this organisation, such as content managers, who attempted to produce the content that users would be able to find and consume (read, see, watch or use). Based on our online observation notes, we observed that TSE increasingly shifted to a platform for information and inspiration instead of a simple search platform. A social media manager also asserted how understanding users' needs and interests play a role in creating content:

> When it comes to creating content, it starts from understanding what people are interested in, what problems they have, what needs of travellers exist in the market that they search… for Russian travellers, the big problem is to get visas to travel, when we realised that it is a really big issue that can easily hold off you from travelling, we built a tool called 'visa tool' (social media manager 4, interview).

Comprehending consumers' search required understanding not only what customers searched for but also *how* they searched, on what platforms, and what devices were used. When social media and content managers discovered the interests of consumers, the next step was to understand the avenues they should follow to address those needs. This meant finding the platforms that could convey their content effectively. For example, when a customer (a 'YouTuber') from South Korea published a video, the outcome measured by TSE managers revealed a growth in several important metrics: TSE's brand keyword search, organic sessions (new users directly coming to TSE platforms) and sessions from Google paid search (users coming to TSE platforms through the sponsored results in Google search). This showed that communicating through the right channels (in this case YouTuber) facilitated how prospective customers could find TSE's platform.

Interpreting why this occurred, a member of TSE's Business Operations and Strategy Team explained that Google is more likely to be selected by YouTube users compared to local search engines (i.e., Naver in South Korea). Through their analysis, TSE's managers found that "Korean users usually watch the video on mobile, while they refer to their PC for further search. The key to the success of the video in Korean market was cross-device and mobile customisation" (company documents). It showed that the managers were able to track the users across social media and search engine platforms to understand their search behaviour and present the users with the content (video) that would lead them to seek out TSE and visit its platform.

It is very challenging for the content managers to predict how a content piece will perform. The way that TSE's managers approached this challenge was by increasingly using real-time[3] data from the users to understand various ways that users search using different platforms and devices to learn their search behaviour. In this process, they pursued two approaches: referral to key users who have created substantial authority on social media platforms and using predictive analytics.

4.1.2. Developing relationship with influential consumers

The networked structure of the digital and search platforms has allowed the emergence of a new category of consumer, referred to as 'influencers', who are followed by a large number of users or are highly relevant to and have a large impact on a brand (Skinner & Oesterreich, 2018). The emergence and growth of such influential users indicates the increasing demand of consumers for information (content) search. Through such content, the influencers make a difference to (or hold sway over) brands' offerings. Therefore, TSE developed certain processes and activities, 'influencer marketing', to search for such consumers and collaborate with them. In one of our expert interviews, the informant explained the practice of influencer marketing:

> Influencer marketing or 'earned media', it's how to position a company in the market as a leading brand and how to help them have a say rather than spending a lot of money on advertisement…you need to build relationships with social media influencers, with those people who can influence their followers either to follow you or try your business or try your product… the benefit is that you are getting the return of investment where you are acquiring customers through a message which we call 'it's what they love to do' (Expert 2, interview).

TSE recognised the importance of influencers and influencer marketing practices early on; indeed it was part of its birth. For instance, the Indonesian marketing team within TSE started working with influencers around about 2012, initially with bloggers and Twitter influencers (company documents). The origin of their practice is explained by an informant:

> Back then [in 2012] we had what we used to call 'buzzers'… I started to do a few things with some of the buzzers [on Twitter]… then I saw that it was very ROI [return on investment] positive and then at the same time, we were able to use their influence to tap onto their audience and get their audience to eventually follow us. Then, I decided to focus less on the traditional PR [public relations] and more on influencers, bloggers (global head of influencer marketing, interview).

Subsequent to the success of such activities in Indonesia, TSE expanded the practice globally by the creation of 'influencer marketing manager' and later 'global head of influencer marketing' roles with a mission to create and grow a 'global social influencer network'. To manage this global network, TSE developed an in-house influencer relationship management system that established, managed and tracked relationships and projects with influencers. Being able to track the activities and measure their effect and by observing the positive outcomes of the initial influencer marketing activities, the (then) Indonesian marketing manager started shifting the focus from more traditional approaches, such as public relations and journalist activities, to working with influencers:

[3] We used 'real-time' as the data gathered and used is very near to the event (the ways users acted) for the purpose of predictive analytics to predict their future actions. In this sense, it is retrospective but very recent data and as users were performing some form of activity.

> We started with one off bloggers, buzzers, and then eventually decided we're going to do a proper meeting, the way we do with journalists. So, I sort of reduced the budget that we normally spend on journalists and put that budget into investing in creating a bigger network with local bloggers (global head of influencer marketing, interview).

Working with this new category of actor seemingly allowed TSE managers to access niche markets on different platforms. Because they could enter markets that they might have been otherwise difficult if not impossible to access, the manager started to assign marketing budget to the new area. The manager saw influencers as valuable because they increased their chances of been ranked more highly in search engines and social media searches. In explaining why this approach attracted strategic investment, the manager referred to how it enabled them to track all the influencers' activities and their outcomes in terms of users coming to TSE to search and make a booking. The practice of influencer marketing evolved at TSE alongside elements of social media and content creation practices. Through forging relationships with influencers, TSE managers could leverage these relationships to draw in larger numbers of users.

4.1.3. Fostering predictive work

Search encouraged prediction-based forms of interaction. The organisational actors tried to pre-empt the interaction (answer the customer query before the query is made) in the hope that when the consumer eventually performed a search, the platform would meet their needs. This occurred in two ways: first through 'listening' practices, and second through following user activities and predicting their future values. Social media managers used specific listening platforms (such as Sprinklr[4]) that helped them understand the major 'conversation trends' on social media. As one social media manager described, "what you do on social media is not only talk; you actually listen. The main thing is that you listen to what the conversations are about, what it is that people are looking for, what it is that people are interested in" (social media manager 2, interview).

The practice of listening is important as TSE's managers were able to find out what users were interested in, whether they were talking about their brand or a competitor's brand and classify them into specific niches. Based on listening and predicting, they were able to establish specific campaigns or create relevant and useful content for niche markets. For example, a social media manager asserted how users' comments and posts on TSE's social media could provide important insights: "in this way of communication, you don't need to talk to 100 people to understand what people think about TSE, you just need to go to TSE's Facebook page and read about it. I think that's the game changer in many ways" (social media manager 1, interview).

The affordances of the platform, thus, allowed managers to collect real-time data from consumers instead of running focus groups or surveys as was done in the past. Listening was a complex search process in which organisational actors made queries about specific topics, products, markets and different temporal and spatial aspects and other criteria. One of our informants explained this listening process:

> It's a method where you set up a query and a query could be keywords, hashtags and brands and everything around it. And you would plug it into the platform, specifying which time frame, platforms and geographic areas, languages, so there are quite a lot of filters you have to put in, and you get insight, you have all this data, then what does it all mean? what does it mean that this person is an influencer and is talking about this? So, you analyse that (Expert 3, interview).

Therefore, TSE's managers used a specific social media management platform (Sprinklr) and other platforms (e.g., Buzzsumo and Reddit) to get insights into what the consumers were conversing about and searching, which then formed the basis of their search practice.

In addition to listening practice, another predictive form of work at TSE was measuring every stage of the customer journey. To assess the states of each user along various stages of their journey, TSE has developed an internal customer data platform, based on the concept of a 'state machine'. The idea of state machine originates in computer science practice in modelling complex processes through the abstract concept of various states the machine might have while it can fulfil one state at a given time (Cheng & Krishnakumar, 1996).

Through this state machine, TSE measured specific metrics to guide the managers to customise and adjust their communications (e.g., content, ads, and other interactions) for different users or categories of users. Such measurements in the state machine were based on a number of factors such as the type and level of user activity on TSE's platforms, their locations, how they accessed TSE's platforms (web browser, mobile or desktop, app, and so on.). While prior to this approach, the measurements were based on 'vanity metrics', a term used by our informants to refer to traditional metrics of digital marketing, such as tweet impressions, post reach, or unique sessions, shifting to the state machine approach seemed to offer a more meaningful way of measuring user interactions.

As data from interviews and TSE's documents showed, a user could move through various states, or cycles of states. These consisted of: 'unaware' (users who did not know TSE's platforms), 'acquisition' (users who landed on to TSE's platforms), 'activation' (users who performed an activity on TSE's platforms), 'retention' (users who returned to TSE platforms), 'revenue' (users whose activities on TSE platforms lead to sales and thus revenue generation for TSE), and 'referral' (users who referred others to TSE platforms). These states for each user, which were dynamic and changed over time based on how users interacted with TSE's platforms from inactive to more active states or vice versa, enabled managers to measure the key points in the users' journey (or life cycle). One of TSE's technical managers who led the 'state machine squad'[5] explained:

[4] Social media management suite

[5] A squad is a cross-functional team at TSE.

> We keep record of each user's history of interaction with TSE and since some of such interactions incur cost to TSE, while others lead to revenue, we are able to calculate the 'user/customer life-time value' (CLV). Also, we are able to run predictive analytics for each category of users and predict their future CLV (company documents).

Through insights derived from CLV predictions, TSE managers could plan more accurately for each user's state to move their users from acquisition and activation to the states they perceived to be more valuable for TSE's growth, namely, revenue and referral.

Before TSE introduced the state machine concept, social media experts told us how their measuring of customer activities was problematic. According to one social media advertising manager:

> back then, our technological struggle for social media was tracking and measuring ROI [return on investment] in a more effective way. The attribution model we used didn't allow this to happen, so instead of having any monetary KPI [key performance indicator], it was purely quantitative KPI on the amount of sessions that you generate [the traditional metrics], which you know sometimes limits your ability to shift the focus and towards generating revenue (social media advertising manager 2, interview).

Therefore, these managers reported that they were not only able to measure the former traditional metrics, but also monitor the metrics in the state machine and focus on the return on investment of the activities. In this regard, the combination of insights from analyses of state machine and listening practices enabled TSE managers to monitor each user's activities and accordingly customise their communications. According to these managers, this would improve and enhance user experience, which ultimately, would lead to growth of the business.

4.2. Reactive search practices

Reactive search was focused on the new approaches in relation to various digital platforms that were highly malleable, and over which the organisation did not have any control as to how they evolved and influenced consumers' behaviour and its business. These approaches included reacting to platform changes and redesigning the interfaces.

4.2.1. Reacting to platform changes

Unlike the previous generations of digital technology (e.g., ERP systems) contemporary technologies are no longer within the control of adopter organisations as they are more malleable and generative (Klein & Watson-Manheim, 2021). This means organisational actors have very little say about how platforms and algorithms are developed (unlike previous generation of IT that organisations could get some form of software customisation based on their needs). Indeed, they found themselves continuously reacting towards changes in these technologies because the malleable nature of digital platforms could make a difference to the ways that managers organised their interactions with the users (as described above). For example, a series of changes in external social media algorithms (e.g., the Facebook News Feed algorithm[6]) imposed challenges for TSE's managers in competing for space on the users' News Feed. One social media manager shared his experience of how the introduction of new social media functions (e.g., Facebook videos) affected their actions:

> a year ago, we saw a huge drop in 'reach' [a social media metric] in the Spanish market, and we didn't know why this was happening as we were publishing the same number and type of posts…we asked Facebook and they really didn't know why…At that time, we found out that they try to move people from other contents more to videos. So, we started to publish more videos and visual content and the 'reach' at the end started to grow (social media manager 1, interview).

Therefore, because of the changes in the external platform's algorithm, TSE's managers needed to make internal changes to their own metrics and ways of measuring the impacts of social media content. This same social media manger explained that "at the moment, what Facebook calls 'reach'…is not our main focus in many ways. It's something that is controlled by their algorithm. So, for us as a metric, it's [the reach] not always the best way to know if our content is useful for the users" (social media manager 1, interview). As explained above by this informant, social media platforms enabled new functions by modifying their algorithms.

Reactions to such external developments were reported to be a never-ending process that required learning new skills to work with the new platform functions. A social media advertising manager pointed out that:

> there are so many changes [on platforms], sometimes it can get exhausting, but I think on the other hand it's kind of teaches you [to] filter the data, you just need to sometimes cut the noise, so I'm not going to read about changes to lead ads because I'm not working on that just now, if I'm going to do that then I'm going to learn (social media advertising manager 1, interview).

Although platform changes might require learning new skills, in the case of platform modifications, managers found themselves having to be quick to react to such changes. Another social media manager described this when a social media platform launched its live broadcasting function:

> for Facebook live, for example, when launched in the UK, we went outside and filmed walking around [the city] aimlessly. So, it was reactive, but it meant that we could at least try the platform out and it also worked in our advantage, because Facebook

[6] https://newsroom.fb.com/news/category/news-feed-fyi/

> giving most attention to anyone who is doing live streaming videos, so it meant you bumped up in the algorithms (social media manager 5, interview).

This meant that not only did staff need to stay up to date with the developments of the existing and emerging platforms, but they were also required to react and improvise immediate offerings. This required that they developed the capacity to spot and understand such changes and react to them immediately when they occurred. Because the platforms run based on learning algorithms, such changes were unpredictable and could not be pre-empted, meaning organisations had to constantly monitor for the changes and learn how to address them as they appeared.

4.2.2. Re-designing the Interface

Search appears also to be (re)shaping the human-computer-interface. At TSE, there was a hunt for new ways of conducting search by consumers, such as conversation search through voice search platforms and 'chatbots' (computer agents based on developments in artificial intelligence technology). TSE is at the forefront of such developments being one of the first companies to design 'search bots' for many contemporary messaging applications (e.g., Facebook Messenger, Telegram and Skype) as well as for voice platforms (such as Amazon's Alexa and Microsoft's Cortana). TSE designed and integrated various interfaces such as messaging and voice into its search platform.

One reason TSE considered developing bots significant for users was explained in a conference presentation by a member of the TSE 'bot team', who quotes the Head of Facebook messenger[7] discussing the role of conversations in human communication: "I always like to rewind to what people did before technology. Before the web era, we just had conversations".

This illustrates that conversation underpinned the emergence of these new bot platforms (text and voice) and was an extension of pre-digital modes of interactions. In this regard, a technical manager in TSE's bots team explained:

> comfort is the key criteria in software and as people are used to texting all the time, they are much more comfortable to do the search through a conversation rather than filing fields and putting filters, which takes a lot of clicking to find their answers (company documents).

To further facilitate search interfaces for users, TSE formed a bot team (consisting of software engineers) to investigate how users could benefit from these new platforms. For instance, when Facebook[8] announced they were opening their Messenger API (application programming interface) to developers at their annual developer conference, TSE expanded the bot team to include graphic designers, user experience designers and more engineers, in order to build TSE's Messenger bot.

TSE's Head of Bots and Conversational Search noted how they were bringing search within platforms so that people could find answers more quickly and easily which he referred to as the "era of messaging revolution" (company documents). Digital platforms and search technologies are constantly changing; the composition and content of technology changes when platform designers release new functions and interfaces. Such changes are unprogrammed and unplanned and thus organisations cannot regulate them in advance, and therefore need to redesign their platforms as external platforms move.

4.3. Reflective and adaptive search practices

In previous sections, we indicated how the organisation operationalised pre-emptive and reactive search through developing new approaches. In this section, we highlight how such new developments facilitated the organisation's search in relation to its internal environment, specifically through developing new knowledge and expertise, creating constructive disruption, and adapting and changing.

4.3.1. Developing new knowledge and expertise

The operationalisation of search activities described in the above sections was performed by new categories of digital marketing experts. As these experts worked to manage users within these highly dynamic digital platforms, they expanded the boundaries of their expertise into other fields such as data science. These experts include social media managers, content managers, influencer marketing manager, digital media managers, social media advertising managers, and marketing automation analysts. We found it interesting that when talking to these experts how they were continuously innovating whilst performing their roles. They would often describe their work as based on a "search for unknowns". That is, they usually did not have a well-defined problem to work on but instead there was much experimenting and 'trial and error'. For instance, a company document explained the 'A/B test' (a randomised test with two variants of A and B) as a mechanism for experimenting:

> as an approach to test an idea considering a change in some elements of products (for example, a piece of content on social media (B)) and controlling for other factors (A) to establish a hypothesis and run the experiment for a period of time to test the hypothesis with real data…the goal of experimentation is to learn and if we want to learn, we have to predict things in advance and get trustworthy data from our A/B tests (company documents).

Therefore, the culture of experimenting and learning from probes (such as 'A/B tests') was particularly important as all decisions

[7] https://www.businessinsider.com/david-marcus-on-facebook-messenger-2015-11?r=US&IR=T
[8] https://developers.facebook.com/blog/post/2016/04/12/bots-for-messenger/

and actions needed to be data-driven or at least supported by sufficient data to be implemented in largescale in order to reduce costs and achieve results more efficiently. A social media manager described the importance of testing in their practice:

> About A/B testing, something very simple could be I just want to understand which copy [of the text] works better. I have identified, for example, that on Monday morning I get most response with a specific 'call to action', but I want to try whether a different call to action would work with the same image, I would just post it at the same time using different copies, and this goes for many things…we just test, I would say, 70% of what we are doing (social media manager 2, interview).

TSE experts followed a routine: they carried out an experiment and collected data, analysed the results and then subsequently decided whether to invest more resources. How they decided whether to go ahead was based on a minimum viable product (MVP). A social media manager explained this: "In everything we do, we start just providing a hypothesis…and we create what we call a minimum viable product [MVP], it is basically just the least we can do to validate this idea" (social media manager 1, interview). The significance of this practice was evident when TSE initially introduced it. According to the head of the product in one of TSE's large campaigns:

> we launched the campaign in full but only in that particular market. Although we were able to track pass/fail metrics, we couldn't track many of key metrics. The high bounce rate on the campaign's landing page revealed that the content wasn't what the users expected…Thus, based on this result, we managed to modify the channels and trackings, but we learned that we needed to start with a minimum viable product and validate the assumptions through small, iterative tests (company documents).

To enable such experimentations, TSE has adopted what they called a 'growth hacking' approach to enable squad members to make better decisions. This required making sure all experts had knowledge of the different areas of marketing and, to use a phrase from the field, to become 'T-shaped' (where all experts within the company had core knowledge of their specialised field (depth) and developed their knowledge across other areas within the field (breadth)). This also included broader and more technical fields such as data science.

Therefore, it seemed that TSE actively encouraged all individuals and teams to assign part of their time to learning new areas and provided working spaces which could be used to read industry books or articles, update their knowledge and, in their own terms, upskill. Expanding the boundaries of a manager's knowledge was not only achieved through individual and informal mechanisms, but TSE also offered more formal training. One of the growth strategy squad members explained:

> TSE developed a training programme based on growth hacking principles to upskill all individual experts in various squads, both marketers and engineers. The program covers 32 topics in engineering, marketing and data science. For examples, T-shaped marketers can run experiments through A/B tests, analyse the results, measure the impacts and control how to enhance user experience (company documents).

This also showed how important it was at TSE that digital marketing specialists expanded the boundaries of their expertise. Therefore, working based on experimentation principles and by expanding the boundaries of their knowledge through formal and informal trainings, the TSE's marketing experts could manage search in relation to the platforms and the users. These practices within a digital born organisation were not defined or predetermined, but emergent as experts conducted their experiments.

4.3.2. Creating constructive disruption

To maintain the capacity of search, one ability that TSE developed was learning to unlearn. The domain of digital and social media platforms is highly dynamic and according to our informants, to remain useful to users on these platforms, the organisational knowledge should be recurrently regenerated. A social media manager described this fluidity and highlighted that a task might be conducted differently even within the timespan of one week:

> The nature of social media being something that is not fixed, it's very fluid, there is a tremendous development as you see with lots of new platforms gathering momentum. You have to stay on your toes as well, you cannot rely on the one thing that has worked this week might go down well next week (social media manager 2, interview).

To handle this fluidity, organisational actors, as stated by another social media manager, created "constructive disruptions" to respond to the fast-changing digital environment and constantly created new opportunities for business growth. This informant described that experimenting on social media platforms provided them the enlightening lesson that they should not limit themselves to what might be considered best practices on digital platforms:

> At TSE, we urge ourselves to create 'constructive disruption' and I think this is where questioning best practice happens. It can be uncomfortable and difficult to challenge best practices, but the digital world is changing so rapidly that maintaining the same practices for long can increase the risk of missing the growth opportunities. So, we should continue disrupting (social media manager 3, interview).

Thus, these experts needed to learn not to lock themselves into their ongoing practices and to be able to search for and recognise new opportunities. In this process and in experimenting to identify new opportunities, the outcome might not always be as intended (in other words, the experimentation can fail). As described in the above section, in contrast to more traditional organisations, as a born digital organisation, all TSE experts were urged to conduct experiments and the core of experimentation is 'learning'. This meant that the learning from the experiment should drive a change of action, or as our informants called it, a 'pivot', with the minimum waste of

resources. According to one social media manager:

> once it's [project] taken off the ground, you have to scrutinise it and whether you see something is failing you can pivot, so you can try something different and see if you can make it work instead. But failure is also not a bad thing here. There is a whole 'fail forward' and fail fast mentality at [TSE] (social media manager 5, interview).

This gave the teams the freedom to decide on their goals and strategies without enforcing a single centralised strategy, which offered a kind of balance between planning and flexibility so that failures could happen as quickly as possible, and learning could be achieved for better results. One of the Experts interviewed explained, one could not create a breakthrough using pre-defined strategies and routines but must experiment and learn. This informant asserts that "there is always a marketing PlayBook… but you can't really break through a marketing playbook, as they are bound with the predefined strategies" (Expert 2, interview).

Therefore, according to the 'growth factory' squad, instead of spending several months working on campaign ideas and testing them through focus groups, as they might have done in the past, they tested them through iterations and analysed the data from feedback loops, so that they could 'fail fast and early' (company documents). According to informants, in this process of experimenting and learning, the focus of their roles might shift as well. For example, a social media advertising manager explained this shift:

> My role changed from overall social media campaign person towards someone who is focusing on any type of advertising around mobile apps that can be done on social media. So, I would manage the campaigns that we have for acquiring new users for our apps, this also involves a lot of research around data and user behaviour (social media advertising manager 1, interview).

This also illustrates that the organisation was continuously changing the focus of new experts' roles and teams and redefining priorities in different ways. Such changes along with various ways that the managers (re)created their routine work (for example, using different approaches and focusing on new areas) contributed to how the organisation collectively adapted itself to a highly dynamic environment. Thus, organisational experts tried to distance themselves from standardising the processes to unceasingly generate new, valuable practices.

4.3.3. Adapting and changing

In addition to individual efforts in search, search occurred as collaborative work which was distributed and 'socialised' throughout the organisation. Experts in various areas of digital and social media, such as managing social media content, interacting with customers, managing influencer marketing, advertising on social media, and data analysis, contributed to the search process through their collaborative work in *teams*. For example, in collaborating with the marketing manager, content manager and PR manager, a social media manager emphasised that "it's super important to understand that social is kind of a channel or group of channels that permeates through all the other digital channels and can be a sort of touch point in many different ways" (social media manager 8, interview).

Therefore, it was seen as essential for TSE to make sure all individuals specialised in different areas of marketing and worked together, not in silos. The members of squads and chapters (TSE's functional areas) held daily stand-up and weekly meetings respectively. In stand-up meetings, the squad members discussed their ongoing experiment projects, the existing issues in their day-to-day activities and ideas on how to overcome those issues, while in the weekly chapter meetings, the functional roles shared ideas about new technologies, experiments and learnings more focused on their core area of expertise. Such collaboration and knowledge sharing also occurred online through extensive utilisation of collaborative technologies (e.g., Trello, Jira, SharePoint, Slack and Skype for Business).

In addition, search occurred at the level of the *organisation*. Search was never still but continuously reinventing itself through 'organisational change' (e.g., the re-structuring of teams, the re-combining and re-mobilising of resources, and a redefinition of priorities). For example, TSE went through a restructuring and according to TSE's documents and interviews about this major change in the organisational structure, they found that more collaboration and direct communication were needed between several functions such as social media and PR or analytics and other marketing areas. One member of the Business Operation and Strategy team noted that "in search for more efficiency and agility, TSE moved away from functional structure to cross functional team-based structure called squads to become more lean and agile and allow for more autonomy" (company documents). That new structure and ways of working provided TSE's staff with resources which were not easily accessible otherwise:

> I think the processes become a lot more streamlined, we did get a lot of access to engineering and analytics, which was absolutely brilliant. It did help to accomplish a lot of things…I must say that TSE has been very, very efficient in regrouping and restructuring to make it easier to work (digital media manager 1, interview).

As the quote above indicates, TSE had effectively advanced this reflective form of behaviour throughout the organisation to allow the continuous reconsiderations of practices and recognise the areas for change. In this way, the born digital organisation is open to a diverse recombination of resources and actions and with such new logic of working, the centralised control shifts to a de-centralised autonomy, which facilitates the ongoing adaptations of practices.

5. Discussion

Our paper sought to advance understand how born digitals organise themselves and their interactions with their customers. To capture the distinctive practices associated with digital organising, especially those related to how organisations understand digital consumers and interact and communicate with them, we conducted an in-depth case study of a born digital organisation that is at the forefront of such developments in recreating its marketing and associated work in relation to its users. Based on our field study, we find

digital organisations are reconstructing themselves around a set of 'search' practices.

Our fieldwork identified distinct forms of search practices that we label *pre-emptive*, *reactive*, and *reflective and adaptive*. Table 4 represents the three practices and their aim with an illustrating example. Below, we unpack the various practices and how they are related.

5.1. Digital organising as search

Prior research identifies the different kinds of changes occurring within organisations with new forms of IT and digital technologies (Wessel et al., 2021) and has pointed to the need for more 'encompassing' (Orlikowski & Scott, 2016) or 'holistic' (Gregory et al., 2018) approaches to capture broader changes transcending IT functions. But arguably, the current ways we have of theorising digitally enabled changes (within traditional or born digital organisations) have centred primarily around IT governance and product innovations. Despite consumer digitalisation (e.g., proliferation in the use of consumer-facing digital platforms) and growing calls to examine how firms reorganise their marketing in relation to digital consumers and the volatile digital business ecosystem, research in this area is scant.

With the notion of search, however, we sought to capture the complex set of developments that include organisational practices (depicted in Fig. 3). We followed Stark (2011) and Lester and Piore (2009) in differentiating the two types of search (analytic and interpretive), to unpack how we conceptualise these practices as an interpretive form of search. This is because the type of search that we discussed (whether at the individual or organisational level) is not seeking to find solutions but is dynamic and ongoing. In a volatile digital era where organisations are dealing with digitalised consumers, they often do not know what they are looking for (no clear definition of a problem) as they deal with multiple and sometimes conflicting evaluation criteria and metrics of various platforms (causing frictions), rather, they search for the unknowns (experimenting different approaches).

More specifically, this is the practice of what Stark calls "search for the valuable", whereby organisational members continuously look for new sources of value for digital consumers (through interactions on social media, content, customer care, and so on) and how they become increasingly reflexive in managing interactions with them. Organisations in the digital business environment constantly strive to identify and leverage valuable opportunities within the platform ecosystem. In this respect, they find themselves having to navigate the inherent contradictions and tensions within the socio-technical business environment. The diverse platforms available present businesses with varying rules, user expectations, and marketing approaches, which can be seen as elements of dissonance that need to be navigated and organised. In this regard, we see the developments in three sets of practices: one oriented towards digital consumers, one towards malleable digital platforms, and one oriented towards organisational internal arrangements (from new expertise and roles to new structures and working arrangements). In developing our analysis, we have built on and extended Stark's (2011) discussion by showing how the new marketing and consumer-facing practices are shaped by search. We argue that the search is a result of the interweaving of these developments within the digital organisation.

5.2. Three search practices

Pre-emptive practices. The initial customer search is central to how marketing work is organised. The organisation seeks to facilitate and make sense of search, especially from customers. The digital consumer is placed at the centre of the organisation, contrasting with previous information system logics where they were 'managed' (Agre, 1995) or 'configured' (Woolgar, 1990) and kept at a distance. This centralisation is manifested in how customer-facing work is organised around social media listening and measuring customer value. The former is through following the consumers to monitor their opinions and views shared on social media, while the latter is through a constantly changing system of metrics to measure the value consumers generate as they move in their journey. This dynamic system of measurement is a source of productive friction (Stark, 2011) that is challenging to adjust to; it is a source of creativity as managers experiment with different approaches to create more value for the customers. Listening was itself a complex search process where organisational experts queried information systems and platforms to pick out patterns and respond. Platforms have also fostered the emergence of a new category of consumer, the influencer, who, because they have attracted large numbers of social media followers, hold sway over the digital organisation (Moor & Lury, 2011; Susarla, Oh, & Tan, 2012). Leveraging the power of influencers is key as organisations engage with multiple platforms and apps with different metrics and performance indicators to evaluate the

Table 4
The three search practices.

Search practices	Aim	Example
Pre-emptive	To harness the power of consumers' data using data analytics and other techniques in predicting their emerging needs and preferences.	Analysing users' behaviour in one market, developing an initiative by collaborating with an Instagrammer, analysing users' reactions and behaviour, and making adjustments
Reactive	To monitor developments in different digital platforms and react swiftly by incorporating the changes in their activities and interfaces.	Trying to understand Facebook's algorithm changes and to create more relevant user content (e.g., prioritise visual content and videos over text)
Reflective and adaptive	To make ongoing assessments of work practices and processes, question 'business as usual' and try new approaches at individual (experimentation) and organisational (structure) levels.	Creating new roles and teams (organisational) or trying new metrics to measure social media performance (individual).

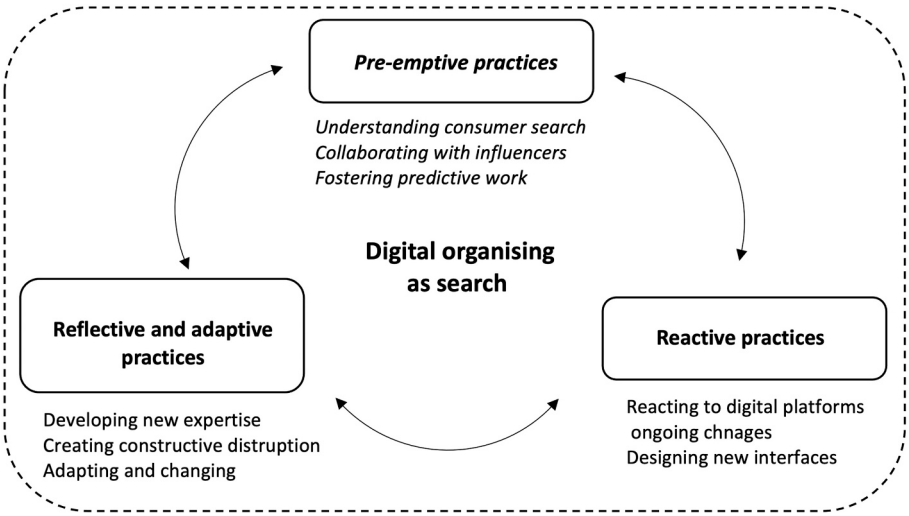

Fig. 3. Digital organising as search.

success. Each platform has its own performance indicators, engagement metrics, and algorithms that businesses must navigate. As such, businesses must develop a nuanced understanding of the evaluative frameworks specific to each platform. The new knowledge gathered from the study of consumers (listening, measuring, and influencer relations) allows the organisation to act pre-emptively towards them and others. Whilst in former generations of enterprise technology, the system was generally considered to be looking back (at combined records of previous activity) (Pollock & Williams, 2009; Robey, Ross, & Boudreau, 2002), search is an intrinsically forward-looking process that encourages pre-emptive forms of interaction.

Reactive practices. Because many of the technologies of search were outside the organisation's direct control, the digital organisation finds itself buffeted by external changes. Key technologies no longer reside exclusively *within* organisations. This dynamic socio-technical environment of digital marketing is another source of productive friction. With a multitude of platforms and apps, businesses encounter frictions arising from differences in platform rules, algorithms, and user behaviour patterns. These frictions can be both creative and challenging. On one hand, they may stimulate businesses to develop innovative marketing practices that leverage the unique features and affordances of each platform. On the other hand, they may create challenges in deciding which platforms to prioritise (e.g., social media versus search engine marketing), understanding their changing algorithms, and maintaining consistency and coherence across platforms. Managing and harnessing these productive frictions is crucial for organisations to navigate the digital landscape and create value. This means organisational actors are continuously responding to changes in external platforms and algorithms by reacting to them or designing new interfaces (the platform owners decide the pace and direction of changes). This new emerging logic, exacerbated by platforms and 'algorithmic phenomena' (Orlikowski & Scott, 2016), is a source of constant productive disruptions that create new growth opportunities, meaning that the search is a process of constant reaction.

Reflective and adaptive practices. Because search demands new knowledge and expertise, we see the emergence of new roles that develop techniques to help the organisation understand what consumers are searching for, how they are conducting searches, and on what platforms and devices they are searching. Scholars have already noted that digital organisations require new expertise in relation to digital consumers (Herhausen, Miočević, Morgan, & Kleijnen, 2020; Tumbas, Berente, & vom Brocke, 2018), but we take this further by showing the specific kinds of new expertise being spawned. These new digital marketing experts find various ways of engaging and interacting with consumers to create value. These experts describe themselves as being on a steep learning curve and that their job involved much grappling around in the dark (a search for unknowns). While previous generations of enterprise technologies were characterised by 'best practices' (Berente & Yoo, 2012; Wagner, Scott, & Galliers, 2006), there are, as yet, no standards for organising search. One key aspect of this was that it encourages experimentation. New experts constantly try-out new things by, for example, finding out what content would lead to better results in a specific market on social media platforms or email newsletters, how they can measure such results, what better results might mean. This reveals that they constantly change their way of working, described by our informants as 'constructive disruption', to remain flexible in this fast-moving environment.

Together, the various elements described here drive the organisation to engage in disrupting and adapting practices that lead to broader organisational changes. In this process, organisations delimit themselves in finding the best solutions and closure. This means organisations do not seek to find answers to certain problems; the aim of search practices in this context is not to find optimal solutions and answers as this is not possible due to the complexity of the situations. Instead, they create productive disturbances by questioning their assumptions, and they learn the ability to unlearn (Stark, 2011) (changing the existing way of doing things) in order to remain flexible in this constantly shifting environment.

We do not see search as an idiosyncratic characteristic of TSE. Other studies appear to be noting similar developments, but without conceptualising them in the way we do here. For example, Vial's, (2019, p. 122) account of the three types of 'disruptions' brought about by digital technologies that include disruptions in "consumer behaviour and expectations, competitive landscape, and the

availability of data", could be interpreted in this way. Likewise, Gregory et al. (2018, p. 1247) note the role of "consumer technologies" and "the rise of consumer sovereignty" in "ushering in more fundamental changes in organisations" and "ultimately leading a fundamental rethinking of organisational IT beyond the IT function".

5.3. The dynamic relationships of the practices

By identifying the above three practices, we conceptualise the core mechanisms of how born digitals reorganise themselves in relation to agentic digital consumers. In addition, these three practices are not carried out in isolation, rather they are mutually related and interconnected (as depicted in Fig. 3). Pre-emptive practices trigger reflective and adaptive practices as working on different platforms, their varied evaluative frameworks, and the projection of consumer value categories stimulate reflective cognition, which might require new expertise and also broader organisational adaptations. Pre-emptive practices also guide reactive practices as they depict priorities of platforms and associated user/consumer behaviour enabling swift reactions to the changes in platforms' algorithms and evaluative principles and creating new user interfaces. As Stark (2011) posits the diverse evaluative principles are a source of friction and organising dissonance.

Reactive practices amplify the need for more accurate comprehension and predictions of consumers' behaviour (pre-emptive practices), at least in the short term, as they enable new opportunities based on sources of data and consumers' search avenues. Reactive practices rationalise the development of new expertise, creation of constructive disruptions, and rethinking of collaborations and structures. This complements prior research that found that organisations need to adapt their practices in relation to a dynamic and complex digital business environment (Begkos & Antonopoulou, 2020; Holmlund et al., 2020) and such adaptations go beyond the IT management and usually involve marketing (Gregory et al., 2018; Wessel et al., 2021).

Reflective and adaptive practices support predictive analytics work, researching consumer behaviour and establishing influencer collaborations as they enable the required conditions for recurrent performance monitoring and organising of the dissonance (Stark, 2011) created by a volatile digital environment. This is similar to what Busco and Quattrone (2018, p. 2) refer to as "sustaining a process of scrutiny, questioning and search" in discussion accounting and performance measurement work. Outcomes of reflective and adaptive practices facilitate timely reactions towards platform changes and the forming of designing teams to build new interfaces since organisations are able to assess how resources (including expertise) are orchestrated and organised (Begkos & Antonopoulou, 2020; Holmlund et al., 2020).

Therefore, through these practices, organisation embrace the intrinsic forward-looking nature of search, constantly adapting and evolving to remain flexible in the dynamic digital landscape. The interplay between these practices creates a symbiotic relationship, forming the cycles of digital organising that are fluid, emergent, and responsive to the complexities of digital platforms and consumer behaviours. This comprehensive understanding emphasises the significance of Stark's search concept in unravelling the dynamics of digital organising and the transformative processes within digital organisations.

5.4. Theoretical contributions

Our first contribution is to build on the growing body of research on the implications of IT consumerisation (Gregory et al., 2018) and broader organisational digital transformations (Vial, 2019; Wessel et al., 2021). Existing studies have shed light on the important role of digital consumers in organisations' digitalisation. For instance, Nylén and Holmström (2019) suggest that organisations can enhance customer engagement and experience in their digital initiatives by building a consumer-focused organisation. However, they have not yet seriously examined how organisations (re)develop organising approaches to interact with digital consumers. We join with Gregory et al. (2018), who also calls for more 'holistic' forms of inquiry in examining broader changes in organisations beyond IT functions. The set of three practices and their relations we explicated in this paper which recurrently attempts to remake the relationship between consumers and the organisation, is a manifestation of broader digital organising beyond the realm of IT.

This holistic view, encompassing consumer interfacing actions, is important because it offers a bridge between IT and Marketing and eliminates functional silos in managing customer related analysis and decision-making. IS (Goes, 2014; Roy, Gruner, & Pantano, 2021) and marketing (Kalaignanam et al., 2021; Wedel & Kannan, 2016) scholars have highlighted the convergence of IT and marketing professionals in organisations. They point to the need for a more joined-up perspective to theorise how (digital) organisations enact digital consumers. Our paper adds to this conversation by showing that studies of digital organising and transformation require a cross-disciplinary approach to transcend the functional limitations and highlight how digital activities permeates across the organisation.

Our next contribution is to the literature of digital innovation in the context of born digital organisations (Huang et al., 2017; Tumbas, Berente, & vom Brocke, J., 2018). It is argued that born digitals are unique in their characteristic of relying solely on the digital world. Nascent discussions on digital organisations have predominantly focused on product development and operations and largely disregarded the role of marketing and user interactions in their digital innovation processes (Hund, Wagner, Beimborn, & Weitzel, 2021). Addressing this gap is important because studies have shown that customer engagement and experience are the core of digital transformation or digital organising efforts (Singh & Hess, 2020; Tumbas, Berente, & vom Brocke, 2018). While the digitalisation of external facing practices is emphasised, they still need to present a detailed view of how such practices materialise.

Our search discussion, because it moves beyond the study of only innovation opportunities for product/service design, also addresses Huang et al.'s (2017) call to study marketing and consumer-facing efforts in born digitals processes of digital innovation. Our study reveals how born digitals engage in constant discovery and combinations of approaches through a set of associated practices to (re)define and (re)create their relationships with their users, which occurs at the practice level as well as organisational level (routines,

processes, and structures). This is also aligned with Tumbas, Berente, and vom Brocke's (2018) findings that those involved in digital innovation are often externally oriented towards customers and act between marketing and IT functions. In contrast with current discussion, which focuses on novel approaches in product/service design or governance and new roles (Huang et al., 2017; Tumbas, Berente, & vom Brocke, J., 2018), digital organising, in our view, requires an openness that puts consumers at the centre and orchestrates activities across the organisation without limitations of boundaries and structures.

A final contribution is to throw light on the notion of search and how it can be used further in studying digital organising and digital transformation phenomena (Gong & Ribiere, 2021; Hinings, Gegenhuber, & Greenwood, 2018). We take forward Stark's (2011) conception that search is bringing forth fundamental changes to organisations' internal arrangements. Since consumers are constantly looking for information, products/services, interactions, communities, relationships, and value through these platforms, organisations are required to turn into sites of search and discovery. As the actions of digital consumers are dynamic and ongoing and digital platforms are inherently malleable, organisations' search is also fluid and interpretive instead of purely analytical (Lester & Piore, 2009). Therefore, we think adopting a practice-based view of search is a way to offer a complete picture of the digital phenomenon. This approach helps to position search as a situated sociomaterial activity which is future-oriented. This practice-based search contrasts one-sided insights in the current literature (e.g., IT governance, digital work, IT innovation). Because in the era of unpredictable emerging changes, focusing on inquiry or search, the practices are no longer about finding what is known to be of value but to enable ongoing recombinations and new creations.

5.5. Limitations and future research

Our study has limitations which also provide possibilities for further research. First, the study investigated a born digital organisation. Further empirical investigation is needed to explore how search processes might differ in more traditional organisational contexts. Second, we focused on marketing and practices related to digital consumers specifically and only touched on how these practices might cross other areas of the business (such as product design and software development). However, this provides interesting opportunities for future studies to examine how marketing, product design, data science, and creative work intersect and are interrelated. Furthermore, in terms of future directions, we see potential in studying search practices. The phenomenon of digital organising and transformation takes on a new hue when seen through the lens of search. The concept comprehends how local practices and organisational routines are informed and shaped by broader developments, digital consumers and changes in platforms and algorithms, that have also been a core focus of research and scholarly concerns. More generally, the notion of search can offer an analytical template for future studies to examine how different digitalisation processes interconnect and, when they do interrelate, how they can be consequential. For instance, studies may examine the search process during particular moments, but it would seem valuable to also study search during a key or crucial moment. It might be important to understand how the search process unfolds when platforms introduce significant changes to their platform, for example. During our fieldwork we saw that when Facebook carried out extensive modifications to its algorithm that this was highly unsettling to TSE and precipitated a series of internal adjustments. This was not only because of platform changes but also since such changes are intertwined with how digital consumers use the platforms.

CRediT authorship contribution statement

Najmeh Hafezieh: Investigation, Conceptualization, Formal analysis, Writing – original draft. **Neil Pollock:** Conceptualization, Writing – review & editing.

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