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RESEARCH ARTICLE

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A tale of two frames: Exploring the role of framing in the use discontinuance of volitionally adopted technology

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Abstract

The discontinuance of volitional IS (i.e., information systems adopted, used and discontinued at will) has recently attracted remarkable attention from academics and practitioners alike. However, most research to date has been ahistorical. Ignoring the temporal progression can be problematic when the phenomenon under investigation is dynamic and evolving. To balance this, we adopt a stage modelling approach to understand the process ending with the technology use being discontinued by users of a popular crowdsourcing platform. Two questions guided our investigation: (1) Why do users discontinue using an IS they have volitionally adopted and used? (2) How does IS discontinuance occur over time in such context? We develop a stage model demonstrating that five stages are critical in understanding IS discontinuance: IS framing, goal pursuit, frame disruption, dormancy and quitting, after which possible switching denotes a new cycle. Furthermore, we identify two frames that help us understand why different users interpret and evaluate the technology differently – namely, the gain frame and the hedonic frame. On one hand, a gain frame is linked to the goal of improving one's resources and thus directs the user's attention to the technology's instrumental value. On the other hand, a hedonic frame is linked to the goal of having fun and thus directs the user's

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attention to the technology's enjoyment value. But, most importantly, we show that the technology's use lifecycle as a whole from initial use to discontinuance is shaped and guided by the user's dominant frame. Our insights elicit a number of important theoretical and practical implications.

KEYWORDS
IS discontinuance, qualitative study, stage model, volitional IS

1 | INTRODUCTION

Discontinuance of information systems/technologies (IS/IT) has been a recognised concern for nearly three decades (Cooper, 1991); however, only recently has it started to attract significant attention from scholars in different fields, including IS (Furneaux & Wade, 2011, 2017; Maier, Laumer, Weinert, et al. 2015; Maier, Laumer, Eckhardt, et al. 2015; Mehrizi et al., 2019; Turel, 2015), service research (Hogan et al., 2003; Rosenbaum & Wong, 2015), and marketing (Butcher et al., 2020; Hand et al., 2009), to name a few. Within workplace contexts, discontinuance research provides top management with insights regarding why employees may reject (Cenfetelli, 2004) or abandon an IT/IS partially or completely (Recker, 2016), despite the heavy investment and commitment made by decision makers (Bosteels, 2018).

In volitional contexts – the main interest of this article – discontinuance is far less understood. Since end users have full discretion to use or abandon a given technology at will, IS discontinuance has emerged as one of the most troublesome issues for modern digital services targeting individual users. Market reports indicate that high churn rate and low user retention are problems that many if not most digital platforms struggle with. For instance, while many media reports praised Twitter for the massive growth rate of its user base during its early years (1382% between 2008 and 2009; Ostrow, 2009), it has also been shown that nearly 90% of Twitter users who joined in 2012 had already stopped tweeting by 2013 (Koh, 2014). In a similar fashion, recent usage reports suggest that Facebook is experiencing a steep rise in the number of users who are abandoning the platform (Anderson & Jiang, 2018; Hsu, 2018). Retaining users can be even more difficult for businesses less affluent than the likes of Facebook and Twitter. Usage statistics show that the average retention rate for smartphone applications (i.e., mobile apps) on the Android platform three months after signing up is less than 5%, meaning that more than 95% of new users of an average app will quit the use within the first 90 days (Chen, 2015). These observations highlight the importance of understanding how and why users change their minds about IT/IS products and services that they once chose to adopt and use.

Surprisingly, despite its relevance and its impact on practice, the research on IS discontinuance remains for the most part static and attributes-focused: most IS studies to date treat discontinuance as a static construct (i.e., a dependent variable), and the ultimate aim of most of these studies is to identify the 'objective attributes' or characteristics that make an IT/IS more or less likely to be discontinued or rejected (Cenfetelli, 2004). While insightful, this perspective leaves important questions unanswered, including how and why users decide to abandon an IS/IT they once adopted. Questions of this nature are better suited to a process approach since it accommodates change and development (Langley, 1999) and has the capacity to construct a view based on the analysis of users' accounts of their lived experiences (Pentland, 1999; Ramiller & Pentland, 2009). Along these lines, the objective of this study is, first and foremost, to understand the process (i.e., stages) leading to the discontinuance of a volitionally adopted technology. More specifically, we set out to answer the following research questions: (1) Why do users discontinue the use of an IS they have volitionally adopted and used? (2) How does ISdiscontinuance occur over time in such context? To answer these questions and to capture the dynamic nature of use and discontinuance behaviour, we conducted a longitudinal study over a span of two years in the context of a crowdsourcing platform called Scoopshot,

which by design reflects a business tool (i.e., utilitarian IT/IS) but is viewed by many users as an application for leisure time (i.e., hedonic IS/IT). The rich insights we gained from interviewing the study participants led to several important conclusions, including that different users evaluate their usage experience from very different perspectives, their goals for the use and perspectives on the technology may change over time and the process from initial exposure to discontinuance involves several stages. Aided by the theoretical lens of *framing* (Keizer et al., 2008; Lindenberg, 2001; Lindenberg & Steg, 2007; Orlikowski & Gash, 1994), we develop a stage model that explains why and how the content of these stages can be radically different depending on the users' goals and framing of the IS/IT in question.

The remainder of the article is organised as follows. In the next section, we first present a review of earlier research on IS/IT discontinuance, and then in Section 3, we introduce our research approach and elaborate the theoretical framework adopted for this study. In Section 4, we present the key findings of the study, which in turn will serve as the building blocks for discussion and theoretical elaboration in Section 5. Finally, Section 6 is dedicated to outlining the concluding remarks of the study.

2 | LITERATURE REVIEW

Two perspectives may be used to define IS discontinuance. First, from the technology perspective, discontinuance reflects the state of not being in use. This implies that when an IS/IT is not used, it becomes a mere assembly of hardware and software, and it is no longer an information system (Paul, 2010). Second, from the user perspective, IS discontinuance represents a decision to temporarily or permanently refrain from using a given technology. This decision, however, varies in meaning depending on the context and temporal stage at which this decision is taken (Soliman & Rinta-Kahila, 2020). In this study, we focus on the user perspective and discontinuance as a user's post-adoption decision/behaviour.

To gain a broad perspective on how IT/IS discontinuance is discussed in the extant literature, we engaged in extensive reading in the IS domain, as well as in other relevant fields, such as service (Hogan et al., 2003; Rosenbaum & Wong, 2015), marketing (Butcher et al., 2020; Hand et al., 2009), communication (York & Turcotte, 2015) and education research (Geri & Naor-Elaiza, 2008). Appendix Table A1 provides a list of the reviewed articles and some of the most important insights they provide. Below, we present a summary of this body of literature with an eye on contextual and ontological dimensions.

While the notion of context reflects a wide variety of facets, such as geographical, cultural and organisational characteristics (Davison & Martinsons, 2016), situational characteristics (Mallat et al., 2009) and technological characteristics (Salo & Frank, 2017), in our review, we focus on a socio-technical facet of context that is commonly captured in IS research by a distinction made between organisational IS (i.e., technologies developed for organisations to be used by its members) and non-organisational IS (i.e., technologies developed to be used by the general public at their own discretion). Even though not all use contexts of organisational IS are mandatory and not all non-organisational contexts are volitional, this classification is helpful in organising the key insights from the literature. The ontological dimension, in turn, reflects here what the conception of IS discontinuance in a given study is. In effect, this dimension captures whether discontinuance is conceptualised as the outcome of a process by which a user goes through qualitatively different stages, or as a (dependent) variable that varies only in quantity (e.g., intention to discontinue using an IS on a scale of 1-to-7) but preserves its meaning across time. Table 1 provides an overview of the reviewed literature based on these two dimensions.

2.1 | Discontinuance of organisational IS/IT

Nearly one-third of the identified IS discontinuance articles focus on organizationally oriented IS. This body of research makes a distinction between the technology buyers (typically referred to as 'managers' or the 'organisation') and technology users (typically referred to as the organisational members such as 'employees'). The most dominant narrative

TABLE 1 Overview of the literature on IS/IT discontinuance[a]

	Organisational IS	Non-organisational IS
IS Discontinuance as a Variable: IS discontinuance treated as a **dependent variable**	13 out of 50 articles The dependent variable is captured either *quantitatively*, typically measured on an 1-to-7 scale, such as discontinuance intentions, switching intentions, and so on (e.g., Polites & Karahanna, 2012), or *qualitatively*, as a binary decision, such as reject, quit, unadopt, and so on (e.g., Goode, 2005). **Methods used**: Surveys (Furneaux & Wade, 2017), field experiments (Aggarwal et al., 2015), interviews (Charki et al., 2017), as well as conceptual modelling (Furneaux & Wade, 2010). **IT/IS studied:** Office automation tools (Cooper, 1991), organisational inventory IS (Recker, 2016), inter-organisational IT (Power & Gruner, 2015).	31 out of 50 articles[b] The dependent variable is captured either *quantitatively*, typically measured on a 1-to-7 scale, such as discontinuance intention, unfollowing intentions, and so on (e.g., Tang & Chen, 2020) or *qualitatively*, as a binary decision, such as reject, switch, pause, and so on. (e.g., Rosenbaum & Wong, 2015). **Methods used**: Surveys (Lin et al., 2020), mixing surveys with interviews (Maier, Laumer, Weinert, et al. 2015; Maier, Laumer, Eckhardt, et al. 2015), mixing surveys with content analysis (York & Turcotte, 2015), field experiment (Danaher, 2002), lab experiment (Lemon, White, & Winer, 2002), as well as simulations (Chesney & Lawson, 2015). **IT/IS studied:** Social networking sites (Vaghefi et al., 2020), Internet/web browsers (Cenfetelli & Schwarz, 2011), online services (Lemon et al., 2002) as well as technology in general (Hogan et al., 2003).
IS Discontinuance as a Process: Discontinuance treated as a **consequence of temporally ordered stages**	3 out of 50 articles Identified stages depend on the theoretical perspective. For instance, from a path-breaking perspective, the discontinuance of a legacy system is seen as a sequence stages, such as, realisation, reversion, handover, then marginalisation (Mehrizi et al., 2019). **Methods used:** Interviews (Pollard, 2003) and participant observations (Miller et al., 2009). **IT/IS studied:** Legacy IS (Mehrizi et al., 2019), CAD in the construction domain (Miller et al., 2009) and group support systems (Pollard, 2003).	3 out of 50 articles Identified stages depend on the theoretical perspective. For instance Tsohou et al. (2020) theorise that following technical failure, users of IT-based service go through the five stages of blaming, bypassing, tolerating, abandoning and overcoming. **Methods used:** Interviews (Cho, 2015; Tsohou et al., 2020) and focus groups (Butcher et al., 2020). **IT/IS studied:** Facebook (Cho, 2015), IT-based services in general (Tsohou et al., 2020) and mobile games (Butcher et al., 2020).

[a]A more detailed summary of the identified 50 articles on IS/IT discontinuance is in Appendix Table A1.
[b]Among the 31 articles categorised as non-organisational use-context are four articles where the reporting of intended use-context has been rather ambiguous (Cenfetelli, 2004; Spiller et al., 2007; Whitacre & Rhinesmith, 2016; Zhu & He, 2002).

here is that discontinuance represents a conflict between what the management envisions and what employees do, and the studies typically explore mechanisms that managers can utilise to steer the employees in the desired direction. In many cases, the emphasis is on understanding why employees reject or resist technologies the organisation has invested in. Most notable antecedents include perceived ease of use and usefulness (Aggarwal et al., 2015; Polites & Karahanna, 2012; Recker, 2016), compatibility (Geri & Naor-Elaiza, 2008; Tully, 2015), supportability (Furneaux & Wade, 2010, 2011, 2017), as well as trialability and flexibility (Tully, 2015). We also identified three articles that aim at capturing the IS discontinuance from a process perspective (Mehrizi et al., 2019; Miller et al., 2009; Pollard, 2003) and draw our attention to the temporal complexity inolved in the IS discontinunace process within organisations.

2.2 | Discontinuance of non-organisational IS/IT

With IS/IT targeting the general public – the main focus of our research – the individual user is ultimately solely responsible for her or his own choices and behaviours to the degree that they serve her or his self-set goals. Two-third of the identified articles (34 out of 50) in our review focus on non-organisational IS, the majority of which (31 out the 34) conceives IS discontinuance as a variable. Among these, we could identify two main narratives: discontinuance of social networking sites (specifically) and the discontinuance of IT innovations (more generally). On the one hand, in studies on the use discontinuance of social networking sites (mainly Facebook), discontinuance is typically presented as a form of coping with (and adapting to) negative encounters and disturbances, or what is generally described as the 'dark side of IT' (Tarafdar et al., 2015). From this perspective, the likelihood of discontinuing social media is associated with negative and undesired experiences, such as addiction (Turel, 2015; Vaghefi et al., 2020), guilt (Turel, 2016), technostress (Luqman et al., 2017; Maier, Laumer, Weinert, et al. 2015; Maier, Laumer, Eckhardt, et al. 2015), fatigue (Ravindran et al., 2014), as well as social media overload (Maier, Laumer, Weinert, et al. 2015; Maier, Laumer, Eckhardt, et al. 2015; Zhang et al., 2016). On the other hand, the main objective of studies focusing on IT-based service/innovation is to explain or predict the discontinuance (e.g., rejection and un-adoption) of IT-based services and innovations beyond the narrow focus of social media, such as the Internet service (Kim, 2011), broadband (Whitacre & Rhinesmith, 2016), mobile data subscription (Kim et al., 2008), web browsers (Bhattacherjee et al., 2012), and online shopping platforms (Hand et al., 2009). These studies generally aim at identifying the key attributes that facilitate or hinder the adoption of the IT innovation or service. In addition to these predominantly attribute-oriented (i.e., static) studies, a few sets out to shed light on the dynamic nature of the process leading up to a discontinuance decision. For instance, Tsohou et al. (2020) inductively develop a theory that proposes a series of stages that IT service users pass through (i.e., blaming, bypassing and tolerating) after they experience a technical failure, and before they make the final decision to abandon the service.

Our review of IS/IT discontinuance literature reveals that while we know a great deal about the significant factors that explain variance in the '*users' intentions to discontinue IT*' construct, very little is known about the process or the stages leading up to (actual) discontinuance. Two approaches to explaining phenomena are worth noting briefly here: a static approach (i.e., variance, stage-less theories) and a dynamic approach (i.e., process or stage theories). In the static approach, the phenomenon of interest (e.g., technology use) is composed of entities (e.g., dependent and independent variables) that maintain a fixed meaning and identity through time, even if their values change (Van de Ven & Engleman, 2004). For instance, in the life course of technology usage, the attribute 'usefulness' is assumed to hold the same meaning for all actors and across time whether the reported values is 1 out of 7 or 7 out of 7 (see e.g., Burton-Jones et al., 2015). By contrast, in the process or stage perspective, the phenomena of interest are assumed to be developing and changing, actors are assumed to live qualitatively different experiences in the form of stages, and entities (e.g., factors, events, attributes, etc.) are expected to have different roles and exert different influences at different stages (Weinstein et al., 1998). For instance, 'user dissatisfaction' emanating from a disconfirmed expectation for a first-time user of a given technology differs from 'user dissatisfaction' emanating from evolution of a long-time user (e.g., maturing or reprioritizing life goals). Although 'user dissatisfaction' might be partially responsible for 'discontinuance' in both cases, the meaning of these entities is different.

Hence, we maintain that understanding the history an IS/IT shares with its user helps in distinguishing between the different use experiences without reducing them to simple notions of non-use (intentions). We will address this gap with the help of dynamic lenses provided by process and stage modelling where temporality is at the core (Langley, 1999; Langley et al., 2013; Pentland, 1999).

3 | RESEARCH APPROACH

The work at hand belongs to the interpretation-centric, inductive research genre (Sarker et al. 2018). More specifically, we aim to develop a theory-informed narrative explaining the process of IS discontinuance in the studied

context. The resulting narrative corresponds to what Gregor (2006) calls 'Type II theory', a conception of theory that promotes greater insights into the phenomenon of interest by advancing an explanation of '*how and why things happened in some particular real-world situation*' (p. 624). Hence, the study participants' narrated experiences with the IS, as well as our own personal experiences, are at the core of our analysis (Langley, 1999; Pentland, 1999). Although interpretive research is not interested in testing theory in the verificationist sense (Klein & Myers, 1999), an existing theory can provide a lens through which to make sense of the world or phenomenon studied and afford a scaffold for further development. Our interpretations, and the theoretical model we develop, are informed by framing theory and its implications on individuals' interpretations and behaviour (Keizer et al., 2008; Lindenberg, 2001; Lindenberg & Steg, 2007; Orlikowski & Gash, 1994).

This conception of theory is consistent with the *theory as narrative* view (Pentland, 1999), in which '*explanation requires a story and [...] stories can be understood as process theories*' (p. 717). Narrative-oriented inquiry belongs to a retrospective genre of research (Cox & Hassard, 2007), and, as such, it is acknowledged that a personally narrated account (i.e., narratives-as-told) is not a perfect account of undisputed objective reality but a representation of someone's point of view (Bold, 2012). Work of this nature typically utilises process or stage theorising and fits well within the interpretive paradigm, where the theory itself is an end product and is not expected to lead to predictive, deterministic theory (Gregor, 2006).

Conventionally, when we talk about the logical structure of a theory (Markus & Robey, 1988), two perspectives are often contrasted: the variance (or stage-less) and the process (or stage) perspectives (Burton-Jones et al., 2015; Markus & Robey, 1988; Ramiller & Pentland, 2009; Van de Ven & Engleman, 2004; Van de Ven & Poole, 2005). Whereas the variance perspective might be well suited to answer 'what' questions (e.g., what are the most statistically significant antecedents of IS discontinuance intentions?); the process perspective is more suited to answer 'how' questions (e.g., how does IS discontinuance occur over time?). (Langley et al., 2013; Van de Ven & Engleman, 2004). In the specific domain of IS research, the process perspective is often found to be more relevant when '*the agency of the users is given much more importance*' (Karjalainen et al., 2019, p. 697). It also takes into account temporality and '*focuses empirically on evolving phenomena, and it draws on theorising that explicitly incorporates temporal progressions of activities as elements of explanation and understanding*' (Langley et al., 2013, p. 1). This approach matches well with our aim to understand why users discontinue the use of an IT/IS they have volitionally adopted and theorising about how IS discontinuance occurs over time. Progression assumed in stage theorising, however, does not imply that the development is inevitable or irreversible as understood for example in biological development theories (Weinstein et al., 1998). Indeed, whereas one user might decide to discontinue an IS immediately after the first trial, others may move on to further stages and become active (i.e., continued) users. Yet, at a later point in time, things could change and these active users might start contemplating quitting a once enjoyed technology. As such, in line with Weinstein et al. (1998), stage-based theorising at its core recognises that '*different issues are important at different times, and at any point, the process can be halted, reversed, or abandoned*' (p. 291).

Considering the interpretive nature of our study, and the theoretical ambition discussed earlier (Gregor, 2006), our main objective is to understand a specific phenomenon in a specific context rather than to make causal inferences from sample to population (Seawright & Gerring, 2008). Such orientation reflects what is often described as an ideographic (context specific), rather than a nomothetic (general law), type of research (Gerring, 2006; Lee, 1991).

3.1 | The theoretical concept of framing

The premise of framing is simple, but its implications are vast. In everyday life discourse, we often talk about the notion of *frame of reference* and the idea that one might see matters differently depending on how a situation or a problem is '*framed*' and what '*labels*' we attach to these situations. Orlikowski and Gash (1994) introduced the notion of technological frames to IS to explain how different organisational groups perceived and interpreted the same technology differently, thus leading to different outcomes. In that work, technological frames were defined

as '*subset of members' organisational frames that concern the assumptions, expectations and knowledge they use to understand technology in organisations*' (Orlikowski & Gash, 1994, p. 178). The roots of framing, however, has been attributed to various influential writings, mainly, Wittgenstein's (1953) notion of *family resemblance* (Orlikowski & Gash, 1994; Rosch, 1978), Berger and Luckmann's (1967) work on *social construction* (Orlikowski & Gash, 1994), Bijker et al.'s (1987) work on *social construction of technology* (Davidson, 2002; Davidson & Pai, 2004), as well as Goffman's (1974) work on *frame analysis* (Druckman, 2001; Su, 2015). The core premise of framing theory, as highlighted by Chong and Druckman (2007), is that '*an issue can be viewed from a variety of perspectives and be construed as having implications for multiple values or considerations*' (p. 104). In this sense, framing is often described as '*the process by which people develop a particular conceptualization of an issue or reorient their thinking about an issue*' (ibid). The powerful implication of this simple idea has led to the popularity of framing theory in various fields of research, including psychology (Mervis & Rosch, 1981; Rosch, 1978), communication science (Entman, 1993), political science (Chong & Druckman, 2007; Druckman, 2001) and organisation science (Weick et al., 2005) as well as in information systems science (Davidson, 2002; Hsu, 2009; Orlikowski & Gash, 1994; Su, 2015).

To explain the underlying mechanism of frame formation at the individual level, Lindenberg (2001) complements framing theory by emphasising the crucial role of competing goals on dominant frames. This body of work is often referred to as goal framing theory (Keizer et al., 2008; Lindenberg, 2001; Lindenberg & Steg, 2007). Goal framing theory suggests that in a given situation individuals may be faced with a number of goals that compete to dominate the individual's limited cognitive resources, or simply *'compete for the privilege of being on centre stage'* (Lindenberg, 2001, p. 322). The winning goal dominates the frame, which in turn shapes how we see, interpret and evaluate what we experience in our environment. The theory points to three alternative frames that may be relevant in different contexts: (a) a *hedonic* frame, which is often linked to the goal 'to have fun' or 'to feel better'; (b) a *gain* frame, which is often linked to the goal 'to improve one's resources'; and (c) a *normative* frame, which is often linked to the goal 'to act appropriately' (p. 339). The normative frame is more relevant to contexts where moral quandaries are salient – such as environmental protection behaviour (Lindenberg & Steg, 2007) or social order in public spaces (Keizer et al., 2008). Therefore, in our work, we focus on the *hedonic* and *gain* frames.

As will become evident in our findings, recognising and understanding the role of goals are critical because they serve two functions. First, goals motivate people to develop strategies and take actions that help them to achieve these goals. Second, a goal acts as a standard for judging satisfaction (Lunenburg, 2011). Indeed, research on human motivation acknowledges that '*to say that one is trying to attain a goal of X means that one will not be satisfied unless one attains X*' (Locke & Latham, 2002, p. 709). We argue that use of technology is always goal oriented – especially in volitional contexts – even if the goal is not clearly defined and consciously acknowledged by the user. For example, an individual might come across a new smartphone app that s/he decides to try. Her or his initial goal could be to satisfy curiosity or simply to pass time while waiting for a bus; but after the first try, the goal might develop into something else, say, to provide entertainment.

To summarise, informed by goal framing theory, we argue that a given IS/IT can be viewed from a variety of perspectives depending on what goals they serve for a given user. Furthermore, based on this theoretical lens, we realise that different users, while performing the same activity, may experience and evaluate the use of the same technology differently. In other words, what a user experiences from a hedonic frame (with a hedonic goal and motivation) may constitute a different reality to what a user sees from a gain frame (with a utilitarian goal and motivation).

3.2 | Empirical context of the study

The empirical context of our study comprises the Scoopshot platform (https://www.scoopshot.com/) and its users. Scoopshot is a crowdsourcing platform dedicated primarily to the trade of crowd- or user-generated content (UGC). With the first author having been a participating user in the platform and given the unique opportunity to

access the organisation and its management (Eisenhardt & Graebner, 2007), Scoopshot was initially chosen as the research setting to explore the specific phenomenon of crowdsourcing post-adoptive behaviour. Long and in-depth exposure to the case and its community inspired us to expand the research scope to include discontinuance as an integral part of the IS usage lifecycle to understand how and why discontinuance happened in the specific context of Scoopshot.

During the empirical research period, Scoopshot was successful in attracting a large user base. Having been available for Apple, Android and Windows smartphones, it had been installed by over 500 000 users across 177 countries. The platform facilitates and manages the exchange of UGC, such as photos and videos, between content seekers (e.g., *media* agencies) and the Scoopshot users. Scoopshot users, who are also called *Scoopshooters*, participate either by responding to a pre-set task by a seeker firm or by submitting content that they believe to be publishing-worthy. The submitter may get compensated if the content is chosen to be purchased by a seeker. Sold content is typically used for publishing purposes in different visual media (e.g., TV, newspapers or online media). The company's CEO summed up how Scoopshot works: *'Media can send targeted tasks to the Scoopshooters anywhere in the world. In other words, I select a region and I direct and send a push notification to all the Scoopshooters in that region asking them to take photographs of an event. At the same time I tell them how much I'm willing to reward them for that photo'* (Salz, 2012).

For the empirical research duration, the Scoopshot platform did not facilitate online social impression capabilities or features (e.g., liking, following, commenting, etc.). This was an intentional choice by Scoopshot's management to position themselves as a 'serious service'. Scoopshot's COO told us, *'We are not doing social media; we are helping media to become social'*. In other words, the management at that point did not envision Scoopshot to be competing with other photo-based social media platforms, such as Instagram and Snapchat. Instead, Scoopshot was designed to offer a unique opportunity for media organisations to utilise the crowd as a constant source of fresh content and for the crowd members to be compensated for their efforts.

3.3 | Data collection

In addition to the initial interviews with Scoopshot's management, our primary data consist of 'conversation-as-narrative' (Bold, 2012) produced through semi-structured interviews with various actors in the studied context. Interviews are central to qualitative research '*since they enable researchers to step back and examine the interpretations of their fellow participants in some detail*' (Walsham, 1995, p. 78). Altogether, 30 interviews were conducted over the span of two years with 20 informants: two Scoopshot top management members and 18 Scoopshot users. The 18 Scoopshooters included 15 males and three females of ages ranging between 17 and 46 years and with different educational and professional backgrounds (see Appendix Table A2 for details). The first round of interviews took place between April 2012 and May 2013, with the emphasis on understanding the process by which the participants became active users. The second interview round was conducted between May 2014 and December 2014, with the emphasis on understanding the process by which active participation transformed into discontinuance.

Since our focus has been on post-adoptive behaviour(s), our selection rationale was purposive in nature rather than random (Guest et al., 2006). Specifically, considering the non-probabilistic design of our research, the guiding principle for eligibility was active participation and discontinuance well beyond the experimentation or initial use stages. We communicated this objective with our contacts at Scoopshot, who in turn provided us with a list of user contacts who fit the description. Of the 18 Scoopshooters, 10 participated in both interview rounds, five in the first interview round only and three in the second interview round only. All 18 were relevant for the purpose of user profiling, while the 13 participating in the second round of interviews were instrumental in understanding the latter stages of the use lifecycle. Additionally, to enhance our understanding of the user experience, the first author has been a registered user of the service since 2011. He has participated in several announced photography tasks and has also been following the development of the service from a user's viewpoint. Our secondary data include press

reviews and a wide range of online materials concerning how Scoopshot is presented and discussed in press releases (see Appendix Table A3 for a list of sources of our secondary data).

Considering the dispersed geographic locations of the Scoopshooters, synchronous computer-mediated communication tools were used to allow for flexibility in choosing the time and place for the interviews. While the core interview themes remained the same for all interviews, some questions were added or omitted depending on the flow of the conversation, and the exact wording and order of some questions differed from one interview to another. The guiding rule was to allow the participants to reflect on their use experience and to give them a chance to reconstruct their stories based on how they had lived them (Pentland, 1999), with careful attention to avoid imposing any preconceived assumptions. After establishing that the interviewee had actually discontinued his or her use of the Scoopshot app for a period of time, the conversation was organised around elaborating the sequence of events and reasons that resulted in discontinued use. The core questions were used to elicit explanations of how the user went from being an active user to a non-user, about disappointments and features that s/he missed in Scoopshot and about advice on how Scoopshot could be improved (see Appendix Table A4 for an example of the interview protocol).

3.4 | Data analysis

In line with our process theorising objective, our analysis framework is influenced by narrative theory (Bold, 2012; Pentland, 1999; Schwarz et al., 2014) and its synthesis of the stratification of narratives (see Figure 1). From a structural point of view, narratives are seen to be composed of multiple levels. At the surface level, *text* (or narrative-as-told) represents the most descriptive account of people's experiences. This is typically the level at which we observe what people say, conduct interviews and generally collect data (Pentland, 1999). Additionally, at this level, we typically expect thick descriptions and accept that each individual experience is unique. Below (narrated) text reside *stories*, which are more abstract than text and occupy a deeper layer than text in narrative theory. Whereas text preserves the uniqueness of each individual experience, stories preserve shared perspectives. As such, stories may be seen as denser and more abstract conceptions of the observed data (Pentland, 1999). In a theory-building exercise such as ours, stories are essential because they provide the foundational building blocks of theorising. The next level down is the *fabula*, or those aspects of stories that do not change from one telling to another. Fabula can be thought of as a level of abstraction that preserves the essence of stories and, as such, provides the best example of what is often referred to as abstract process or stage models.

The dynamic nature of the process theorising perspective led us to utilise a combination of both static and dynamic data analysis approaches. By static analysis, we mean the actions we took to identify the key themes in our data (i.e., the building blocks) based on an iterative process of within-case and cross-case analysis (Braun & Clarke, 2006), where the case here refers to an individual user. Thematic analysis centres on the cyclic iteration between coding the textual data, searching for themes, reviewing and refining themes and developing an overall story that accentuates the most important themes (Braun & Clarke, 2006). Thus, thematic analysis affords the procedural flexibility needed especially when dealing with narratives which contain 'partial stories' (Bold, 2012) as well as different conversation styles in terms of, for example, a narrative's richness or vividness. This notion was clear in our data; some participants were highly lucid and elaborate in telling their stories, while others were much briefer during the conversation. All interview transcripts were coded using both semantic and latent themes (Braun & Clarke, 2006), reflecting the distinction that Van Maanen (1979) makes between first-order and second-order concepts. Specifically, first-order concepts in our analysis are seen to be more reflective of the empirical data and represent as close as possible the narratives as generated by the participants themselves. Second-order concepts (or latent themes), in turn, are more analytic in nature as they reflect the analysts' interpretation of certain concepts, which are influenced by the theoretical lenses we adopt. For instance, we consider the code 'Framing' to be analytic, second-order because, consistent with goal framing theory (Keizer et al., 2008; Lindenberg, 2001; Lindenberg &

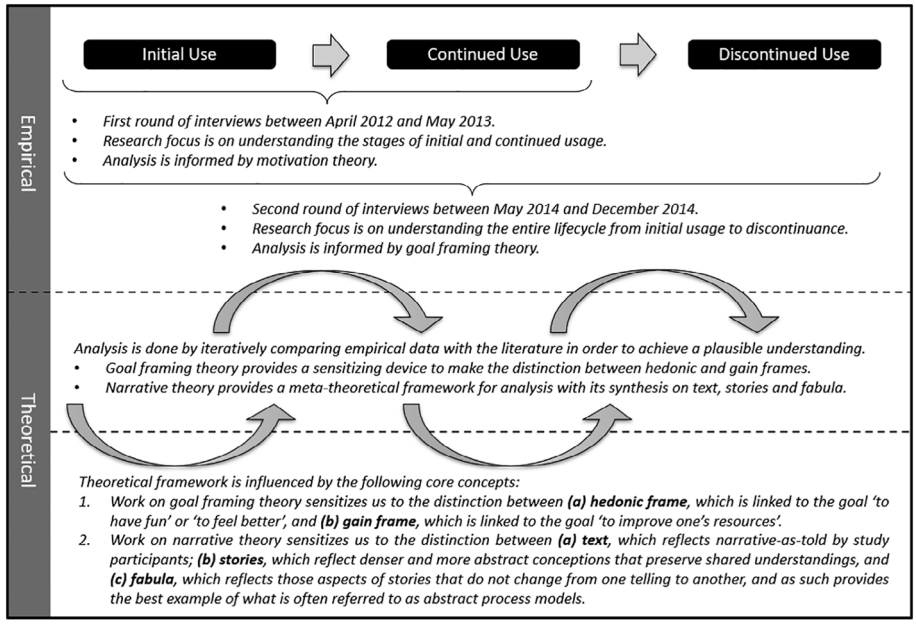

FIGURE 1 Analysis framework

Steg, 2007), it provides an adequate label for the process by which the same technology is perceived differently by different users (for coding examples, see Appendix Table A5).

To complement this coding procedure, and to capture the dynamic nature of the process, we maintained a database to tabulate the key events experienced by each participant in a temporal progression manner. The three logically ordered stages of a typical IS use lifecycle – initial use, continued use and discontinuance – served as the foundation for our temporal bracketing strategy (Langley, 1999) and helped us capture the activities pertaining to each stage. Key insights from each interview were documented in this database with a high-level timeline of each user's own story following a logical temporal sequence (e.g., the first time the interviewee heard of Scoopshot, the first time s/he used it, the key motivations for initial use, the key motivations for continued use, the main reasons for disappointment, the time span s/he had the app before deleting it, and eventually the time when s/he decided to remove it from her/his smartphone). Even though this procedure was predominantly descriptive in nature, it was in fact the first step towards the more theoretical analysis that followed (Keizer et al., 2008; Lindenberg, 2001; Lindenberg & Steg, 2007). In addition to the identification of the stages, we paid careful attention to the salient stage-specific experiences (Schwarzer, 2008; Tsohou et al., 2020; Weinstein et al., 1998) as well as the triggers that influenced users to either move forward or backward between stages, which we called forward and relapse triggers (Schwarzer, 2008; Tsohou et al., 2020; Weinstein et al., 1998).

The iterative data-analysis process continued until we reached an adequate level of theoretical saturation, where considering more data would not lead to new or different understanding. Figure 1 illustrates our data collection and analysis framework.

4 | FINDINGS

The distinction our analysis framework (Figure 1) makes between the empirical and the theoretical corresponds to the demarcation narrative theory makes between stories and fabula. Specifically, whereas the empirical level corresponds to the richness of narratives in terms of participants' accounts of their stories, the theoretical level

corresponds to the parsimony of fabula and extrapolating the mechanisms at play (Pentland, 1999). Accordingly, we first present our findings by focusing on the surface level of narratives, that is, by accentuating and contextualising the participants' voices and their stories (as told). This descriptive account will then serve as the foundation for the theoretical elaboration that we present in the section that follows, where the emphasis will shift towards theoretical explanation. In terms of reporting, we find Soh and Markus's (1995) advice regarding backward narrating (i.e., process synthesis) very useful. Starting from the end, we first report our findings regarding discontinuance itself and the different forms of discontinuance we identified. Next, we present the dominant reasons that users attributed to explaining why they discontinued using Scoopshot. We also highlight the important role of competing alternatives in making that decision. Finally, we show how goal framing is the starting point based on which users interpreted, used and evaluated Scoopshot.

4.1 | Different forms of IS discontinuance

The first key finding of our study supports a recent development in the literature suggesting that IS discontinuance is a multifaceted phenomenon constituting distinct stages and forms (Soliman & Rinta-Kahila, 2020; Tsohou et al., 2020). In the specific context of our study, we identify two key stages, namely, dormancy and quitting. Whereas quitting denotes the final stage of decisively abandoning Scoopshot, dormancy reflects an intermediary stage between use and non-use (e.g., passive use and lurking). The following illustration (Figure 2) summarises the Scoopshot app usage lifecycle for the participants that have discontinued their use.

All discontinuing users in our study had gone through dormancy or were still in this stage at the time of the second interview, suggesting that dormancy is a critical stage in understanding post-adoption discontinuance. For some Scoopshooters, going dormant may be described as a conscious decision which involves a level of deliberation. Even though these users were not contributing content to the platform, they were quietly lurking. They were curious to follow the development of the platform, hoping that an opportunity might arise where Scoopshot would prove relevant again. For instance, Peo explained that even though he now preferred other alternative ways to sell his photos, he had kept Scoopshot installed because it *'could come in handy [later]'*. He elaborated: *'if I end up [with] something of worldwide interest, Scoopshot could help me spread my work fast and to a huge amount of customers'*. Similar explanations were provided by both Kaisa and Jari.

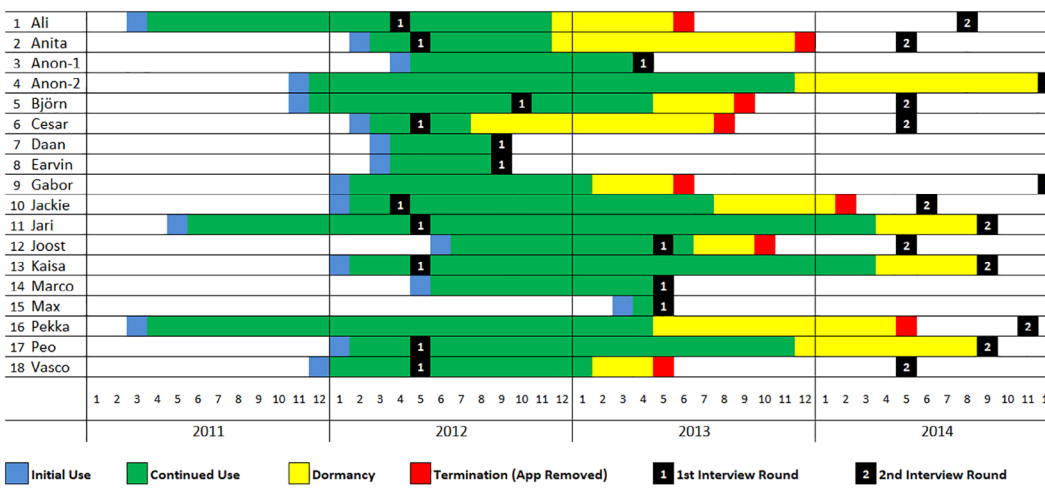

FIGURE 2 Time map illustrating the use lifecycle of discontinuing users [Colour figure can be viewed at wileyonlinelibrary.com]

For others, dormancy appears to have been unintentional, something that occurred without deliberate planning. For instance, Pekka noted that Scoopshot *'was hanging there for one year or so* … [before he eventually] *decided to delete the whole thing'*. Jackie described how she gradually forgot about Scoopshot and that *'it just happened; … It ended on page 6 on my Phone; just faded awayyyyy'*. This notion of not remembering the exact moment they stopped using the application appeared repeatedly and in different ways. Anita, for example, noted that she *'didn't choose not to use it'*; instead, after a period of using Instagram, she *'just forgot all about Scoopshot'*. These notions of 'forgetting about Scoopshot' and 'interest fading away' are early indicators of abandoning the platform and clear signs of what Schneider et al. (2013) describe as ambiguity tolerance, reflecting a state where an individual loses interest to gain new information about a given subject.

Quitting is the final stage of IS discontinuance, with the user making a deliberate decision to abandon Scoopshot. The study participants who had reached this stage reported that they had removed the unused Scoopshot app either of their own initiative, prompted by the device or had deliberately chosen not to re-install the app to a new device being migrated to. Common to all, at the quitting stage, the user had reached the conclusion that Scoopshot had lost its purpose. For some users, quitting reflects a decision to simply disconnect from Scoopshot on the premise that the *goal* no longer exists. For instance, Gabor, who runs his own media business, had a unique purpose for using Scoopshot, which was *'to confront them* [larger media companies] *with the downsides of their choice to use photos of MotP's* [members of the public] *instead of professionals'*. Thus, once he believed he had made the point clear that the quality of his professional work is better than that generated via Scoopshot, he quit Scoopshot without seeking alternatives. Some, however, made the decision to abandon Scoopshot because they had found a seemingly better service with a competitor, meaning that the *goal* continued to be fulfilled with another service. For example, Joost notes that he *'stopped using Scoopshot to use something [similar], but more for newspapers in our region'*.

Interestingly, quitting decisions need not be final, and reverting back to using the IT/IS can be triggered at any point. For instance, Pekka had quit Scoopshot and switched to Instagram nearly half a year prior to our interview with him. Yet, discussion about Scoopshot and its features evidently reignited his interest in the app and triggered him to spontaneously re-install it again during the interview.

To summarise, these empirical findings point to the importance of distinguishing between the stages of dormancy and quitting in post-adoption discontinuance. Both of these stages, in turn, constitute stage-specific activities and decisions. On one hand, dormancy reflects an intermediary stage between use and non-use, where users may be lurking (in anticipation of possible return) or simply unintentionally and indecisively inactive. Quitting, on the other hand, reflects the concluding stage where a user either simply abandons altogether the purpose that the app once served or decides to abandon the app in favour of another IS (i.e., switching).

4.2 | Reasoning behind discontinuance

To better understand post-adoption discontinuance, we probed deeper into why users had stopped using Scoopshot. Two main findings emerged: one highlights different sources of dissatisfaction with Scoopshot, and the other reveals the catalytic role of attention to alternatives.

4.2.1 | Different sources of dissatisfaction

Our findings suggest that dissatisfaction with Scoopshot as a primary reason for discontinuance derives from a misalignment between how the user frames Scoopshot and how their experiences actually unfold. Disruption to the gain frame is rooted Scoopshot's disappointing utility, while disruption to the hedonic frame is rooted in Scoopshot's lack of feedback and networking.

First, we discuss the findings regarding disruption to the gain frame is linked to the goal of 'improving one's resources' (Keizer et al., 2008; Lindenberg, 2001; Lindenberg & Steg, 2007). As a source of dissatisfaction, disruption to this frame reflects Scoopshot's inability to meet the user's envisioned instrumental value. To Jari and Kaisa, Scoopshot was only as useful as its ability to provide tasks that would lead to sales of their photos. Jari, for instance, thought that *'things have got worse with this app* [Scoopshot]… *First, I thought this is* [an] *easy way to gain some extra income and there was lots of missions. But for the last year, missions have mostly been weird and there hasn't been so many of them'*. To Jari, 'weird missions' (e.g., '*send us a photo of your BBQ!'*) reflect a disruption to his framing of Scoopshot as a business-oriented or serious IT application. Interestingly, this finding also demonstrates how financial rewards can act as a two-edged sword. On one hand, financial rewards work as a very effective approach to attract users to a crowdsourcing service for as long as there are enough resources to reward users' acceptable contributions. However, once the service gains popularity, it is inevitable that the mechanisms of competition will take over, and thus many contributors will be unjustifiably unrewarded. In a similar vein, Joost's participation was predominantly utility-driven although different in nature. For him, Scoopshot was a marketing channel, with its instrumentality determined by its ability to get his family business photos viewed by the public. Even though he had earlier successfully sold some photos via Scoopshot, as it consistently failed to deliver on his main objective, he switched to an alternative service (i.e., a newspaper app with a narrower scope on local matters).

Second, we discuss our finding regarding disruption to the hedonic frame is linked to the goal of 'having fun' or 'feeling better' (Keizer et al., 2008; Lindenberg, 2001; Lindenberg & Steg, 2007). As a source of dissatisfaction, disruption to this frame reflects Scoopshot's inability to meet the user's envisioned hedonic value. The two dominant themes here are the lack of feedback and the lack of social networking. First, the lack of feedback reflects Scoopshot's inability to provide users with any form of feedback on their contributions (e.g., in the form of 'likes' or 'comments'). For example, Ali explained that why he eventually stopped using Scoopshot despite the fact that he had successfully sold his photos to publishers was because *'It was interesting in the beginning as a hobby*. […] *But then, it started getting boring, because there was nothing in return even though one submitted many photos … I don't mean only payments, but no comment, no feedback, nothing'*. An important observation here is that Ali's frustration is not attributed to something wrong with Scoopshot at the functional level (e.g., a technical failure, Tsohou et al., 2020). Rather, his frustration grew because of a misalignment between what he as a photography enthusiast wanted to achieve with Scoopshot and what it delivered. Björn echoed Ali's feelings of discontent: '*I first got hooked by the idea that I might be able to get some of my pics published through the app*. […] *As a hobby-photographer, I of course like when people notice my photos, and even comment on them, as most photographers probably do. I basically got bored of it* [Scoopshot] *since nothing got back to me'*. The other source of dissatisfaction is the lack of connectedness. This theme reflects users' disappointment at Scoopshot's inability to facilitate social networking with features such as 'connecting with', 'following friends' and 'sharing' the photos. For instance, Anita explained, *'When I think of making pictures of a newsworthy thing, I first think of Instagram, not Scoopshot. There, I did get replies on Facebook by my friends, got to share it on Twitter by my followers'*. Jackie, similarly, contemplated that '*more interaction'* and the possibility to '*share with friends'* could have prevented her from moving towards dormancy and later quitting.

These different narratives highlight an important finding: when experiencing a frame disruption, the critical question for the user is not whether s/he is satisfied or dissatisfied; but rather, to what extent and for how long s/he can tolerate the disruption. Our findings show how users have continued using Scoopshot for a period of time, despite the various sources of dissatisfaction, until they reached the point that the disruption could no longer be tolerated.

4.2.2 | Seeking alternatives

One of the key findings of our study is the realisation that dissatisfaction alone was not sufficient to immediately trigger a decision to quit Scoopshot, as would be expected by most IS discontinuance research (Bhattacherjee, 2001; Najmul Islam, 2014). In our case, dissatisfaction encouraged many Scoopshooters to pay close attention to available

alternatives. Consistent with Kim and Son (2009), *attention to alternatives* does not simply denote knowing that an alternative exists, but refers to the user's awareness of and willingness to try an IS that they perceive to be similar to the focal IS. Interestingly, many interviewees talked about alternatives as a frame of reference when explaining what they missed in Scoopshot. For example, Anita, who focused on Scoopshot's hedonic value, explained how she was disappointed by not receiving any feedback via Scoopshot and how she then '*got a tip by a friend that Instagram existed. I installed that, found out what Instagram had to offer and put that on my first-to-use-app-list. And there I got replies on Facebook by my friends, got to share it on Twitter by my followers. That fulfilled my need to share and get replies*'. In a similar vein, Joost, who focused on Scoopshot's utilitarian value, explained that abandoning Scoopshot was not an immediate decision but happened only after he had found a more fitting alternative to his instrumental needs. He explained: '*More newspapers do have an app to connect with them, like the app ED.nl* [Eindhovens Dagblad]. *So I stopped using Scoopshot to use something* [similar] *but more for newspapers in our region. And I guess I like to send more serious things than* [the] *mostly funny tasks of Scoopshot*'.

In the absence of alternatives (or knowledge of them), some users continue to use or even return to using Scoopshot after dormancy or quitting for as long as it serves a purpose, even if they are not entirely satisfied with it. Pekka's narrative provides an excellent example. He had used Scoopshot for a year before deciding to switch to Instagram and admitted that had he known earlier about Instagram or something similar to it, he '*would have been less interested about Scoopshot for* [those] *12 months*'. When he was asked whether he would still be using Scoopshot had he not found Instagram, he answered: '*Absolutely. Those two are so closely doing* [the] *same things as a picture application. Most differences are that you don't sell pictures at Instagram and you can't* [get] *feedback/social networking at Scoopshot*'. In other words, finding a more suitable alternative triggered him to quit Scoopshot and switch to Instagram.

To summarise, in order to understand the users' reasons to discontinue using Scoopshot, we predominantly focused on why the study participants made the discontinuance decision in its various forms (e.g., dormancy, quitting, switching). Two critical findings emerged. First, disappointing utility, lack of feedback and lack of social networking emerged as the main sources of dissatisfaction with Scoopshot. More specifically, those users who focused on Scoopshot's joyful experience were more disappointed with the lack of hedonic features (e.g., 'likes' and connecting with friends) than with Scoopshot's instrumentality (e.g., earning money). By contrast, those who focused on Scoopshot's serious experience were more disappointed in Scoopshot's perceived utility than with its hedonic value. Second, attention to alternatives played a critical role in triggering a transition from dormancy to quitting. The user's ability to find a suitable alternative facilitated a discontinuance decision, while the inability to find one prolonged Scoopshot's usage span, despite not being fully satisfied with it. We emphasise the notion of *suitability* to stress the fact that different users had drastically different perceptions of what constituted a suitable alternative to Scoopshot. For those who focused on Scoopshot's joyful experience, in their search for alternatives, hedonism was primary. For those who focused on Scoopshot's instrumental 'serious' experience in their search for alternatives, utility was primary.

4.3 | Different frames, different experiences

Differences in the identified sources of dissatisfaction, and perceptions of suitable alternatives, led us to the realisation that understanding the process of discontinuance begins with understanding the goal a user envisions for the focal technology. The distinction goal framing theory makes between hedonic and gain frames (Keizer et al., 2008; Lindenberg, 2001; Lindenberg & Steg, 2007) helped us categorise our participants into two distinct groups – instrumentalists and hobbyists (see Appendices 5.1 and 5.2).

Instrumentalist users see Scoopshot through a gain frame (Keizer et al., 2008; Lindenberg, 2001; Lindenberg & Steg, 2007). They are mainly driven by Scoopshot's instrumental or utilitarian value, with their main motivation

stemming from the possibility to receive financial rewards and/or to utilise the platform to advance their career. The instrumentalists appear to consider Scoopshot as a 'serious' business application and accordingly attach more value to its utility than to its aspects related to having fun, which would be seen by some of them as 'weird'. To the instrumentalist users, features such as 'liking' and 'sharing', highly valued by the hobbyists, make no difference either to their perception of or their participation in Scoopshot tasks. In fact, instrumentalists seem to adopt the frame intended by Scoopshot's management, who described Scoopshot as a 'serious service' that is trying to help media companies become social rather than offering social media services themselves. The primary use motivations and the main sources of dissatisfaction for the instrumentalist users in our sample are illustrated with example quotes in Table 2.

Despite Scoopshot's vision to be seen as a business-focused application, another group of users emerged, whom we call, consistently with goal framing theory, hobbyists. Hobbyists see Scoopshot through a hedonic frame (Keizer

TABLE 2 Examples of usage experience from a gain frame

Users	Use motivations	Sources of dissatisfaction
Gabor	Career-oriented goals *'As a professional photo and video journalist I tried to use it [Scoopshot] in a way to confront them [i.e., newspapers] with the downsides of their choice to use photos of MotP's [i.e., members of the public] instead of professionals' [December, 2014].*	Low earnings offered by Scoopshot *'I really think there are enough free images quickly available* via *Facebook, Twitter and Instagram. So for the media there is no real need to use a third party as Scoopshot …For professionals the earnings offered over Scoopshot are too low. So these together made it [Scoopshot] kind of useless nowadays' [December, 2014].*
Peo	Career-oriented goals and publicity *'Since I'm a very active photographer I see it [Scoopshot] as an alternative way to spread my pictures and get additional income' [May, 2012].*	Not selling enough photos at desired price *'It was a very long time since I sold through Scoopshot … Ok, my shots aren't cheap, but still not expensive in comparison to others … From what I understand it [Scoopshot] wasn't intended as a pro tool … I try to sell my photos directly to the papers, and do not consider me being an amateur' [September, 2014].*
Jari	Possibility to earn money *'I have a job where I travel around Finland, so I have took photos about 400 kilometres from home … Best places I have had like over 100 photos in few hours' [May, 2012].*	Need for more paying tasks *'Maybe I am a little disappointed lately. First I thought this is easy way to gain some extra income and there was lots of missions. But for the last year, missions have mostly been weird and there has not been so many of them … For example, [….] take a picture of your smile. So first I was very satisfied but lately been a little disappointed' [September, 2014].*
Joost	Career-oriented goals *'I am more motivated to do it for my job [as a teacher, and] for the company of my parents … They grow eels, [so I] make advertisement for their shop or put eels in the picture' [May, 2013].*	Need for more serious and relevant tasks *'I guess I like to send more serious things than [the] mostly funny tasks of Scoopshot, like, 'today it's getting warm: send your BBQ photo?!' ' [May, 2014]*
Kaisa	Possibility to earn money *'basically the cost [should] be covered by the photo-shooting, and also earn some extra' [May, 2012].*	Need for more serious and paying tasks *'missions have gone worse. And in some missions you should have almost quality camera that you could participate. Weird missions and very few in Finland … [like] summer shoes and rubber duck' [September, 2014].*

et al., 2008; Lindenberg, 2001; Lindenberg & Steg, 2007): they are primarily motivated by Scoopshot's entertainment value and enjoy photography for its own sake. They find more appeal in social aspects (i.e., social aspects of photography) than in financial rewards or career-related purposes. The hobbyists' primary use motivations as well as their main sources of dissatisfaction are illustrated with example quotes in Table 3.

The fact that these two framings reflect the two contrasting perspectives for making sense of Scoopshot does not, however, mean that any user would necessarily be driven by a pure set of hedonic or utilitarian motivations. Rather, an interplay between the various motivations is expected while prioritising some motives over the others. This is well exemplified by Jackie, a hobbyist who predominantly enjoyed Scoopshot '*just for fun*', but who also thinks that '*if they* [Scoopshot] *would ever sell my shot for money, I won't refuse it, but it's not my first approach*'.

TABLE 3 Examples of usage experience from a hedonic frame

Users	Use motivations	Sources of dissatisfaction
Ali	Enjoyment and social connectedness '*Well, first of all I like and do photography. Second, I like the idea … [of] getting fresh photos from 'normal' people instead of a professional photographer' [April, 2012].*	Lack of feedback and social networking '*I'm also looking for other things such as enjoyment, interaction*, etc. *I'm not sure how flexible they can be at Scoopshot'. [April, 2012].* '*there was nothing in return; I do not mean only payments, but no comment, no feedback, nothing' [August, 2014].*
Anita	Enjoyment and social connectedness '*I thought that I could be a photographer 'on the fly' with my pictures in the news (online, offline I did not know)' [May, 2014].*	Lack of feedback and social networking features '*In the period I used it [Scoopshot], I got zero replies. Not even 'well done, we are gonna use this picture on our wall of news moments, this is not a paid thing, but we do like to share this picture'. For me it had to do with awareness and sharing of my name. '[May, 2014].*
Björn	Enjoyment and social connectedness '*I really enjoy shooting and also sharing, and if I get paid for it it's a bonus. I still share photos on Facebook, Instagram* etc.' *[October, 2012].* '*As a hobby-photographer, I of course like when people notice my photos, and even comment on them as most photographers probably do' [May, 2014].*	Lack of feedback and social networking features '*I basically got bored of it, since nothing got back to me … some kind of feedback on [my] photos … If you, let us say, are a writer, and you keep writing and sending your articles to a magazine, paper or others, and nothing ever happened with it, you would probably get bored to, right?' [May, 2014]*
Jackie	Enjoyment '*Scoopshot was just for fun …' [April, 2012].* '*It is funny to see my own pic in the newspaper! But if they [Scoopshot] would ever sell my shot for money, I will not refuse it, but it's not my first approach' [April, 2012].*	Lack of feedback and social connectedness '*[Scoopshot was missing] maybe more interaction. Like Instagram, you can share with friends … It's not anymore tickling my imagination' [June, 2014].* '*It had no feedback, like my pics were sent in the big black nothing. So at one point, I thought, why bother?' [June, 2014].*
Pekka	Enjoyment and fun '*Well, for a while it was something nice to do with my spouse. We drove around places looking for companies which were not pictured yet … it was fun'. [November, 2014].*	Lack of feedback and social connectedness '*There should be something really interesting inside the app. For example, in Instagram your Facebook friends and everyone else who is in there can 'like' your posts. [In Scoopshot], it was too 'narrow'' [November, 2014].* '*[Instagram] offers me easy chance to see my friends' photos' [November, 2014].*

The prioritised motivation and goals determine the user' *dominant* frame (Lindenberg, 2001), which for Jackie is *hedonic*.

5 | DISCUSSION

In this section, we first outline our proposed model and reflect its relevance to existing research, then we discuss its core theoretical and practical implications, as well as its limitations and boundary conditions.

5.1 | Towards a stage theory of discontinuance of volitionally adopted IS

Moving from the surface level of narratives (i.e., text and stories) to the deeper level of fabula and generating mechanisms (Pentland, 1999; Schwarz et al., 2014), we now proceed to the theorising level and propose a stage model that explains the process by which discontinuance of a volitionally adopted technology occurs. This model is the result of an iterative process of confronting empirical data with the literature and relevant theories (see Figure 1), and it conceptualises the process by which the discontinuance of volitionally adopted IS takes place as a five-stage model, as follows: *IS framing*, *goal pursuit*, *frame disruption*, *dormancy* and *quitting*, after which possible *switching* denotes a new cycle (see Figure 3). In Figure 3, dashed arrows reflect theoretically possible paths that were not observed in our empirical data within the data collection time frame.

Stage 1: IS framing. The starting point in our model is IS framing. The salient question reflecting this stage may be articulated as '*does the new IS/IT align with the user' goals*'? Consistent with goal framing theory (Lindenberg, 2001; Lindenberg & Steg, 2007), the outcome of IS framing, whether a hedonic or gain frame, plays a critical role in shaping the overall user experience. Central to the hedonic frame is the goal of enjoyment and having fun, while a gain frame is mainly driven by utilitarian (e.g., financial or career-oriented) objectives. This is in line with

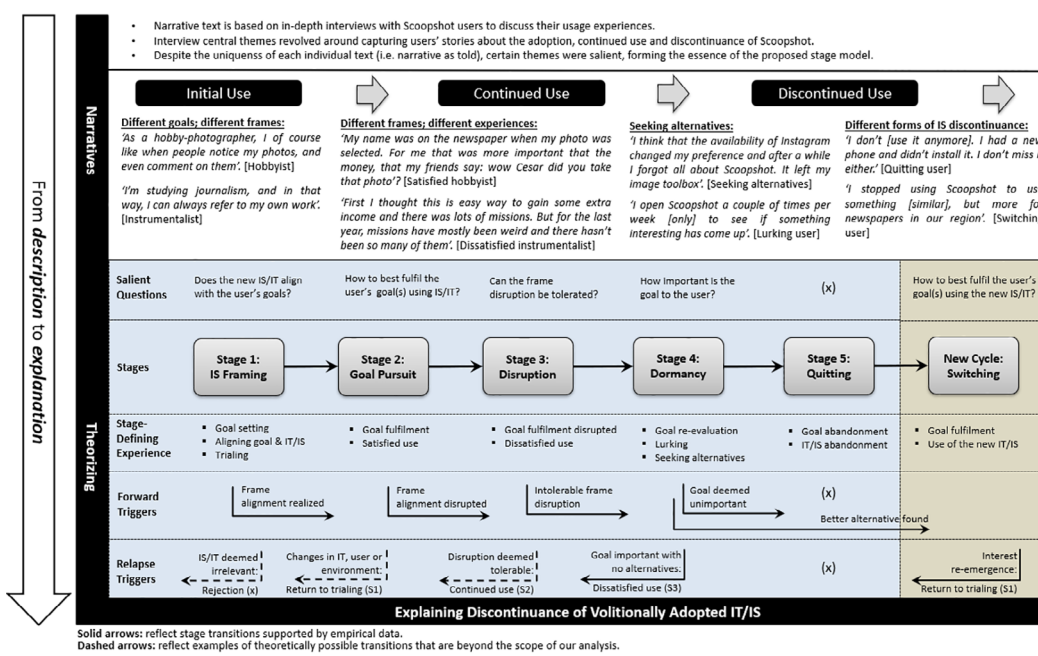

FIGURE 3 Stage model of volitional IS discontinuance [Colour figure can be viewed at wileyonlinelibrary.com]

framing research in IS which has explained how different social actors may frame, or make sense of, the same technology differently (Hsu, 2009; Orlikowski & Gash, 1994; Su, 2015; Webster & Martocchio, 1993). From a temporal perspective, IS framing typically takes place during the initial use period, when the user is either searching for a potential IS to fulfil an envisioned goal or is experimenting with a new IS out of sheer curiosity. Either way, during this early stage, a user makes sense of the extent to which the IS/IT may serve his or her specific goals (Van de Ven & Poole, 1995). Our findings reflect this notion clearly: not only do different frames shape how hobbyists and instrumentalists interpret Scoopshot's use purpose differently, but these framings also regulate the overall Scoopshot user experience.

More specifically, framing shaped why Scoopshot was adopted and used (e.g., for what purpose), how it was evaluated (e.g., sources of dissatisfaction) and how it was eventually discontinued (e.g., switching to an alternative IS or simply abandoning the goal). Considering the highly experimental nature of this stage, not all users will find or recognise a need that the technology can fulfil. That is, whereas frame alignment (i.e., a match between the IT/IS and a goal) triggers starting actual use of the IT/IS, rejecting it is also possible if a relevant goal could not be identified (i.e., the IT/IS will be rejected due to irrelevance) or if the usage experience was below what the user imagined it would be (i.e., negatively disconfirmed expectations). Rejection at this early stage corresponds to what IS research discusses as 'outright rejection' (Cenfetelli, 2004) or 'early discontinuance' (Aggarwal et al., 2015; Bhattacherjee, 2001).

Stage 2: Goal Pursuit. Following initial experimentation, the user's goals and the resultant dominant frame will impact how a technology is categorised cognitively (Orlikowski & Gash, 1994; Webster & Martocchio, 1993) and which aspects of it become more salient during the goal pursuit stage. The salient question at this stage may be articulated as '*How to best fulfil the user's goal(s) using the IS/IT*'? The goal pursuit stage is typified by continued or repetitive use, where the user's aim is to fulfil an envisioned goal that s/he deemed the technology suitable for attaining. As demonstrated by our findings, continued or repetitive use entails having a satisfactory usage experience, which reflects the degree to which the goal is being fulfilled according to the user's dominant frame. In our study, the dominant gain frame is linked to the goal of improving one's resources and thus directs the user's attention to features in the technology that are conducive to a productive experience, whereas a dominant hedonic frame is linked to the goal of having fun and thus directs the user's attention to features in the technology that are conducive to a joyful experience. Hence, the usage experience will be deemed satisfactory to the extent the goal is fulfilled and the IT/IS functions in line with the adopted frame. This means that while a given technology feature (e.g., sharing photos on social media) is considered essential to satisfy a hobbyist user, it can at the same time be irrelevant or even cause annoyance to the instrumentalist users, and cause frame misalignment. For as long as the goal is being fulfilled according to the adopted frame, the usage experience is deemed satisfactory, and the user is expected to remain in continued or repetitive usage (i.e., goal pursuit) stage. A dominant frame need not be permanent, especially in volitional use contexts. Thus, reframing is expected to occur depending on the individual, contextual and technological circumstances at play. For instance, returning to trialling and reframing (i.e., relapsing to *Stage 1*) may occur due to changes in the user herself (e.g., recognising new needs), changes in the environment (e.g., political tensions) or changes in the focal technology (e.g., new updates).

Stage 3: Disruption. The user moves to the frame disruption stage when misalignment occurs between the user's dominant frame and the actual usage experience. This disruption reflects a notable misalignment between what the user's goal is and what the technology delivers. The disruption experienced at this stage is characterised by discontent that is not necessarily rooted in a particular service failure in the technical sense (Tsohou et al., 2020). Rather, depending on the dominant frame, users will experience disruption differently. To instrumentalists, disruption to their view of the system's utility (e.g., gaining less money than before) was a key source of dissatisfaction. This frame supports IS literature emphasising the importance of IT/IS's performance and usefulness as precursor to (dis)continued use of utilitarian systems, such as self-service banking systems (Prendergast & Marr, 1994), grocery shopping systems (Hand et al., 2009), as well as knowledge management systems (Najmul Islam, 2014). To hobbyists, disruption to the hedonic frame was a key source to dissatisfaction (e.g., the desire to share their photos with friends and receive comments). This frame, in turn, is in line with IS research highlighting the importance of peer feedback

and social networking in motivating the use of hedonic systems, such as online communities (Burke et al., 2009), blogging platforms (Tang & Chen, 2020), as well as mobile gaming (Merikivi et al., 2017). Having said that, frame disruption should not be confused with expectation disconfirmation as described in expectation disconfirmation theory (EDT) (Oliver, 1977; Oliver & DeSarbo, 1988). EDT posits that the key predictor to consumer complaining and non-repurchase intentions is dissatisfaction emerging from negatively disconfirmed beliefs when the first-hand experience with a product or service turns out to be poorer than what was expected. As such, the salient question at the disruption stage is not whether the user is satisfied or dissatisfied, rather the question asked is '*can the frame disruption be tolerated*'? To some users, frame disruption will be tolerated, and they will continue using the IS/IT. It is only when a user concludes that the frame disruption is intolerable that s/he is triggered to transition into the next stage.

Stage 4: Dormancy. Users do not necessarily immediately abandon the IS/IT after an intolerable frame disruption; rather, they enter the stage of dormancy, the first observable indication of IS use discontinuance. Empirically, all participants in our study went dormant for various lengths of time before the final termination. Although dormancy resembles what IS research recognises as *vacationing* (York & Turcotte, 2015; Soliman & Rinta-Kahila, 2020) in that both constitute considerable reduction in technology use, there are some noteworthy differences. Vacationing reflects a decision whereby a user wishes to take a temporary break from a heavily used technology until s/he recovers from its negative consequences, such as technostress (Maier, Laumer, Weinert, et al. 2015; Maier, Laumer, Eckhardt, et al. 2015), fatigue (Ravindran et al., 2014) and time wasting (York & Turcotte, 2015); or in certain situations, when a user may prefer to take a technological pause and refrain from using technology, for example for the duration of a holiday (Rosenbaum & Wong, 2015). By contrast, dormancy in our case reflects a stage during which the user questions the underlying need for the IS/IT itself, whether only very briefly or over some length of time. The salient question here is '*how important is the goal to the user*'? As such, the dormancy stage represents a major fork on the usage lifecycle path depending on how the user answers this question. Finding an alternative, however, is not necessarily immediate, or even possible. Our findings suggest that, for lack of alternatives, or awareness thereof, users who deemed the goal important had decided to continue using Scoopshot for varying periods of time, although it was not an entirely satisfactory experience (i.e., they relapsed to *Stage 3*). This finding supports Tsohou et al.'s (2020) work which shows that users who experience intolerable technical service failure may eventually decide to remain with the service provider because it was their only option.

Stage 5: Quitting. Deeming the goal no longer important leads up to abandoning not only the IT/IS but also the underlying goal initially driving its use. For those users, the usage lifecycle of the focal IT/IS comes to an end, and no further efforts are made to pursue the goal by other means (*Stage 5*). In our case, this is exemplified by users who decided to quit Scoopshot without any indication that they were interested in finding an alternative. Much of IS discontinuance research focuses on quitting as a coping mechanism to addictive and stressful technologies (Luqman et al., 2017; Turel, 2015), and very little attention is paid to the role of goal abandonment in making the quitting decision. An exception to this is the study of Hand et al. (2009) that shows how in a volitional use context (or 'discretionary use mode'), users may quit the system when the driving goal (or 'initial trigger') disappears.

New cycle with Switching. By deeming the goal important, dormant users start paying more active attention to available alternatives in the market in hopes of finding one that better matches their goal. Consistent with Tsohou et al.'s (2020) insights from post-service failure experience, the main motive driving the user at this point is to find a better alternative. Here, the dominant frame focuses the user's attention towards a pool of alternatives that is in congruence with this frame. In our study, a hobbyist user considered a photo sharing platform as an alternative to Scoopshot, whereas an intstrumentalist user considered a local newspaper platform. Finding a better alternative triggers the user to switch to another IT/IS, and s/he can resume fulfilling her or his goal (*New Cycle*). From the user's perspective, the goal is still being met although by a different means, reflecting what Van de Ven and Poole (1995) would describe as equifinality. Effectively, an IS use lifecycle has come to an end, and a new one has begun. At any point, however, interest in the previously used IS/IT may re-emerge, thus bringing the user back to experimenting with a once-abandoned IS.

5.2 | Theoretical implications

Our study makes three main contributions to IS theory: we propose a novel a stage model for the discontinuance of volitionally adopted IS, highlight the importance of goal-directedness in volitional use contexts, and empirically establish the role of goal framing in volitionally adopted IT/IS contexts.

First, our work contributes to the IS discontinuance literature by proposing a stage theory. IS discontinuance is, by definition, a change phenomenon, and therefore dynamic theorising is needed to develop and refine explanations for how and why this change happens. Our study contributes to the IS literature by developing a stage model for the discontinuance of volitionally adopted IS, which corresponds to what Gregor (2006) characterises as theory for explanation or understanding (Type II). Our nascent theory explains how IS discontinuance occurs in volitional contexts as a sequence of five qualitatively different stages; namely, IS framing, goal pursuit, frame disruption, dormancy, and quitting, after which the user might start a new use cycle via switching. Each stage has a defining question, stage-specific experience, as well as triggers for moving forward or backward between stages. Although each of these stages contributes to our understanding of the discontinuance process as a whole, we find the dormancy stage to be particularly critical. During the dormancy stage, the user begins to question the importance of the underlying goal driving the IT/IS usage. Deeming the goal unimportant terminates, not only the use lifecycle but also the goal itself. Those who deem the goal still important will begin to actively look for alternatives and finding a suitable one will trigger switching. Those who fail to find an alternative, however, may return to usage as dissatisfied users. If this cycle continues (i.e., fluctuating between stage 3 and 4) without observable improvement in the IT/IS to move them to satisfied usage (i.e., stage 2), it becomes a matter of time before the user either gives up the goal or finds an alternative. In practice, the length of time the user spends dormant before quitting or switching can vary from a very brief moment to a prolonged period of time. Our conceptualization of dormancy, and the emphasis on seeking alternatives during this stage, offers additional empirical support to the early findings on trialling as an important activity following a dissatisfactory experience (Salo & Makkonen, 2018) and as a necessary precursor to switching (denoting discontinuance of the original IS) especially in volitional contexts.

Second, our work enriches the IS discontinuance literature by highlighting the importance of goal-directedness in volitional use contexts. In line with IS research approaches that give the agency of the user greater importance in explanation (see e.g., Karjalainen et al., 2019; Boudreau & Robey, 2005), our model recognises the important role of goals in shaping how technologies are selected, used and evaluated. Embracing the human agency in IS research reminds us that what users do with the technology is not determined by the features of the technology itself but rather by the human's '*ability to form and realize one's goals*' when using the technology (Leonardi, 2011, pp. 147–8). Our proposed model emphasises the importance of goal-directedness and thus acknowledges three core assumptions. First, IS/IT users are autonomous, goal-directed agents (Van de Ven, 1992; Van de Ven & Poole, 1995). Second, human agents recognise, and adapt to, the limits on action (ibid). Third, goals may be achieved via different equally effective routes (ibid). As such, our model contributes to theory by shedding new light on IS discontinuance in volitional contexts in which IS users are self-determined agents who choose to use a technology because of a personally defined goal rather than as a response to external pressures dictating how and when a given technology is to be used (e.g., organisational policies, management directives, etc.). Furthermore, our model recognises that in volitional contexts, human agents are aware that achieving their goals is not guaranteed and that abandoning the goal itself is always an option – a path not commonly feasible in mandated organisational settings. We know that in organisational settings, when an incongruence between a technology and work routines occurs, employees will modify the technology to align it with their work routines (Leonardi, 2011) if the technology is flexible, or they will modify their own work routines, for example, by developing new workarounds (Recker, 2016), if the technology is inflexible. By contrast, in a volitional context, the lack of compulsoriness makes discontinuance a more viable option. Rather than changing their own routines, users who fail to achieve their envisioned goals with an IS/IT that is not malleable enough to meet their needs, will initiate a process of IS discontinuance. While our proposed theory shares with affordance theory the assumption of goal-directedness of actors (Leonardi, 2011; Volkoff & Strong, 2017), they

provide different accounts of explanations. That is, whereas affordance theory introduces affordances as qualities of an object (e.g., visual cues) that define a spectrum of actions made possible by the technology (Norman, 1999); our work introduces frames as cognitive models (of the users) which may or may not align with the affordances of a given technology. Research on affordances of IS has advanced our understanding of how users perceive specific functions of different technologies and their possibilities (Norman, 1999; Volkoff & Strong, 2017) and how to use them effectively (Burton-jones & Volkoff, 2017); however, we maintain that frames are conceptually better suited for analysing and understanding the whole use life cycle from exposure to abandonment. Volitional user makes sense of the technology's affordances by framing and decides if and how the technology is used, regardless of how (or for what) it was designed.

Third, our work contributes to the technology frames literature by empirically establishing the role of goal framing in volitionally adopted IT/IS contexts. Our work enriches the current understanding of technology framing research by highlighting the relevance of goal framing in understanding technology use beyond the organisational context (Davidson, 2002; Orlikowski & Gash, 1994). Informed by goal framing theory (Keizer et al., 2008; Lindenberg, 2001; Lindenberg & Steg, 2007), we introduce IS framing as the starting point for understanding IS discontinuance. The argument we advance here is that understanding how the use lifecycle unfolds begins with understanding how a user frames and adapts the technology to their own goals and needs, which may or may not coincide with the IS/IT's intended purpose. In our empirical setting, goal framing theory sensitised us to identify two dominant frames: the hedonic frame and the gain frame. The findings demonstrate how the same technological artefact, depending on how it was framed by the users, could be interpreted, used and evaluated differently. We should note that framing is context-dependent and therefore in different contexts, other frames may be more relevant or applicable. Our view is in line with earlier IS research adopting the framing lens (Alvarez, 2008; Bartis & Mitev, 2008; Hsu, 2009; Orlikowski & Gash, 1994; Su, 2015) illustrating that what is often considered a single-meaning IS artefact in organisational context may produce radically different perceptions and behaviours among different organisational members. Hence, our work lends support to Orlikowski's (1992) notion of the interpretive flexibility of technology, where IS in *use mode* does not necessarily reflect its *design mode*.

Furthermore, by identifying the gain and hedonic frames in our work, we shed new light on the widely applied classification that labels IS/IT artefacts depending on their intended design or 'functional capacity' (Wu & Lu, 2013, p. 155) as either hedonic IS (intended to be used for leisure purposes) or utilitarian IS (intended to be used for productive purposes) (Gerow et al., 2013; Lowry et al., 2018; van der Heijden, 2004). This artefact-oriented classification has been very useful in giving the IS community a language and a theoretical foundation to discuss two admittedly distinct IS use experiences. However, this classification is insensitive to technology usage that does not fit the designer's (and often the researcher's) framing. For instance, framing a social networking service (SNS), such as Facebook, as a hedonic technology (Turel, 2015) desensitises us to its utilitarian usage and the fact that many users use it with utilitarian goals in mind (Xu et al., 2012). Instead of compartmentalising IS/IT into hedonic or utilitarian IS based on preconceived assumptions, we might gain new insights by looking into how different users, depending on their own framing, may creatively utilise the same technology to serve their own needs (Orlikowski, 1992). Recognising the importance of this shift not only affords a better understanding of IS use discontinuance but also a more holistic understanding the IS use lifecycle. With our study, we advocate a frame-oriented rather than an artefact-oriented research agenda, where instead of seeking only to explain why a class of technology is used or discontinued, we should also focus on understanding how users creatively utilise what is available to achieve their goals.

5.3 | Practical implications

Our findings also point to a number of practical implications. First and foremost, providers of volitional IS should understand that the users do not necessarily share the envisioned and designed use purposes. Therefore, effort

should be put into understanding how the users adapt and appropriate the IS to serve their own goals. In the specific context of Scoopshot, the identification of the two dominant user types of instrumentalists and hobbyists and their needs and expectations readily suggest two strategies to alleviate the different sources of dissatisfaction.

The first strategy could be to improve the instrumental value of the service, which could be achieved by expanding the number of partners on the buying side of the network. This is supported by what information economists refer to as cross-side network effects, suggesting that an increase in the number of users on one side of a platform (here the demand side partners) increases the attractiveness of the platform for the users on the other side (here the supply side Scoopshooters) (see e.g., Rysman, 2009; Gawer, 2014).

The second strategy would be to improve the entertainment value of the service. This strategy would target the hobbyists who seem to be affected less by the cross-side network effects and more by the same-side network effects, which describes how an increase in the number of users on one side increases the attractiveness of that side (see e.g., Eisenmann et al., 2006). This calls for Scoopshot to cultivate a community rather than just a marketplace for selling and buying content. Furthermore, different gamification features (Morschheuser et al., 2016), such as a scoring mechanism (Blohm & Leimeister, 2013) with points awarded to all contributions (content, peer-evaluation, etc.) (see e.g., Blohm et al., 2013), could be utilised to address the users' need for feedback, feelings of competence and social connectedness.

It is important to note, however, that choosing between these two strategies or employing them in tandem depends to a large extent on the available resources and the strategic direction of the IS provider. Under conditions of limited resources, it can be prudent to focus on a single strategy.

Lastly, we believe that the identification of the dormancy stage in our study has major practical implications. As such, the dormancy stage should be seen as an early warning sign for IT/IS providers. We found that Scoopshot users who were once active typically went through a dormancy stage for periods ranging between three months to over one year before quitting or switching. If this is indeed a typical pre-termination stage in the wider user-base, the IS provider should have sufficient time to retain those dissatisfied users. Assuming that the provider has gained sufficient understanding of the dominant frames guiding the use of their IS, they should align their offering and inform their users of the updates as soon as possible. After all, what drives a user of volitional IS is the fulfilment of an envisioned goal.

5.4 | Limitations and boundary conditions

In theory development work, generalizability commonly refers to the applicability of a theory in a setting different from the one where it was conceived (Lee & Baskerville, 2003). Generalising is, however, by definition an inductive (Seddon & Scheepers, 2012; Tsang & Williams, 2012) and ampliative (Ketokivi & Mantere, 2010) form of reasoning for which no amount of empirical evidence can logically justify making knowledge claims beyond what has been studied or observed. Considering this paradox, researchers are advised to make carefully articulated generalisation claims and accept that '[a]*ll knowledge claims, including generalizations, are subject to revision*' (Seddon & Scheepers, 2012, p. 7). With this in mind, we focus on a particular notion of generalizability – generalisation from local theory to other settings – which involves articulating the conditions under which the local theory may be useful in informing other contexts or situations. Here, we highlight three potential boundaries limiting the generalizability of our proposed theory. First, our study and the proposed theory are within the bounds of volitional contexts. As such, we do not expect our theory to be applicable to mandated use situations (e.g., in some workplace contexts), where users can be required to use a given technology to complete their work tasks. Second, our study and the proposed theory are within the bounds of functional self-control. That is, we do not expect our theory to explain the discontinuance behaviour of users who suffer from deficient self-regulation symptoms such as technology addiction (LaRose et al., 2003; Turel, 2015) or compulsive use (Caplan, 2010; Turel et al., 2011). Thirdly, the proposed model is conceived in a context in which the IS/IT is freely available. As such, economic lock-in factors (e.g., subscription fees, sunk costs) were irrelevant in our studied context. Nevertheless, we acknowledge that these issues are likely to contribute to the use behaviour of IS made available with such service monetization strategies.

6 | CONCLUSIONS

The main objective of this study was to understand the process leading to the discontinuance of a volitionally adopted technology. Specifically, we sought to answer the two following questions: (1) Why do users discontinue the use of an IS they have volitionally adopted and used? (2) How does IS discontinuance occur over time in such context? Informed by dynamic theorising and goal framing theory, we show how the same technology may be interpreted, used and evaluated from two distinct frames – one that directs the user's attention to focus on the technology's instrumental value (the gain frame) and another that directs the user's attention to focus on the technology's enjoyment value (the hedonic frame). Analysing our data from this perspective helped us develop a stage model emphasising five key stages of *IS framing*, *goal pursuit*, *frame disruption*, *dormancy* and *quitting*, after which possible *switching* denotes a new cycle. One of the key insights our nascent theory reveals is that the sources of dissatisfaction for different users are attributed to their own goals and frames rather than the technology's intended purpose. Furthermore, it shows that while dissatisfaction is critical to disrupting a usage experience, dissatisfied users do not necessarily immediately make a decision to quit. Instead, they enter a stage of dormancy during which they reduce their activity, search for alternatives and reassess the goal the IS is expected to serve. Moving forward to the quitting stage indicates that a more suitable alternative is found (denoted by switching) or that the goal itself has been abandoned.

Our study indicates that IS discontinuance is a more complex phenomenon than generally portrayed in the literature. To understand the dynamics and the changing nature of the encounters and events leading users to continue or discontinue the use of these systems requires more theorising as well as further empirical research. In particular, future research should develop a deeper and more refined understanding of the stages preceding and succeeding discontinuance decisions. We hope that the ideas advanced in our study will serve as a starting point for future research to appreciate the importance of equifinality, which echoes the assumption that users continually find creative ways, based on what is available, to achieve their goals.

DATA AVAILABILITY STATEMENT

The raw interview data that support the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available due to privacy restrictions.

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APPENDIX A.: Appendices

APPENDIX TABLE A1 Literature on IS/IT discontinuance

Research Theme: Discontinuance of Organisation IS/IT								
No	**Reference**	**IS/IT Artefact**	**Method**	**Theory/ literature**	**Theoretical structure**	**Phenomenon of interest**	**Explanation**	**Key insights**
1	Mehrizi et al. 2019	Legacy IS	Qual. (interviews)	Path-breaking of organisational IS	Process/ Stage	Discontinuance	**Stages:** realisation; reversion; handover; marginalisation	The study argues that 'we should not see IS discontinuance as an event, but as an iterative, emergent process that consists of multiple phases and interactions.' (p. 142). Contrary to the dominant IS literature, the study shows that IS discontinuance follows a sequence of stages where different mechanisms operate differently at different stages to enable smooth cessation of organisational legacy systems.
2	Furneaux and Wade (2017)	Organisational IS	Quant. (survey)	PMT	Variance/ Stageless	Replacement intention	**IVs:** system capability shortcomings, system support availability, replacement risk, system complexity, etc.	Replacement risk, system complexity, system investment, and institutional norms are impediments to organisational IS replacement intentions.

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APPENDIX TABLE A1 (Continued)

Research Theme: Discontinuance of Organisation IS/IT								
No	**Reference**	**IS/IT Artefact**	**Method**	**Theory/ literature**	**Theoretical structure**	**Phenomenon of interest**	**Explanation**	**Key insights**
3	Charki et al. (2017)	Online real-time dynamic auction	Qual. (interviews)	RCT	Variance/ Stageless	Quitting unethical IT use	**IVs:** Legal intervention	Legal intervention is likely to mitigate unethical use of information technology through influencing users' cost–benefit analysis of use. Legal intervention dimensions capture: (1) the formalisation of unethical IT use and its associated costs, (2) the visibility of IT use and (3) the amplification of the effect on the organisation's reputation.
4	Recker (2016)	Inventory IS	Quant. (vignette-based survey)	TAM, status quo bias, inertia	Variance/ Stageless	IS discontinuance intentions	**IVs:** perceived ease of use, perceived usefulness, perceived costs of system compliance, perceived work impediment, continued usage intentions	Positive and negative beliefs about system performance drive continuance and discontinuance intentions, respectively.
5	Tully (2015)	Ushahidi crowdsourcing platform	Qual. (interviews)	DOI	Variance/ Stageless	IT rejection	**IVs:** perceived usefulness, compatibility, complexity, trialability, observability, and flexibility	Incompatibility with needs was identified as a key antecedent of discontinuance, also limited support and insufficient commitment to the system caused failures in adoption.

APPENDIX TABLE A1 (Continued)

Research Theme: Discontinuance of Organisation IS/IT								
No	**Reference**	**IS/IT Artefact**	**Method**	**Theory/ literature**	**Theoretical structure**	**Phenomenon of interest**	**Explanation**	**Key insights**
6	Power and Gruner (2015)	Inter-organisational IT based GS1	Mixed (survey followed by case study)	DOI	Variance/ Stageless	Reduced IT standards use & implementation	**IVs:** operational disadvantages, IT costs, IT compliance costs, organisational and economic change	Firms abandon IT over time because of low satisfaction with the results of the systems, as well as because changes in circumstances make discontinuing the IT the most beneficial choice for firms. Although this study focuses on changes between two periods T1 and T2, it makes no arguments about how change occurs through stages.
7	Aggarwal et al. (2015)	CRM system	Quant. (survey)	TAM, Literature on IT knowledge	Variance/ Stageless	Adoption/ discontinuance	**IVs:** the actual and self-perceived IT knowledge	Users low in actual IT knowledge are both early to adopt as well as early to discontinue.
8	Polites and Karahanna (2012)	Project collaboration tools among students	Quant. (survey)	TAM; DOI; Habit; Inertia	Variance/ Stageless	Intention to use new system	**IVs:** Incumbent system habit, switching costs, inertia, attitudinal beliefs, normative beliefs	Intention to switch from one system to another is determined by attitudinal beliefs (relative advantage and perceived ease of use), normative beliefs (subjective norm), and inertia (which is determined by habit, sunk costs, and transition costs).

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APPENDIX TABLE A1 (Continued)

Research Theme: Discontinuance of Organisation IS/IT								
No	**Reference**	**IS/IT Artefact**	**Method**	**Theory/ literature**	**Theoretical structure**	**Phenomenon of interest**	**Explanation**	**Key insights**
9	Furneaux and Wade (2011)	Organisational IS	Mixed (interviews followed by survey)	TOE, Inertia	Variance/ Stageless	Replacement intention	**IVs:** system capability shortcomings, system reliability, system support availability, system support cost, system investment, technical integration complexity	Organisational IS replacement intentions are driven by system capability shortcomings, whereas system support availability and technical integration inhibit replacement intentions.
10	Whitten et al. (2010)	Outsourced organisational IT	Quant. (survey)	Switching costs	Variance/ Stageless	IT switching intention	**IVs:** sunk investment cost, lost performance cost, system upgrades cost, uncertainty cost, induction-retraining-performance cost, candidate search cost, and IT/setup cost, and cognitive/behavioural learning costs	Different types of switching costs shape the organisation's decision to (dis)continue an outsourced IT. For instance, the greater the switching costs related to IT operations, personnel-replacement, and in-house learning; the more likely that the strategic choice will be outsourcing continuation.
11	Furneaux and Wade (2010)	Organisational IS	Conceptual	TOE, Inertia	Variance/ Stageless	Discontinuance intention	**IVs:** system performance, system suitability, system supportability, continuance inertia	The authors propose a conceptual model to explain IS discontinuance as an organisational level decision.
12	Miller et al. (2009)	CAD in construction	Qual. (participant observation)	TAM; DOI	Process/ Stage	Rejection, neglect	**Stages:** (1) project value evaluation, rejection / initiation, project benefit; discontinued use / sustained use; effective	The article distinguishes between two parallel effective implementation processes, with different potential outcomes

APPENDIX TABLE A1 (Continued)

Research Theme: Discontinuance of Organisation IS/IT								
No	**Reference**	**IS/IT Artefact**	**Method**	**Theory/ literature**	**Theoretical structure**	**Phenomenon of interest**	**Explanation**	**Key insights**
							implementation.(2) personal benefit evaluation; rejection / support; usability; neglect / use productively; effective implementation.	depending on who makes the decision and a decision is taken. From management perspective, an IT project could be rejected before initiation if its value is not visible, or after the initiation if the benefits are not materialised. From staff user perspective, an IT could be rejected explicitly, or implicitly through neglected use, if the personal benefits are not clear.
13	Geri and Naor-Elaiza (2008)	Assignment submission system for students	Quant. (survey)	TAM; DOI	Variance/ Stageless	Behavioural intention	**IVs:** ease of use, usefulness, compatibility, social influence, institutional influence, voluntariness, etc.	The most frequent reasons for not using the assignment system were: system is not offered on the courses; the system is not compatible with students' needs; the system is not consistent with teachers' guidelines; complexity of the system; using the system is not mandatory.
14	Goode (2005)	Open source software	Qual. (open-ended survey)	Inhibitor determin-ation method-logy	Variance/ Stageless	Rejection	**IVs:** lack of relevance, lack of support, minimal or no requirement, insufficient resources, etc.	Organisations reject open source software (OSS) because the software was not found relevant, it

(Continues)

APPENDIX TABLE A1 (Continued)

Research Theme: Discontinuance of Organisation IS/IT								
No	**Reference**	**IS/IT Artefact**	**Method**	**Theory/ literature**	**Theoretical structure**	**Phenomenon of interest**	**Explanation**	**Key insights**
								lacked system support, or its adoption was not necessary. Resource constraints and commitment to incumbent systems also contributed to the rejection decision.
15	Pollard (2003)	Organisational Group Support System	Qual. (interviews)	DOI	Process/ Stage	The adoption process	**Stages:** awareness; persuasion; decision; implementation; (dis) confirmation	It is important to study the long-term adoption and discontinuance of innovations at different stages. For example, while the IS reliability did not affect the adoption decision (in the early stages), it was for some to discontinue it (in the latter stages).
16	Cooper (1991)	Organisational office tool (IBM PROFS)	Quant. (field experiment)	DOI	Variance/ Stageless	Quitting and switching	**IVs:** Amount of time using the system, job title, department characteristics, user demographics, such as, gender, age, and years of employment	The longer users had access to the system, the lower was the dropout rate. Also, there was a correlation between the probability of discontinuance and the user's department affiliation. Demographics had no relation with dropout rate.

APPENDIX TABLE A1 (Continued)

Research Theme: Discontinuance of Social Media (The Dark Side of IT)								
No	**Ref.**	**IS/IT Artefact**	**Method**	**Theory/ literature**	**Theoretical structure**	**Phenomenon of interest**	**Explanation**	**Key Insights**
17	Lin et al. 2020	Social media (namely, WeChat)	Quant. (survey)	SOR, Fatigue, Flow	Variance/ Stageless	Discontinuance intention	**IVs:** social overload, information overload, communication overload, fatigue	The main findings suggest that social overload, information overload, and communication overload increase the fatigue feelings of social media among users, thereby increasing their discontinuance intentions. Furthermore, it shows that flow experience may buffer the negative effects of negative perceptions and feelings related to social media use.
18	Vaghefi et al. (2020)	SNS (e.g., Facebook)	Quant. (survey)	CAM, Addiction	Variance/ Stageless	Discontinuance intention	**IVs:** addiction, cognitive dissonance, guilt, self-accountability, self-efficacy	Results show that cognitive dissonance (as primary cognitive response) and guilt (as primary affective response) mediate the relation between SNS addiction and decision to discontinue SNS use, whereas self-accountability and perceived self-efficacy play positive and negative moderating roles.
19	Luqman et al. (2017)	Hedonic IS (namely, Facebook)	Quant. (survey)	SOR; technostress	Variance/ Stageless	Discontinuance intention	**IVs**: Excessive use, technostress, SNS exhaustion	Environmental stimuli from excessive SNS use create an internal state of technostress and SNS-exhaustion, which trigger a behavioural response in the form of discontinuance intentions.
20	Zhang et al. (2016)	SNS	Quant. (survey)	SNS overload and fatigue; EDT	Variance/ Stageless	Discontinuance intention	**IVs**: overload, fatigue, dissatisfaction	Three types of overload (system feature overload, information overload, and social overload) contribute to social network fatigue and dissatisfaction, which turn correlate with discontinuance intentions. Although the article refers to a stressors-strain-outcome framework, it does not make any stage-specific arguments (e.g., temporality).
21	Turel (2016)	Hedonic IS (namely, SNS)	Quant. (survey)	TPB, guilt	Variance/ Stageless	Discontinuance intention	**IVs**: Guilt feelings, subjective norms, attitude, perceived behavioural control	Conceptualises discontinuance as a corrective behaviour that is largely induced by guilt. Guilt feelings, subjective norms and attitude towards discontinuance have positive effects of discontinuance intentions. Also, it was found that

								guilt moderates the influences of subjective norms and attitude on intentions.
22	York and Turcotte (2015)	SNS (namely, Facebook)	Mixed (survey and content analysis)	DOI	Variance/ Stageless	Facebook vacationing (re-adoption)	**IVs**: demo-graphic and motivational factors	The findings suggest that Facebook users take a break from the platform mainly because it is a burden on personal time as well as on cognitive and social resources. Furthermore, contrary to what DOI suggests, socioeconomic status and geographical location of Facebook users had little impact on them taking a break (i.e., temporary Facebook discontinuance behaviour).
23	Turel (2015)	Hedonic IS (namely, Facebook)	Quant. (survey)	SCT, habit, addiction	Variance/ Stageless	Discontinuance intention	**IVs**: Guilt feelings, self-efficacy, addiction, habit, satisfaction	Guilt feelings and self-efficacy to discontinue Facebook use have a positive effect on discontinuance intentions, while satisfaction with the site has a negative effect.
24	Maier, Laumer, Weinert, et al. (2015)	SNS (e.g., Facebook)	Mixed	Technostress	Variance/ Stageless	Discontinued use (quitting = switching)	**IVs**: SNS stress creators, SNS exhaustion, switching stress-creators, switching exhaustion	SNS-exhaustion contributes to discontinuance intentions, whereas switching-exhaustion hinders them. Intention to discontinue leads to actual discontinuance.
25	Maier, Laumer, Eckhardt, et al. (2015)	Facebook	Mixed (interviews followed by survey)	SST	Variance/ Stageless	Discontinuance intention	**IVs**: Social overload and its antecedents	Social overload leads to two kinds of responses: (a) psychological response in the form of increasing SNS exhaustion and decreasing satisfaction; (b) increasing SNS discontinuance intentions.
26	Chesney and Lawson (2015)	Social Media	Quant. (simulation)	Critical mass theory	Variance/ Stageless	Quitting (simulated)	**IVs**: number of nodes, number of ties, etc.	The article suggests that a critical mass of quitters can cause a community to fail and that this mass can be as small as that needed to influence a community to succeed.
27	Xu et al. (2012)	SNS	Quant. (survey)	PPM	Variance/ Stageless	Switching intention	**IVs**: Dissatisfaction, attaction, switching costs, peer influence	Findings point to four significant factors that correlate with switching: dissatisfaction with socialisation support, dissatisfaction with entertainment value, continuity cost, and peer influence.
28	Ravindran et al. (2014)	SNS (e.g., Facebook)	Mixed	Fatigue and stress	Variance/ Stageless	Quitting and taking a break	**IVs**: Immersive tendencies, self-control,	Social network fatigue may lead to certain coping mechanims such as taking SNS break, moderating SNS use, or deactivating SNS account.

							social interactions, maturity of the SNS.	
29	Coursaris et al. (2013)	SNS (namely, Twitter)	Quant. (survey)	U&G; DOI	Variance/ Stageless	Quitting (via usage duration)	**IVs**: Perceived needs, personal innovativeness, perceived popularity, perceived characteristics	The study suggests that understanding of Twitter use discontinuance requires accounting for both user-related motivations (based on U&G) and perceived characteristics of the medium (based DOI). More specifically, the study suggests that inactive users' adoption and continuance are motivated by user-related needs, whereas active users' are motivated by technology characteristics.
30	Cho (2015)	SNS (namely, Facebook)	Qual. (interviews)	Heidegger's writings	Process/ Stage	Discontinuance	**Stages:** Being enframed; disturbances; skillful coping; discontinuance	Discontinuance is a potential result of modifying technological practices after experiencing technical and/or social turbulences. Furthermore, the study argues that 'disturbance arouses self-consciousness through a thematic deliberation, and this strongly suggests that discontinuance is not a negative experience in itself. Rather, it provides a chance to reflect on technology and individual practices enabled through it' (p. 1545).
Research theme: discontinuance of IT Service/innovation								
No	**Ref.**	**IS/IT Artefact**	**Method**	**Theory/ Literature**	**Theoretical structure**	**Phenomenon of interest**	**Explanation**	**Key Insights**
31	Tang and Chen (2020)	Brand microblogs	Quant. (survey)	PPM	Variance/ Stageless	Unfollowing intentions	**IVs:** dissatisfaction with information quality, dissatisfaction with service quality, person brand unfit, alternative attractiveness, perceived unfollowing costs.	The study finds statistically significant relationships between unfollowing intentions and dissatisfaction with information quality, person brand unfit, alternative attractiveness, perceived unfollowing costs.
32	Tsohou et al. (2020)	IT-based service	Qual. (interviews)	Literature on service quality and service failure	Process/ Stage	IT-based service degradation	**Stages:** blaming; bypassing; tolerating; abandoning; overcoming	The article focuses on service failures that are caused by IT service degradation (i.e., problems). The authors develop a stage model that explains customers' decision to continue using or reject the service,

(Continues)

APPENDIX TABLE A1 (Continued)

Research theme: discontinuance of IT Service/innovation								
No	**Ref.**	**IS/IT Artefact**	**Method**	**Theory/ Literature**	**Theoretical structure**	**Phenomenon of interest**	**Explanation**	**Key Insights**
								which emphasise five decision points: blaming, bypassing, tolerating, abandoning, and overcoming.
33	Salo and Frank (2017)	Mobile applications	Critical incident technique	Situational context and technology use	Variance/ Stageless	Post-experience behaviours (e.g., quitting)	**IVs**: interaction state, place, sociality, application type	Negatively perceived incidents may cause mobile IS users to discontinue application use, but discontinuance is less likely to happen in the incident that takes place outdoors.
34	Rosenbaum and Wong (2015)	Self-service technology in hospitality (e.g., check-in kiosk)	Mixed (survey & interview)	DOI, SST	Variance/ Stageless	Technological pause	**IVs:** technology readiness, technology options, demographics	The findings suggest that regardless of the hotel guests' perceived technology readiness, they generally see many self-servicing technologies unimportant, except for ones that offer them discounts for spending joyful time. One of the most interesting findings suggest that hotel guests on holiday would like to avoid self-service technologies as they considered them to be associated with doing work.
35	Bhattacherjee et al. (2012)	Web browser	Quant. (survey)	ECT, DOI, UTAUT	Variance/ Stageless	IT switching behaviour (via # times new IT was used	**IVs**: relative advantage, satisfaction with prior IT, habit, personal innovativeness.	Relative advantage and satisfaction with prior IT correlated with IT switching intentions, which, together with habit, correlated with IT switching behaviour.
36	Kim (2011)	Internet	Quant. (population survey)	DOI	Variance/ Stageless	Adoption vs. late discontinuance	**IVs:** demographics, internet utilisation level, place of use, email use	Although the article makes reference to the innovation diffusion process, the stages of this process themselves were peripheral to the analysis. A key finding suggests that

APPENDIX TABLE A1 (Continued)

Research theme: discontinuance of IT Service/innovation								
No	**Ref.**	**IS/IT Artefact**	**Method**	**Theory/ Literature**	**Theoretical structure**	**Phenomenon of interest**	**Explanation**	**Key Insights**
								social status affects the discontinuance so that less privileged individuals are more likely to discontinue internet use.
37	Cenfetelli and Schwarz (2011)	Travel websites	Quant. (survey)	TAM, IS success model; dual factored constructs	Variance/ Stageless	Rejection intentions (via use intentions)	**IVs**: information inhibitors, system inhibitors, information quality, system quality	The study argues that inhibitors of technology adoption are distinct from enablers of adoption, which emphasises the distinctions between asking 'why' vs. 'why not'. The findings suggest that inhibitors have negative effects on usage intentions, as well as on adoption enablers.
38	Hand et al. (2009)	Online grocery shopping	Mixed (focus groups followed by survey)	DOI, situational factors	Variance/ Stageless	Stopping online shopping	**IVs:** specific situational factors, such as, mobility problems, having a baby, finding better prices at stores, delivery charges too high, etc.	The findings suggest that the online grocery shopping is discretionary. That is, it may be abandoned when a particular (adoption) trigger disappears, or because the consumer becomes unhappy with service. Furthermore, the behaviour may be restarted as changing life events create new triggers.
39	Kim et al. (2008)	Mobile data services (MDS)	Quant. (survey)	TAM, DOI	Variance/ Stageless	Discontinuance intentions	**IVs:** usefulness, usability, system quality, social influence, compatibility and perceived cost, ubiquitous connectivity	The study suggests that usefulness and social influence were more important for discontinuers than for continuers, while ubiquitous connectivity was more important for continuers than for discontinuers.
40	Hogan et al. (2003)	Technology (including IT)	Quant. (simulation)	DOI	Variance/ Stageless	Lost customer value	**IVs:** type of discontinuance (defection vs. disadoption),	The impact of a lost customer on the profitability of the firm depends on whether the customer defects to a

(Continues)

APPENDIX TABLE A1 (Continued)

Research theme: discontinuance of IT Service/innovation								
No	**Ref.**	**IS/IT Artefact**	**Method**	**Theory/ Literature**	**Theoretical structure**	**Phenomenon of interest**	**Explanation**	**Key Insights**
							type of customer (early adopter vs. later adopter)	competitor firm or disadopts the technology altogether, and on whether the customer is early or late adopter.
41	Danaher (2002)	Subscription Services	Quant. (field experiment)	Pricing and revenue maximisation	Variance/ Stageless	Dropout (vs. usage)	**IVs:** Service access price, service use price, etc	The study offers several findings: (1) Service access price has some effect on service usage but a much stronger effect on user retention. (2) Service use price has a strong effect on usage and a moderate effect on retention. (3) Customer churn rate is much more sensitive to access than usage price.
42	Lemon et al. (2002)	Service	Quant. (lab experiment)	Marketing literature on keep/drop decisions	Variance/ Stageless	Drop/keep likelihood	**IVs**: future use expectations, satisfaction	Consumers who consider the possibility of regret from discontinuing a service relationship are less likely to drop it than those who do not.
43	Parthasarathy and Bhattacherjee (1998)	Online service	Quant. (survey)	DOI	Variance/ Stageless	Post-adoption behaviour (e.g., quitting)	**IVs**: perceived service attributes, service utilisation, network externality	Reasons for discontinuance can stem from disenchantment with the innovation or replacement with another innovation. Later adopters are more likely to discontinue because of disenchantment than replacement, and rely more on interpersonal sources of information.
44	Prendergast and Marr (1994)	Self-service technology in banking	Quant. (survey)	DOI	Variance/ Stageless	Disenchantment discontinuance (post-adoption rejection)	**IVs:** prior technology use, demographics	The article acknowledges different forms of discontinuance, and focuses specifically on discontinuance that results from

APPENDIX TABLE A1 (Continued)

Research theme: discontinuance of IT Service/innovation								
No	**Ref.**	**IS/IT Artefact**	**Method**	**Theory/ Literature**	**Theoretical structure**	**Phenomenon of interest**	**Explanation**	**Key Insights**
		(ATMs, etc.)						dissatisfaction with technology performance (i.e., disenchantment discontinuance). The study found no support for disenchantment discontinuance in the context of self-service banking. The authors argue that the discontinuance of some users is better explained by diffusion saturation, reflecting a small percentage of individuals who are immune to the innovation (i.e., non-adopters).
45	Butcher et al. 2020	Pokemon Go	Qual. (focus groups, interviews)	P2D	Process/ Stage	Various forms of discontinuance	**Stages:** access /on-boarding; disconfirmation/ hedonic adaptation; alternatives /iterations; discontinuance	The article introduces the P2D_PMG model through validating and extending Soliman and Rinta-Kahila's (2020) discontinuance framework. The main stages identified by the article (and potential discontinuance outcome) are: access and on-boarding (rejection), disconfirmation and hedonic adaptation (regressive discontinuance), technological, social, third parties, and personal issues (quitting), re-occurrences of hedonic adaptation (temporary discontinuance), and alternatives and iterations (replacement).
46	Whitacre and Rhinesmith (2016)	Broadband	Quant. (survey)	DOI, Literature on broadband adoption	Variance/ Stageless	Un-adoption (quitting)	**IVs:** individual demographics, such as income, education, race, employment, etc.	Socio-economic factors such as low income and old age were identified as main predictors of home broadband discontinuance.

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APPENDIX TABLE A1 (Continued)

Research theme: discontinuance of IT Service/innovation								
No	**Ref.**	**IS/IT Artefact**	**Method**	**Theory/ Literature**	**Theoretical structure**	**Phenomenon of interest**	**Explanation**	**Key Insights**
47	Spiller et al. (2007)	ISP	Mixed (interview survey)	ECT, DOI	Variance/ Stageless	Continuance vs. discontinuance	**IVs:** features, purpose, prior behaviour, competition, demographics	The main findings suggest three features (namely, reliability of service, responsiveness to queries and flexible payment options) determined customers' decisions to continue or discontinue the internet service. The study also reveals that discontinuers gave higher weight to cost than to Internet service quality.
48	Cenfetelli (2004)	IT/IS	Conceptual	Systems characteristics, Enablers, Inhibitors	Variance/ Stageless	Rejection	**IVs:** Enablers (e.g., system reliability), inhibitors (e.g., insufficient documentation)	The article argues that taking a purely positive antecedent approach (i.e., adoption enablers) to study IT adoption may leave important facets unrecognised. Thus, it proposes the inclusion of inhibiting forces as well, which can be qualitatively different from the enablers (i.e., not simply opposing valence).
49	Zhu and He (2002)	Internet	Quant. (survey)	DOI, U&G	Variance/ Stageless	Adoption/non-adoption and use	**IVs:** perceived characteristics of Internet, Perceived popularity of Internet, Perceived need for Internet, user demographics	Although the article hints to the distinction between adoption and use of internet; the transition from adoption to use was out of the study scope. However, the article acknowledges that adoption and use of Internet are two distinct processes that are influenced by different forces. Perceived popularity and perceived characteristics of Internet were found to determine its adoption (or lack of), whereas perceived need for Internet impacted its continued use.

APPENDIX TABLE A1 (Continued)

Research theme: discontinuance of IT Service/innovation								
No	**Ref.**	**IS/IT Artefact**	**Method**	**Theory/ Literature**	**Theoretical structure**	**Phenomenon of interest**	**Explanation**	**Key Insights**
50	Soliman and Rinta-Kahila (2020)	IT/IS	Literature review	Contextualist analysis	Process/ Stage	Discontinuance	**Stages:** Exposure; adoption; continued use; discontinued use	Based on a generic process model, the authors argue that the five most recognised forms of discontinuance vary not only in meaning (e.g., rejection vs. replacement) but also are the result of distinct processes or paths.

APPENDIX TABLE A2 Interviewees demographics and dates of interviews

Name[a]	Interviewee location	Age[b]	Sex	Occupation	First interview round	Second interview round
Scoopshot management						
Nico	Finland	–	M	Scoopshot CEO	Feb 2012	–
Petri	Finland	–	M	Scoopshot COO (founder)	Feb 2012	–
Scoopshooters						
Ali	Finland	37	M	Marketer and entrepreneur	Apr. 2012	Aug. 2014
Anita	The Netherlands	27	F	Social media marketing	May 2012	May 2014
Anon-1	Hong Kong	27[b]	M	News reporter	Apr. 2013	–
Anon-2	Canada	21	M	Student/salesperson	–	Dec. 2014
Björn	Sweden	42	M	Professional chef	Oct. 2012	May 2014
Cesar	Chile	26	M	Retail store worker	May 2012	May 2014
Daan	The Netherlands	17[b]	M	Part-time bartender	Sep. 2012	–
Earvin	The Netherlands	19[b]	M	Journalism student/ marketer	Sep. 2012	–
Gabor	The Netherlands	35	M	Professional Journalist	–	Dec. 2014
Jackie	The Netherlands	46	F	Restaurant worker	Apr. 2012	June 2014
Jari	Finland	38	M	After-sales manager	May 2012	Sep. 2014
Joost	The Netherlands	30	M	School teacher	Apr. 2013	May 2014
Kaisa	Finland	29	F	Food engineer	May 2012	Sep. 2014
Marco	Mexico	27[b]	M	Communication Engineer	May 2013	–
Max	Austria	21[b]	M	Shop assistant	May 2013	–
Pekka	Finland	40	M	Car parts dealer	–	Nov. 2014
Peo	Sweden	45	M	Operations manager	May 2012	Sep. 2014
Vasco	The Netherlands	33	M	Factory worker	May 2012	May 2014

APPENDIX TABLE A3 Secondary data

No	Title	Key insights	Publisher / URL
1	Scoopshot wants to turn mobile photogs into citizen journalists	Published in 2012, this article provides an overview of how Scoopshot is marketing its services in different markets.	**Peta Pixel:** https://petapixel.com/2012/08/09/scoopshot-wants-to-turn-mobile-photogs-into-citizen-journalists/www.petapixel.com
2	EXCLUSIVE: Mobile crowdsourcing photo service supplies media & brands with compelling content	Published in 2012, this article provides insights into Scoopshot's CEO vision for the platform and the nature of service they provide.	**Mobile Groove:** https://mobilegroove.com/exclusive-mobile-crowdsourcing-photo-service-supplies-media-brands-with-compelling-content/www.mobilegroove.com
3	Scoopshot	Published in 2013, the article introduces Scoopshot and announces it has won the World Summit Award for the year 2013 under the category of 'Media & News'.	**World Summit Award:** https://www.worldsummitawards.org/winner/scoopshot/
4	Scoopshot scoops $3.9 M to crowdsource news photography via 350 000 global users	Published in 2013, this article provides insights into Scoopshot's fast-growing popularity among investors as well as users.	**Venture Beat:** https://venturebeat.com/2013/11/14/scoopshot-scoops-3-9m-to-crowdsource-news-photography-via-350000-global-users/
5	Scoopshot, the on-demand photography marketplace, raises $1.2 M from world's 'top selling' stock photographer	Published in 2013, this article provides additional insights into Scoopshot's successful fundraising deals.	**Tech Crunch:** https://techcrunch.com/2013/07/16/scoopshot/
6	Scoopshot makes smartphone users part of the newsgathering process	Published in 2014, this article provides insights into the technology behind Scoopshot that underpins the verifiability of the photos authenticity.	**Journalism.co.uk:** https://www.journalism.co.uk/news/advertorial-scoopshot-makes-smartphone-users-part-of-the-newsgathering-process/s2/a556742/
7	Suomalaisstartup loi markkinapaikan mobiilikuville	Published in 2014, this interview with CEO describes the platform operations and highlights key success milestones.	**Mobiili:** https://mobiili.fi/2014/08/11/suomalaisstartup-loi-markkinapaikan-mobiilikuville/

APPENDIX TABLE A4 Example interview protocol for the second round

Opening the session:
• Hi ------! I hope you remember our talk a while ago. As a reminder, my focus is on understanding usage behaviour of information systems, and I've been doing my investigation on an application called Scoopshot, and I would like to hear from you about your experience.
• Now, I'm basically investigating how your Scoopshot experience has evolved? Still using it regularly? Not so often? Or stopped using it?
• Do you still use Scoopshot?
• When was the last time you used it?
• To organise our discussion, I will be interested in hearing from you about three phases over time:
1) The time when you first heard of Scoopshot and decided to try it out.
2) The time when you used it quite regularly.
3) The time when you started losing interest, and eventually uninstalled it.
• Do these three stages describe what you have been through over time?
Core questions:
• In the previous interviews we had about a year ago, you were still in the 'user' stage. Today, you are not. I am trying to understand exactly (and as clearly as possible) how and why this happened?
• Simply put, could you explain how you went from stage 2 to stage 3?
• So, what was the biggest disappointment in your Scoopshot experience? I mean features that you expected it to have but were not there?
• So, in your opinion what kind of features might have interested you to keep using it?
• Would these features keep you interested even if you are not getting paid for your photos?
• So, how long did it take before you decided to remove it from your phone?
• How do you think Scoopshot could be improved?
• I mean, what could the app have done differently to make you more interested, and using it today?
• So, do you think that the availability of other photo apps (like Instagram) affected how you evaluate Scoopshot?
• So, if Instagram did not exist, what are the chances of you using Scoopshot today?
• Have you felt any kind of loss by removing Scoopshot?
Ending the session:
• By the way, may I use your real first name in my research, which could be published in an academic journal?
• Thank you very much for your time and patience!
• May I contact you again if I have more questions?

APPENDIX TABLE A5 Thematic coding and exemplary quotes from the data

Quotes from the interview data	First-order codes	Second-order codes	Temporal bracketing
'*I am more motivated to do it for my job [as a teacher, and] for the company of my parents … They grow eels, [so I] make advertisement for their shop or put eels in the picture*.' [Joost, May 2013].	Instrumentalist	Framing	Stage 1: Framing
'*As a hobby-photographer, I of course like when people notice my photos, and even comment on them as most photographers probably do*' [Björn, May, 2014].	Hobbyist		
'*I'm studying journalism, and in that way I can always refer to my own work. It can help me getting a job in the future working for a [news]paper*' [Earvin, September 2012]	Career-oriented use	Instrumental use (gain frame)	Stage 2: Goal Pursuit
'*It was funny to create something with my son in the forest. We had quite a laugh when sending it. So the most [obvious] reason was, it was possible haha*' [Jackie, April 2012]	Fun-oriented use	Hedonic use (hedonic frame)	
'*Things have gotten worse with this app [Scoopshot]… First, I thought this is [an] easy way to gain some extra income and there was [/were] lots of missions. But for the last year, missions have mostly been weird and there has not been so many of them*.' [Jari, September 2014].	Disappointing Utility	Sources of dissatisfaction	Stage 3: Frame Disruption
'*It [Scoopshot] had no feedback, like my pics were sent in the big black nothing. So at one point, I thought: why bother?*' *[Jackie, June 2014]*.	Lack of feedback		
'*Think of Instagram. They have no payment, only social interaction. People like your photo; they comment how good/bad it is; they ask you information about the location*, etc. *If one sees that followers are interested in his work and he's getting comments, he will get addicted*.' [Ali, August 2014].	Lack of connectedness		
I did not choose not to use it [Scoopshot]. I think that the availability of Instagram changed my preference and after a while I forgot all about Scoopshot. It left my image toolbox.' [Anita, May 2014].	Seeking alternatives	Dormancy	Stage 4: Dormancy
'*There has not been any good assignments lately. Of course, I open Scoopshot a couple of times per week to see if something interesting has come up*.' [Jari, September 2014].	Lurking		
'*I stopped using Scoopshot to use something the same [*i.e., *similar], but more for newspapers in our region*.' [Joost, May 2014].	Switch to alternative	Switching	Stage 5: Termination
'*I do not [use it anymore]. I had a new phone and did not instal it. I do not miss it either*.' [Anita, May 2014].	Quit	Quitting	