



Exploring how mumpreneurs use digital platforms' algorithms and mechanisms to generate different types of value

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Abstract

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Keywords: value creation; Instagram; mumpreneurs; digital platforms; algorithms

1. INTRODUCTION

Existing information systems (IS) research has found that digital platforms provide opportunities for generating economic value and non-economic value (Barrett et al.,

2016; Chamakiotis et al., 2021). Of these two categories of value, however, previous research has predominantly linked digital platforms with economic (financial) value (e.g., Gol et al., 2019; Pagani, 2013; Wulf & Blohm, 2020). For example, market reach and increased sales have been identified as positive outcomes that generate value. This type of value has received extensive attention in the IS literature as a driving force behind the use of digital platforms (Clarke & Davison, 2020; Constantinides et al., 2018). However, economic return is only one dimension of value creation. The value created by different groups of users through digital platforms is also strongly influenced by the power of a platform's algorithms. Algorithms are computer programs that define a series of steps that involve operating on data to produce an outcome (Gillespie, 2014).

Previous research has highlighted that digital platforms can generate economic value for entrepreneurs (Srinivasan & Venkatraman, 2018). Entrepreneurs must, at a minimum, base their choice of digital platform on an economic logic of network effects, ideally linking to different platforms according to the dynamic characteristics of networks of interdependencies between key actors (Srinivasan & Venkatraman, 2018). Business owners and influencers who have sufficient knowledge and resources are more able to navigate through algorithms to create value. However, digital platforms can also generate value (beyond economic value) for groups of entrepreneurs who may be more vulnerable and whose resources may be limited (Srinivasan & Venkatraman, 2018). One such group is mumpreneurs. A mumpreneur is 'an individual who discovers and exploits new business opportunities within a social and geographical context that seeks to integrate the demands of motherhood and business ownership' (Ekinsmyth, 2011, p. 105).

Research shows that mumpreneurs understand entrepreneurialism and motherhood to be compatible and of equal value, with women aiming to be 'good' mothers and successful business owners at the same time (Khan & Rowlands, 2018; Lewis et al., 2022). However, achieving this balance through self-employment can be challenging, and previous research has shown that running a business from home may be incompatible with managing a family (Lewis et al., 2022). Although many women set up small businesses on digital platforms in the belief that this will allow them to flexibly balance their trading activities with their family responsibilities, these hopes are not always realized: formal childcare may be costly or unavailable, childcare support can be unreliable or unavailable, and caring for children while running a business can be challenging (Duberley & Carrigan, 2012; Lewis et al., 2022; Rouse & Kitching, 2006). The term 'mumpreneur' being a gendered term in and of itself highlights the unequal care responsibilities taken on by mothers versus fathers, with many female entrepreneurs setting up businesses around childcare responsibilities (Ekinsmyth, 2014). Due to their various responsibilities, mumpreneurs' resources also tend to be limited; they may lack the time, funds, business-related digital literacy, and support required to run a business online (Duberley & Carrigan, 2012). Nevertheless, using digital platforms can create economic and non-economic value for various groups of entrepreneurs, including mumpreneurs, who often orient their entrepreneurial activities around both economic and non-economic value. For example, community-based platforms (e.g., Instagram, Facebook, Twitter) offer opportunities for value creation (Alaimo et al., 2020) because they enable users to create content in addition to exchanging it (Ameen et al., 2022; Bonina et al., 2021).

Instagram is a case of community-based digital platforms (Schreieck et al., 2023) that has various characteristics and offerings from a business perspective.

Similar to other community-based platforms, Instagram allows users to add hashtags to public stories, making them visible to people searching for a particular hashtag or location (Casaló et al., 2021; Kaleem, 2022). Hashtags, also called ‘social tags’ or just ‘tags’, are space-free words and phrases that begin with ‘#’ (Klostermann et al., 2018). In 2020, more than 25 million businesses were on Instagram (Omnicoagency, 2021). In addition, 90% of users on Instagram follow a business, indicating that users are keen to keep up with brands and entrepreneurs on the platform (Zote, 2023).

Mumpreneurs who start running a business on Instagram often face serious challenges as they shift their use of the platform from personal to business; for example, challenges in such areas as business visibility, growth, engagement, and connectivity. Their knowledge of algorithms may also be limited due to the opaque business practices of digital platforms (Möhlmann et al., 2021), resulting in time deprivation and challenges in managing the work–family balance. In addition, their business-related actions aimed at generating value through digital platforms often emerge with no clear strategy other than trial and error, as they are unaware of the rankings used by the platform’s algorithms to determine who and what gains visibility on social media (Cotter et al., 2020; Riemer & Peter, 2021).

In the UK context, mumpreneurs’ vulnerability stems from the fact that mothers carry out most of the unpaid care work and women entrepreneurs are underprivileged with regard to procuring funding (Rose, 2019). Due to mumpreneurs’ vulnerability, limited resources, and other (financial and non-financial) challenges, it is important to explore the mechanisms through which digital platforms’ algorithms contribute to value creation for this group. In addition, researchers have recently called for explorations of alternative (non-economic) forms of value generated by digital platforms; for example, cognitive, professional, and epistemic social value (Chamakiotis &

Petrakaki, 2022). With these issues in mind, the aim of our study is to *explore how mumpreneurs navigate through algorithms and mechanisms that lead to economic and non-economic value creation on digital platforms, specifically Instagram as a case of community-based platforms.*

Two research questions guide this study: *How can mumpreneurs utilize community-based platforms' algorithms to create various forms of economic and non-economic value? What are the mechanisms and what is the temporal flow (sequence) of how mumpreneurs experience value creation on community-based platforms? We answer these questions by focusing on mumpreneurs based in the United Kingdom (UK) who are running a business on Instagram. Women in the UK who have young children – either in their early years (from birth to 5 years) or at primary school (between 5 and 10 years) – often have significantly greater caring responsibilities than their male counterparts and women with older children. Reports show that in the UK, the number of women who have young children and start a small business has risen sharply because their desire for more flexibility and better opportunities has not been fulfilled by traditional employment (Williams, 2013). In addition, the high cost of childcare in the UK is important in an individual's decision to become self-employed (Dunbar, 2021).*

Our research makes three main novel contributions. First, we explore and show the types of economic and non-economic value created for mumpreneurs through community-based platforms (the case of Instagram) and their algorithms. Second, we investigate the mechanisms that lead to value creation for mumpreneurs through algorithms. Third, we show the temporal dimension of value creation for these users through Instagram and its algorithms. Through a qualitative lens, we conducted interviews with women who: (i) have at least one child under age 11 (which often

means greater caring responsibilities); (ii) own a small business in the UK; and (iii) are active on Instagram.

We make several contributions to the literature on value creation through community-based platforms. First, we develop a process model of value creation for mumpreneurs generated through community-based platforms. Our proposed theoretical model integrates the mechanisms through which community-based platforms' algorithms generate various types of economic and non-economic value for mumpreneurs. In addition, we explore and unpack the types of non-economic value created through Instagram's algorithms for mumpreneurs. Furthermore, we depict the temporal dimension of value creation through community-based platforms for mumpreneurs, thus extending previous findings on the creation of economic and non-economic value (e.g., Barrett et al., 2016; Chamakiotis et al., 2021). Our findings offer guidance to mumpreneurs on maximizing value when setting up a business on community-based platforms using the case of Instagram.

The next section contains a review of the related literature on digital platforms and value creation, social media platforms focusing on the case of Instagram, and mumpreneurs and the care economy. We then present our methodology, followed by our findings. We proceed to discuss these findings and offer a theoretical framework. Finally, we discuss the practical implications and limitations of this study and suggest directions for future research.

2. DIGITAL PLATFORMS AND VALUE CREATION

Digital platforms are 'a set of digital resources that enable value-creating interactions between complementors and consumers' (Schreieck et al., 2023, p. 3). They share three basic characteristics: they are technologically mediated, they enable interaction between user groups, and they allow those user groups to carry out defined tasks

(Cusumano et al., 2019; Gawer, 2009; de Reuver et al., 2018). Digital platforms differ from physical systems (such as automobiles) in that the subsystem boundaries can be more loosely defined (which makes recombining elements less costly) and because information is non-rival (Parker et al., 2017). The openness of digital platforms can increase value and participation (Parker et al., 2017; Schreieck et al., 2023).

Previous studies distinguished between value creation and value capture in digital platforms (e.g. Schreieck et al., 2021; Gawer, 2022). While value creation refers to the processes aimed at increasing value generation, value capture refers to the mechanisms that make sure that an economic return from value creation and that profits are shared throughout the value creation network (Sjödín et al. 2020). In examining platforms' materialities and potential as digital artefacts and their basis for value creation for their users, the literature categorizes digital platforms into three types: *transaction*, *innovation*, and *community* (Bonina et al., 2021; Schreieck et al., 2023). In *transaction* platforms, value is created by helping two or more different types of users who could benefit from connecting, interacting with each other, and exchanging value (Bonina et al., 2021; Evans, 2012); examples include Uber and Amazon. *Innovation* platforms are software-based systems that provide core functionality that is shared by the modules that interoperate with them and the interfaces through which they interoperate (Tiwana et al., 2010); examples include Google and Android mobile application platforms. *Community* platforms enable their users to access messages from, and share messages with, other members (Butler et al., 2014); examples include Facebook and Instagram.

Community platforms bring together users who are interested in specific content, who become community members. Community members can produce and provide content on the platform or consume content that is already available.

Community platforms allow members to create, disseminate, and access content and messages in a range of forms (Butler et al., 2014). Given that the value of being part of a community increases with its size, direct network effects drive the growth of community platforms (Butler et al., 2014). The existing IS literature acknowledges that for individual and business users alike, Instagram has more significance than other digital platforms – including other community platforms (e.g., Ens et al., 2023; Senyo et al., 2023; Soliman & Tuunainen, 2022). Instagram is seen as an example of community platforms which are rich in content because they rely on images, videos, and stories (Ameen et al., 2022; Hou & Shiau, 2020), which make them suitable platforms for entrepreneurial activities.

The basis of value creation in the context of digital platforms can be summarized as facilitating the exchange of services and information between different parties in a multi-sided market. There are two aspects to this facilitation (Bonina et al., 2021): *matchmaking*, which makes it possible to search for and find an appropriate opposite to transact with; and *reducing friction* in the resulting interaction and transaction (Cusumano et al., 2019). Previous studies found that the features of digital platforms play a significant role in value creation in various contexts, including for humanitarian and sustainability purposes (e.g., Hellmann et al., 2016). For example, in the context of waste recovery in food supply chains, Ciulli et al. (2020) identified and explicated six brokerage roles played by digital platforms: connecting, informing, protecting, mobilizing, integrating, and measuring. In the context of digital identity as a platform for improving refugee management, Madon and Schoemaker (2021) found that the platform serves as a critical governance mechanism through generating value for various stakeholder groups while its technical functions interact with the everyday practices of service-delivery organizations and refugees.

Creating value for all parties is a key characteristic of digital platforms (Rangaswamy et al., 2022). For example, Barrett et al. (2016) found that as digital platforms are configured and reconfigured over time, they generate different types of value for different stakeholder groups (e.g., platform owners, patients, medical providers, pharmaceutical companies, clinicians, charities). Of the types of value identified, the researchers found that financial, reputation, and platform-related value benefit shareholders, organizational leaders and managers; service value and ethical value helps users (i.e., patients, charities, pharmaceutical companies); and epistemic value benefits wider professional groups by enhancing knowledge in specific areas (Barrett et al., 2016). Similar types of value contributing to knowledge creation and commercialization opportunities have also been recognized (e.g., Kallinikos & Tempini, 2014; Tempini, 2015). Besides, other studies have shown evidence of social value creation and its impact on the wider platform user-base (e.g., Goh et al., 2016). Chamakiotis et al. (2021) expanded this body of knowledge by investigating different types of social value; focusing on a digital health education platform set up to support junior doctors in post-war countries, they found evidence of epistemic, professional, and cognitive social value. Collectively, these studies show that digital platforms create value that is varied, diverse, and impacts on communities at large – beyond serving the interests of specific stakeholders.

In addition to identifying the different types of value that can be created through digital platforms, researchers have sought to explore the *mechanisms* through which value is created in this context. According to Zhao et al. (2015), value creation is developed through interactions between platform users and through sharing resources. Similarly, Chamakiotis et al. (2021) identified that the contributors to

creating different types of social value include the platform's connective capacity, users' collective engagement, and users' growing commitment.

Research has also highlighted control mechanisms used to increase the quality of value-creating interactions on digital platforms (Huber et al., 2017). Profiting from monetizing data captured from user profiles and behaviours for targeted advertising has led to criticism of hidden and unethical uses (Zuboff, 2015). Algorithms on social media platforms, which platform users may not know how to manage, have the power to control whether, when, and how value is created for them through these platforms (Wiener et al., 2023). As both community platforms and transaction platforms, social media platforms allow social activities and business activities; furthermore, they offer opportunities for value co-creation (Alaimo et al., 2020) by enabling users to create content in addition to exchanging it. These digital platforms may help to alleviate poverty by broadening access to resources (e.g. time, expertise, and support) and information (e.g., job opportunities, benefits advice) and by facilitating collective action and influence (e.g., social campaigning) (Ameen et al., 2022; Bonina et al., 2021; Nicholson et al., 2016).

3. COMMUNITY-BASED PLATFORMS: THE CASE OF INSTAGRAM

Like other community-based platforms, Instagram shares few details about the platform's algorithmic architecture and how it works. In general, algorithms function behind the scenes, with many users being unaware of their presence (Eslami et al., 2015; Rader et al., 2018). Even so, algorithms play an important role in structuring our online experiences (Beer, 2009; Bucher, 2012; Cheney-Lippold, 2011; Dolata et al., 2022; Gillespie, 2014). Several researchers have raised concerns about algorithms exercising too much influence over social realities (Beer, 2009; Gillespie, 2014; Kitchin & Dodge, 2011). Often, humans do not fully understand the outputs generated by

algorithms (Faraj et al., 2018), because these outputs are the result of complex computations on large volumes of data, with multiple algorithms feeding into one another without human intervention (Tarafdar et al., 2023). By establishing the conditions under which social media contents are seen, algorithms serve as disciplinary mechanisms that prescribe participatory norms (Bucher, 2012). Through divergent interpretations of Instagram's algorithms, knowledge of algorithms provides a space in which external motivations and choices affect platform behaviour beyond algorithmic directives (Cotter, 2019). Meanwhile, as external motivations and choices reenact discursive ideals, these ideals may be further reinforced through the feedback loop of Instagram's algorithmic architecture (Carah & Shaul, 2016).

Instagram users acknowledge that it is not clear precisely how the algorithms determine what content appears in their feeds and, in the long run, how their daily lives will be influenced by this new way of allocating information (Yang, 2018). Therefore, although users are aware of the technology, they are unconscious of its participation in their lives.

Instagram is dominated by images because of their engaging nature, and because users can cross-post images to other platforms. Instagram users can share images, give them captions, and tag them with keywords; other users can then 'like', comment on and share these uploads. In contrast to other image-sharing networks (e.g., Flickr, Pinterest, Facebook), the main idea behind Instagram is that users share 'snapshots' of everyday moments (Colliander & Marder, 2018). Instagram users utilize the social network to document their lives, present their identity (Kim et al., 2017), and express emotions with a relatively high level of intimacy (Pittman & Reich, 2016).

It has been claimed that community-based platforms including Instagram empower women psychologically by increasing their self-efficacy and their sense of

community (Ameen et al., 2021; Riquelme et al., 2018). A specific trend in this regard is that of mumpreneurs starting businesses on Instagram, leveraging the social media platform as a cost-effective way of growing their business while managing a family. As part of running an Instagram-based business, mumpreneurs partially act as social influencers to attract followers to their brand, build brand relationships, and connect with customers. Instagram's algorithms heavily influence these activities which can enable mumpreneurs to build connections and gain various advantages through Instagram which may exceed those gained from other community-based digital platforms. However, the gap in understanding of how different types of value can be created in the presence and control of such powerful platform algorithms makes it important to explore this area further. This is especially important for vulnerable groups of users, who include mumpreneurs.

4. MUMPRENEURS AND THE CARE ECONOMY

Oberhauser (2002, p. 4) draws attention to feminist 'critiques of capitalist discourse that shift the analysis of economic activity and social relations from a focus on the workplace to the examination of places outside the firm such as household and community'. To understand the future of the care economy, research should continue to investigate the mechanisms that drive job growth and polarization in care work. The normative, masculine view of entrepreneurship attaches more importance to long hours, competitiveness, and the pursuit of profit than it does to personal relationships (Mayes et al., 2020; Pfefferman et al., 2022). These traits present challenges for women who need to balance paid work with caring responsibilities for young children (McDowell, 2008). However, mumpreneurship holds the promise of allowing them to accommodate these difficulties (Lewis, 2010). In addition, traditional social norms are still reflected in the UK's business world: women are viewed as being less competitive

than men and as lacking the skills considered necessary for leading a successful business, such as assertiveness, leadership, and negotiation (Newable, 2020). Many women in the UK who are an entrepreneur and a mother have reported that they have had to sacrifice a leadership position due to the pressure of managing the work–life balance and the impression this gives to their male colleagues and employees (Newable, 2020).

Among heterosexual couples who have children, it is women who do the majority of the care work (Warren, 2011), even when a woman earns more than her male partner (Lyonette & Crompton, 2015). This situation was exacerbated during the COVID-19 pandemic (Ashman et al., 2022). In theory, having both parents working at home during a lockdown provided an opportunity for a fairer division of household labour in dual-career, heterosexual households. However, if children require attention while both parents are working at home, the father's work is likely to be prioritized and the mother's work interrupted (Medina & Lerer, 2020). Research carried out years before the pandemic found that many mumpreneurs managed the work–family balance by setting tight time boundaries, allocating work time to periods when their children were at school, in childcare, or, when necessary, in bed (Ekinsmyth, 2011). Many also ran their businesses so that they had 'down-time' during the school holidays (Ekinsmyth, 2011).

The terms 'mumpreneur' (Ekinsmyth, 2014) and 'blogger-preneur' (Pettersson McIntyre, 2020) highlight the appeal of identity options that promise women the apparently seamless blending of the private and the professional (Heizmann & Liu, 2020). Mumpreneurs are a group who deserve special attention in research, because they are breaking new ground in their business practices by redefining their

entrepreneurial identities in an attempt to find congruence between their role as a 'good mother' and their role as a businesswoman (Ekinsmyth, 2014).

Previous studies have identified several dominant discourses in digital culture that, to varying extents, shape these new enactments of entrepreneurial identity on community-based platforms – including blogs (Brydges & Sjöholm, 2019), Twitter (Marwick & Boyd, 2013), and Instagram (Brydges & Sjöholm, 2019; Petersson McIntyre, 2020) – while criticizing the sexist etymology of a term that would not occur in its gendered inverse, i.e., 'dadpreneur' (Ekinsmyth, 2014). By applying intersectionality theory to a study of Instagram as a community-based digital platform for highly privileged Australian women entrepreneurs, Heizmann and Liu (2022) found that the entrepreneurs produced idealized feminine identities by leveraging intersections of white, elite-class, heteronormative, able-bodied power within a broader neoliberal discourse. The literature is replete with research on the creation of a powerful online identity by packaging and communicating authentic personal narratives that combine photographs, videos, and activities to attract followers and customers (Audrezet et al., 2018; Audrezet & Koles, 2023; Duffy & Hund, 2019) and on using Instagram to develop strong brand relationships (Boerman, 2020).

While entrepreneurship is assumed by many to be primarily about creating economic value, this view risks neglecting other kinds of value, such as social, ecological, mental, and physical value, potentially created through entrepreneurial processes (Hindle, 2010; Lackéus, 2018). Therefore, clarification and widening of the term 'value' in connection to entrepreneurship is necessary to advance scholarly work in both entrepreneurship and education (Lackéus, 2018). Furthermore, despite the potential of community-based digital platforms such as Instagram to generate value for women entrepreneurs, the mechanisms that underpin this value creation have not

yet been explored. For example, once an algorithm has classified a social media platform user, it can use that classification in decisions about what information or products to show the user (Cotter, 2019). Better algorithms may boost the efficiency and effectiveness of platforms. In addition, Arriagada and Ibáñez (2020, p. 1) posit that ever-changing algorithms perpetually force content creators 'to adapt their brand subjectivities and practices'. Through observing the content and users that attain visibility, users can discern the participatory norms that the algorithms 'reward' with visibility (Bucher, 2012).

5. RESEARCH DESIGN AND METHODOLOGY

We adopted a qualitative methodology for this study. This resulted in an inductive approach, which considers participants' experiences as shaped by hermeneutic meaning systems (Thompson, 1997). Using a series of semi-structured interviews, we sought to examine mumpreneurs' views and lived experiences of using Instagram. By 'lived experiences', we refer to the unique and biographical context inherent to each interview and how this informed our understanding of the data (Ellis & Flaherty, 1992). The theoretical method was iterative, requiring many rounds of interpretation and reference to the literature as themes emerged (Evans, 2013). Ethics clearing was procured ahead of the fieldwork.

Our selection criteria were that each research participant must: (i) be a woman entrepreneur in the UK; (ii) be the mother of at least one child under the age of 11; and (iii) use Instagram as a business platform. Female-owned businesses account for 29% of all small businesses in the UK (Smith, 2021), yet women are significantly under-represented in UK entrepreneurship (Bradshaw et al., 2021). For instance, 51% of female entrepreneurs in the UK are concerned about bias when raising capital

(Cotton, 2019). Furthermore, in the UK children under the age of 11 need to be taken to and collected from early years or primary education settings every weekday: a chore that adds significantly to care work.

To identify potential participants, Google X-Ray was used to search for UK-based, female-owned business handles on Instagram. This type of Boolean search enables users to trawl social media platforms for specific intersecting hashtags, a functionality that is not offered by Instagram itself. We used Google X-Ray to search for women who self-identified with the hashtag #mumpreneur alongside geographic descriptors such as #Midlands and #London. Having identified 260 female entrepreneurs in this step, we contacted them to explain the research aim, check whether they met all the criteria, and ascertain their availability and willingness to be interviewed. This process resulted in 30 mumpreneurs agreeing to take part in the study, though four of them dropped out at a later stage for various reasons. Our final sample therefore included 26 mumpreneurs, each of whom participated in the interview on the condition of anonymity and confidentiality. Towards the end of the data-collection process, the themes raised by participants became repetitive of those that emerged in earlier interviews; therefore, we deemed that theoretical saturation was reached and no further interviews were required (Gupta & Pathak, 2018; Hagaman & Wutich, 2017). The process of selecting and interviewing participants took place between October and December 2021.

Table 1 presents the participants' demographic characteristics. As the table shows, the participants represented a range of ages, backgrounds, and phases of entrepreneurship; this type of participant representation is recommended by Bowden (2005). The participants' ages ranged from 29 to 47, and the sample included participants from different marital statuses and diverse ethnic backgrounds. All those

from a non-British background were first-generation immigrants to the UK. Each participant had between one and four children, at least one of whom was under the age of 11. All the participants' Instagram-based businesses were classed as small, with a maximum of ten employees. Their businesses represented a variety of industry sectors, including art, marketing, food, production, and education, among others. Despite our efforts to include participants with diverse characteristics that included inviting trans and queer women who fulfilled our sampling criteria to participate in our study, we were only able to recruit heterosexual and cis-gender women.

For Review Only

TABLE 1 Demographics of respondents.

Participant	Age	Number of children	Children's ages	Marital status	Type of business/industry	Number of years in business	Highest education level	Ethnic background	Previous work experience	Interview time (minutes)
P1	25–30	1	2 (years)	Married	Food	3	Master's	Indian	Employee	23
P2	36–40	1	6 (years)	Married	Art and marketing	1	Master's	White Russian	Employee	46
P3	46–50	4	25, 22, 17, 9 (years)	Married	Feminine hygiene	2	High school	White British	Business owner	34
P4	25–30	2	8, 3 (years)	Single	Activewear	3	Diploma	White British	Employee	27
P5	41–45	2	9, 5 (years)	Single	Food	3	Undergraduate	White Brazilian	Business owner	36
P6	36–40	1	2 (years)	Married	Marketing	9	Undergraduate	White British	Employee	23
P7	31–35	2	4, 2.5 (years)	Single	Beauty	12	School	French, Vietnamese	Employee	30
P8	41–45	2	10, 7 (years)	Single	Marketing	6	Master's	White Italian	Business owner	27
P9	25–30	1	2 (years)	Single	Fashion	8	Undergraduate	White European	Employee	28
P10	41–45	2	3 (years), 12 (days)	Married	Fashion	0.5	Undergraduate	South-east Asian	Employee	52
P11	31–35	2	4, 1.5 (years)	Married	Training	4	Undergraduate	White American	Employee	58
P12	41–45	2	15, 8 (years)	Married	Skincare	4	Undergraduate	Taiwanese	Employee	37
P13	31–35	2	3, 1 (years)	Married	Blogging	3	Undergraduate	Black African	Employee	43
P14	31–35	1	10 (months)	Married	Marketing	9	Master's	White	Business owner	70

P15	31–35	2	5, 4 (years)	Married	Interior design and architecture	1	Undergraduate	White British	Business owner	53
P16	41–45	2	12, 6 (years)	Married	Childcare platform	1	Master's	Eastern European	Business owner	35
P17	36–40	2	3 (years), 9 (months)	Married	Finance	4	Undergraduate	Asian, Indian	Employee	51
P18	41–45	1	6 (years)	Married	Education	9	Master's	Turkish	Not stated	21
P19	31–35	1	1 (year)	Married	Production	7	Undergraduate	White British	Business owner	60
P20	41–45	2	15, 10 (years)	Married	Photography	9	Undergraduate	Turkish-Cypriot	Used to run parents' business	74
P21	36–40	3	10, 9, 6 (years)	Married	Education	11	Master's	African	Employee	39
P22	41–45	2	3, 1 (years)	Married	Cleaning	3	Master's	White Lithuanian	Employee	60
P23	25–30	2	4, 2 (years)	Married	Photography	1	Undergraduate	White Polish	Employee	92
P24	31–35	1	5 (years)	Single	Fashion	5	Professional qualification	White British	Employee	32
P25	41–45	1	4 (years)	Married	Fashion		Master's	Mixed race	Employee	61
P26	31–35	1	2 (years)	Married	Food	2	Undergraduate	White Irish	Employee	46

The interviews took place on Zoom. They were recorded and then transcribed. The interviews lasted for between 23 and 92 minutes, with the mean being 45 minutes. The content was driven by the following topics: reasons for using Instagram for entrepreneurial activities; the relationship between Instagram use and work–life balance; and the impact of Instagram on business decisions. Sample questions included ‘Why did you choose to put your business on Instagram?’, ‘How much have your career goals influenced the way you run the business on Instagram?’ and ‘How have you managed having a family with young children and an Instagram-based business? Have you noticed any changes since you started the business?’ These questions aimed to elicit information from participants about how they experienced value creation on the digital platform and how their positionality as a mumpreneur affected this. We remained open to other issues and stories shared by the participants and prompted them to elaborate on relevant points. The participants were sent an information sheet and a consent form ahead of their interview.

The data analysis process followed Braun and Clarke’s (2006) thematic approach, which allows for the iterative exploration of themes as they emerge. This was done across the six stages prescribed by Braun and Clarke (2006): familiarization with the data; generating initial codes; searching for themes; reviewing the themes; defining and naming the themes; and writing up. During the first stage, each member of the research team read the transcripts. The generation of initial codes (stage 2) was inspired by early conversations about our interpretations of the transcripts and by exploring our interview notes. Open coding was applied to the data before any categories were captured (Miles & Huberman, 1994). During stage 3, the theme search, we met to formulate our thoughts on the most pertinent data. This was driven

by the motivation to give voice to participants' personal narratives. During the theme review stage, we robustly triangulated the themes between the three researchers, the IS literature, and concurrent political and macroeconomic developments. This also informed the definition and naming of the themes (stage 5), which responded to gaps in the literature and calls for research. The resulting codes and themes are presented in Figure 1.

For Review Only

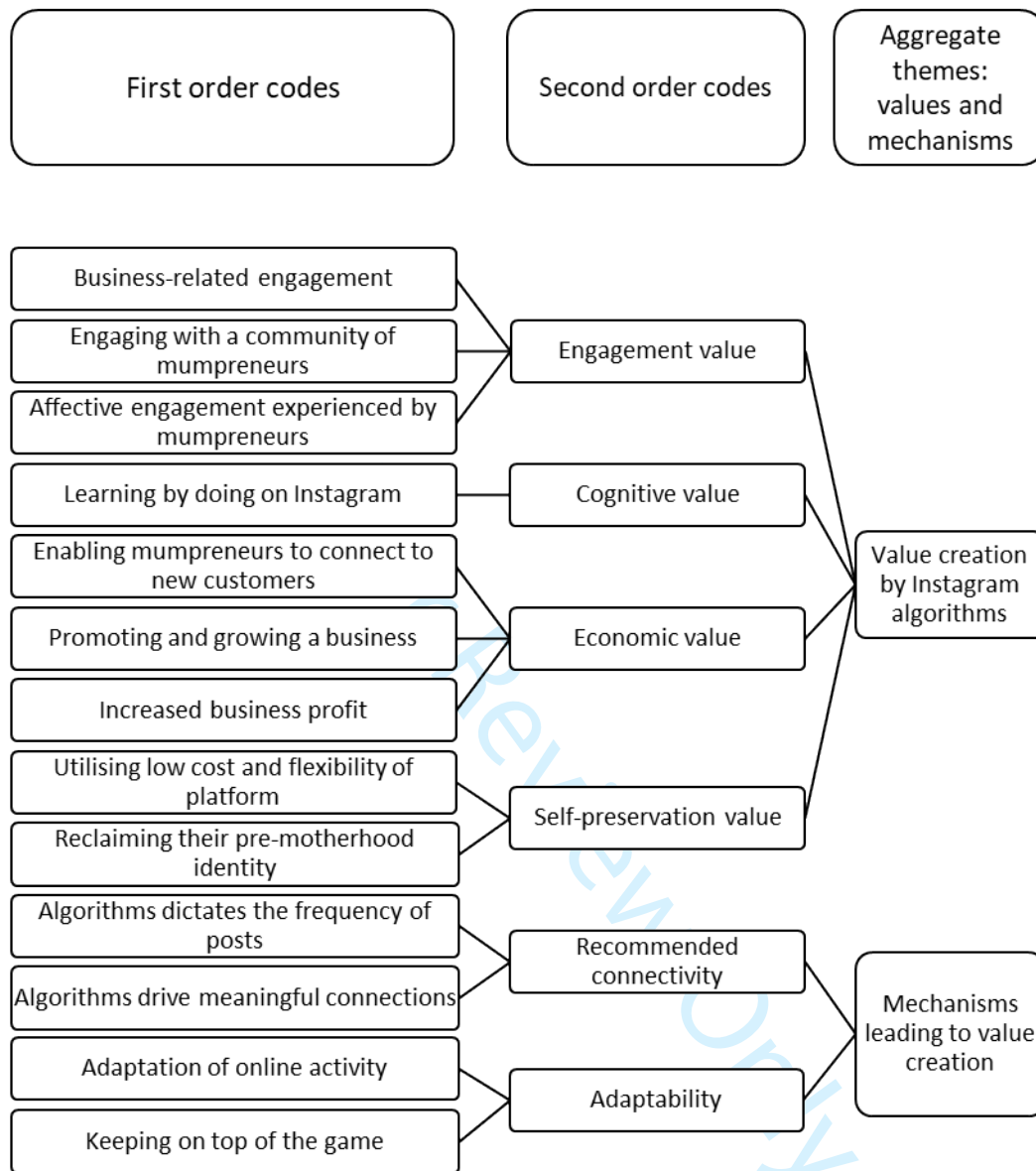


FIGURE 1 Coding tree.

The coding tree depicts how we subsumed codes relating to value creation by Instagram algorithms vis à vis mechanisms leading to value creation. The theme of value creation by Instagram algorithms is composed of second order codes, which we

coded as directly relating to how mumpreneurs utilize the platform's algorithms to generate engagement, *cognitive*, *economic*, and *self-preservation value*. For instance, we coded mumpreneurs' desire for *reclaiming their pre-motherhood identity* as a form of *self-preservation value* that can be accessed through utilizing the algorithms. The theme of mechanisms leading to value creation relates to the algorithms' demands on mumpreneurs, which constitute *recommended connectivity* and the *adaptability* mumpreneurs need to display in the face of the algorithm (e.g., *keeping on top of the game*). The temporal dimension of value creation stands as the ultimate theme under which all the subthemes rest, given that both the value created by Instagram's algorithms and the mechanisms that lead to that value creation are dictated by the chronological order in which mumpreneurs experience them. The analysis process that underpins this coding tree was what enabled us to generate a procedural model detailing relationships between different first order and second order codes and their aggregate themes in an iterative manner.

6. FINDINGS

This section starts by examining the challenges and opportunities faced by mumpreneurs. Then, it is structured around the core themes that emerged from the data analysis: types of value created for mumpreneurs by Instagram's algorithms; the mechanisms leading to value creation; and how this accumulates in a process model of value creation for mumpreneurs. Further illustrative quotes can be found in our data table in the appendix.

The mumpreneurs in this research expressed that they view themselves as different from entrepreneurs, highlighting that their care responsibilities render their decision-making and interactions different from those without these responsibilities.

This is exemplified in a quote from P11, who owns a childcare platform-based business, lives with a partner and has two children:

We do think differently to people who don't have children, and a prime example is I am a coach, but I have a coach, I believe everyone should have a coach like it's the most incredible thing. But like, my coach didn't have kids, and it's really, really obvious how they, she's super-efficient and all that, but they do, people do think differently as a business owner to people who have children. (P11)

Most of our participants highlighted the financial struggles and time pressures associated with being a mother of a young child, and many emphasized the high cost of living in the UK, which is the third-most expensive country for childcare in the world (Morris, 2023). Participants also explained that family and business are both important. These findings are emphasized in the following quotes from P12 and P21:

I think I keep telling myself I need to strike the right balance. I think one, trying to run a business is hard and wanting to be successful, you need to put a lot of effort in, but at the end of day, any of your success, if you don't have your family, it doesn't mean anything, really. So, I do remind myself all the time that I'm spending the quality time with them and to make sure I involve them, so they are part of my journey and part of my empire one day, hopefully. (P12)

We need to be financially supported and to not struggle. I don't want to say that money is the focus of that because it isn't for me, but equally it's important. I guess I just don't want my children to have to suffer if I don't feel that I'm working enough? (P21)

In addition, mumpreneurs appear to be aware of the opportunities Instagram provides for increasing business opportunities. As a digital platform, Instagram simplifies the expression of complex human emotions. Big data and algorithms subtly decide and define our social interactions and connectivity online. Participants highlighted that Instagram has unique features that allow them to expand their business rapidly, which they find to be more helpful than features of other social media platforms. In the quotes below, P6 (who runs a marketing business) and P10 (who runs a fashion business), who are both married, explain that Instagram's rich social content, open hashtags, and more engaged followers are features that make it a preferred digital platform for business:

Instagram, and for me, that's one of the main accounts to be on at the minute.... It suits a lot of the forms of media like video, animation, you can go live on it. So, for us, it's a really important channel at the moment. (P6)

We just find that Instagram is a bit more engaging in the sense that it's very easy for people to just see picture of something; I think that Facebook is easy as well, but just seems to be more of an engaged audience on Instagram. (...) Also, I've seen a lot of other businesses using it very successfully. (P10)

The rest of this section is structured around the three core themes that emerged from the data analysis: types of value created for mumpreneurs by Instagram's algorithms; the mechanisms leading to value creation; and how this accumulates in a process model of value creation for mumpreneurs.

6.1 Value creation through Instagram platform

Our data analysis identified that participants discerned four types of value created by Instagram and its algorithms: *engagement*, *cognitive*, *economic*, and *self-preservation*. The findings are presented below.

6.1.1 Engagement value

Engagement value refers to Instagram's ability to enable mumpreneurs to engage with other individuals, groups, and businesses through posts, comments, tags, direct messaging, and likes. Our findings show that this engagement value has three main dimensions: (i) *business-related engagement*; (ii) *engaging with a community of mumpreneurs*; and (iii) *affective engagement experienced by mumpreneurs*. Indeed, *engagement value* emerged as one of the strongest themes in our data.

In terms of *business-related engagement*, Instagram enables mumpreneurs to engage with potential and existing clients at various stages of their shopping journey. The literature has established that engaging with consumers through social media is an important aspect of gaining competitive advantage (Gómez et al., 2019; Osei-Frimpong, 2022). This is corroborated by the following quote from P9, who mentions that the platform enables mumpreneurs to engage with different individuals and businesses in a variety of ways:

I think it's not about the number of followers, it is actually the number of people that you keep interacting through all the time because, I mean, that changes a lot with the changes in the platform and the algorithm. I mean, that's what I care about, to be honest. (P9)

More specifically, P9 is highlighting the role that the algorithm – and mumpreneurs' understanding of it – plays in garnering engagement from followers, rather than simply increasing their numbers.

Engaging with a community of mumpreneurs is another strong theme in the data. The nature of Instagram – as a platform based on rich content and images, combined with strong algorithms – allows mumpreneurs to build and engage with a community of other mumpreneurs, who not only interact daily but also support each other by sharing experiences and promoting each other's brands:

There is, I think, five of us but they are not only business owners, these are mums, and I've sort of joined that group, it's basically like we like each other's posts and we comment on those posts, just to boost the engagement. (P23)

In the above quote, P23 sheds light on how she and fellow users take a proactive approach to increasing their engagement by joining mumpreneurs' Instagram groups. This, they consider, will manipulate the algorithm in their favour and increase their reach and engagement beyond the members of the group. P23 further establishes that this is a networking tool, which she and other mothers on Instagram use to help each other generate more engagement value.

For many participants, the support they exchange with other mumpreneurs on Instagram is of great significance. They see it as a form of empowerment provided by individuals in a similar situation (i.e., mothers running a small business in an open digital space), as the following quote shows:

I've got friends that I follow who are mother-owned-business owners, and they inspire me. Certainly, before I had children, I met up with a

few of them, because I was, like, I was frightened; I was like, how does this [running a business on Instagram] work? (P6)

In the quote above, P6 demonstrates the *engagement value* generated by the supportive environment she has established with other mumpreneurs.

Further, P2 describes experiences of engaging with and obtaining support from other mumpreneurs on Instagram:

She launched her business when she had a young child, and she is the main breadwinner of the family. So, I am lucky to have her as my colleague, as my friend, in a way mentor, by working more and collaborating a lot with women-owned businesses on Instagram, just because I feel it's a much more supportive environment. (P2)

The third dimension of engagement value is *affective engagement experienced by mumpreneurs*, which we refer to as the increase in positive or negative emotions when using social media. We found that affective engagement emerges from business-related engagement and community engagement: that is, when mumpreneurs experience business-related and community engagement on Instagram, it sparks positive or negative emotions, which they consider to be part of their experience on the platform. This affective engagement is evident in a quote from P15, who is married, has two children, and runs an interior design and architecture business:

I really admire spontaneous engagements when people are on Instagram, I don't like the part of influencer marketing where people are actually, they become a commodity and they sell themselves as a commodity. (P15)

In summary, our findings show that there is an interplay between three dimensions of *engagement value* (*business-related engagement, engaging with a community of mumpreneurs, and affective engagement experienced by mumpreneurs*) and that the first two dimensions lead to the third.

6.1.2 Cognitive value

Cognitive value refers to knowledge transfer and exchange (also referred to as 'know-how') between two parties (Chamakiotis et al., 2021). *Cognitive value* for mumpreneurs is created through *learning by doing on Instagram* due to the various learning opportunities that become available when users join or connect with expert groups or individuals. According to our participants, Instagram creates various opportunities for learning skills that are considered important in the context of entrepreneurship and knowledge exchange. In addition, as they spend more time using the platform, they start to identify areas of success and areas for improvement, as evident in the quote below:

I didn't learn marketing at school so have actually just learned by myself, with the help of Instagram and with the help of Canvas, how to create my own marketing campaign on Instagram, with the ads and everything, and I think that's actually a really good tool. (P7)

This quote exemplifies the *cognitive value* that is created for mumpreneurs who use Instagram as a platform for business. As explained at the beginning of section 6, mumpreneurs are a time-starved, vulnerable group of consumers who, in many cases, do not have access to the funds needed for investing in their learning and business development journey. In this context, the *cognitive value* generated by Instagram is important.

6.1.3 Economic value

The *economic value* created for mumpreneurs through Instagram's algorithms is related to: (i) *enabling mumpreneurs to connect to new customers*; (ii) *promoting and growing a business*; and (iii) *increased business profit*. The platform has created many business opportunities for the participants by providing opportunities to expand their business networks, *enabling mumpreneurs to connect to new customers*. In the following quote, P3 reflects on the *economic value* Instagram affords her:

Instagram is the consumer's market right now, it's very aesthetic, so as far as products go it's a great showcase for your products... (P3)

Several participants shed light on how using Instagram as a platform for business allows them to showcase their products and services and serves as a free and inclusive promotional tool, thus generating direct *economic value* for their businesses. Referring to her photography business on Instagram, P23, who is married with two children, explains how she utilises the platform for *promoting and growing a business*:

I will definitely continue and grow my photography business because that's what gives me financial gain and flexibility that I need for my children. (P23)

As evidenced above and in the quote below, *increased business profit* is one of the ulterior *economic values* mumpreneurs see in the platform. However, for other mumpreneurs, especially those who are single mothers, it can take a long time to formally start their Instagram-based business and see a financial gain, because they

have to balance their business activities with caring for their young children. P5 explains this as follows:

So, [my business] was basically built on my free time after my children bedtime. So yeah, so then it's, I think it was two years later when I actually started taking orders. So, I started in 2012, late 2012. From 2013 onwards, I was taking very small orders or sporadic orders, started building my confidence. Until then, few years later, I decided to take on us as a proper business. (P5)

Importantly, IS research has not yet explored how digital platforms enable mumpreneurs to become generators of *economic value*. With their significantly lower rates of obtaining funding (Rose, 2019) and their disproportionately high care workload (Brearley, 2022), mumpreneurs in particular benefit from Instagram's offer of a free marketing platform that has an extraordinarily high reach. The *economic value* identified in our data is one of the main benefits mumpreneurs experience in their journey.

6.1.4 Self-preservation value

In the context of our study, *self-preservation value* refers to the value created by enabling mumpreneurs to build an entrepreneurial identity through Instagram – primarily due to *utilising the low cost and flexibility of the platform*. Although motherhood and the associated lack of autonomy (including financial autonomy) have taken away some of their identity, they are *reclaiming their pre-motherhood identity* through the digital platform. The participants appreciate the opportunities Instagram provides to showcase their identity as an entrepreneur, as well as their identity as a mother. Within sociological studies, it is a well-documented phenomenon that mothers,

especially during the newborn stages of their child's life, experience a loss of identity (Bailey, 1999; Shea et al., 2016). We claim that their activity on Instagram can act as a tool for carving and preserving their self-identity. This is evident in the quote below, which tells of how founding her own coaching business on Instagram helped P15 to regain her confidence:

I had children and I massively lost my identity. And because I was always very career driven, and that was my, like, identity anchor, had children, I didn't go back to work because it was full-time hours in London and, like, that was just not going to work. And yeah, I just, took me a while to figure out like confidence issues (...), then I came back to coaching, is like this is actually what I want to do. And I thought, well, if I felt like this, I'm not the only person that's felt like this, so I started off thinking more about, you're more than just mum, you know, you can have your own dreams, ambitions, (P15)

This view applies to many other participants in our sample, most of whom were employed before having children or starting a business, and one of whom had been running their parents' businesses. Furthering the point in the quote above, P21 shares how preserving her identity as a mumpreneur is allowing her to support other women on Instagram who find themselves at this intersection of being a mother and running a business:

My big goal is number one, to be a force of influence in the women entrepreneur line of field because I have, not only do I have the passion to want to help people to build and grow their business; I've also got the experience, and I've also got the training. (P21)

These data support our claim that Instagram purports *self-preservation value* for mumpreneurs, with the digital platform acting as a tool within which identity can be carved. Simultaneously, doing this identity work as an entrepreneur and separating it from a private identity as a mother is perceived as challenging. This finding is also evident from our sampling method, which used Google X-Ray to find women who self-identified as ‘mumpreneurs’ by searching for the relevant hashtags (see Section 5). P21 addresses the overlap between her identity as a mother and her identity as an entrepreneur in the way she presents herself on Instagram:

There would have been an overlap if I put a lot of what I’m going through or what my personal life is, if I put that on social media, definitely I’m giving room for people to be part of it. But I’ve always been a private person, so I only get to share what I feel I’m open to share and I don’t feel judged about. (P21)

Although our participants experience tension about how much of their private roles to reveal, complicated further by the fact that they openly identify as #mumpreneurs, Instagram presents itself as a digital platform that offers *self-preservation value* to this group of business owners. A similar sense of space is evident in our data, which shows that women are creatively carving new identities that are more or less independent of their care duties – with the added benefit that utilizing the digital sphere allows them to scale up their business ventures (Hoelscher & Chatzidakis, 2021). This finding contributes to the IS literature by establishing *self-preservation value* as an important new non-economic type of value that is generated by digital platforms such as Instagram within our study context.

6.2 Mechanisms leading to value creation

While describing the various types of value that using Instagram has generated for them, our participants showed awareness of the role of algorithms in their platform experiences and the types of value created: *engagement*, *cognitive*, *economic*, and *self-preservation*. This enabled us to identify two mechanisms through which these forms of value are created on Instagram: (i) *recommended connectivity*, which is related to the algorithms-driven recommended connectivity and (ii) *adaptability*, which is related to mumpreneurs' flexibility in keeping up with the demands of Instagram's algorithms. These two mechanisms underlie the value creation identified in this study.

6.2.1 Recommended connectivity

As established, mumpreneurs experience the power of algorithm-driven *recommended connectivity*. Instagram automatically sorts an account's followers list once it has gathered sufficient data on three aspects: recent interactions, relationships, and follower relevance. Each aspect is influenced by multiple factors, which are analysed by Instagram's algorithms before sorting the followers list. Thus, Instagram's *algorithm dictates the order of posts* that users see when they scroll through their feeds. Based on specific signals, Instagram prioritizes posts, pushing some to the top and giving them the most visibility, while placing other content further down. This confirms that algorithms play an important role in structuring online experiences (Beer, 2009; Bucher, 2012; Cheney-Lippold, 2011; Dolata et al., 2022; Gillespie, 2014) and the highlighted concerns about algorithms exercising a significant influence over social realities (Beer, 2009; Gillespie, 2014; Kitchin & Dodge, 2011). Our findings show that in this way Instagram's *algorithm drives meaningful connections* for mumpreneurs, while leading mumpreneurs to content that can serve them at a business and personal level. Thus, this *recommended connectivity* constitutes a mechanism for enabling

mumpreneurs to obtain value through Instagram. This is exemplified in a quote from P1, who shows awareness of how the *algorithm dictates the order of posts*:

I think Instagram [...] kind of dictates how far your career goals, which basically, you know, we have to kind of do what the algorithm needs, you know, what helps us to stay, what helps us get that viewing, what helps us get that reach. (P1)

P5, who is a single mother, describes her experience of how the *algorithm drives meaningful connections* as follows:

People that buy from me, and they follow me, they connect with the kind of life that I take motherhood, running a business, being a single mother. I think it's important, I don't want the, I never wanted my Instagram to be just a portfolio; it was a journey, and it showed this journey. So, you can see from previous posts how not only my work evolved, but people also follow what I'm doing and [the girls], and that is so important for my followers to connect, and you know, the people really get involved. (P5)

6.2.2 Adaptability

Our findings reveal that to keep up with the demands of Instagram's algorithm, mumpreneurs have adapted their online activity so that the platform generates the various types of value that can be obtained. Therefore, we argue that *adaptability* forms a mechanism that encourages mumpreneurs to connect with, engage with, and learn from others. In addition, when mumpreneurs engage and learn through the

platform, they also learn how *adaptability of online activity* is more likely to get their content seen:

You have to keep up with the trends that come up on Instagram as well, there's always endless trends, and if you really want to be on top of your game, you have to resonate somehow with that trend. So, to give you an example, there is this concept of beige aesthetic that is ruling a lot of accounts on Instagram. And this is something that is a bit of a zeitgeist for that specifically channel, it is a code that people hold those tactics in their content and in their work. So, I like to get a bit involved with that, but I don't want that to rule everything I do so it becomes like everyone else's. (P9)

In the quote above, P9 demonstrates to what degree her work is influenced by trends on Instagram and the pressure 'to play the game'. This is underlined by P15, who echoes the idea of *keeping on top of the game*:

Genuinely, you have to play the game to a certain extent and that is, you know, posting regularly.... Generally, I would post five times a week, I have stories pretty much every day, and I might take a break for 24 hours on a story, so if you take 24 hours off, your engagement goes up for that first story afterwards. So, there are little tricks and tips that you can figure out. But yes, like, there is a massive pressure, and when I started, I massively felt it in terms of showing up. (P15)

P15's words exemplify how on the one hand the algorithm creates pressure, but on the other hand she can convert this pressure into growing her business more proactively by following best practice examples.

For our participants, the process of working around algorithms to grow a business is a learning curve that requires flexibility in terms of time and strategy. An outcome of this is that it generates *cognitive value* for them. Many participants explained that for them, learning how to create content that can be supported by algorithms is just as important as learning about other core business processes. The need for *adaptability* is further reinforced by the aforementioned pressure that these mumpreneurs associate with coping with Instagram's algorithms.

6.3 A process model of value creation

In addition to identifying the various economic and non-economic types of value created for mumpreneurs through community-based platforms, using the case of Instagram, our findings show the mechanisms through which these different types of value are created on Instagram and the role of the platform's algorithms in this process. Accordingly, we propose a process model of value creation. This is explained in the following sub-sections and is depicted in Figure 2.

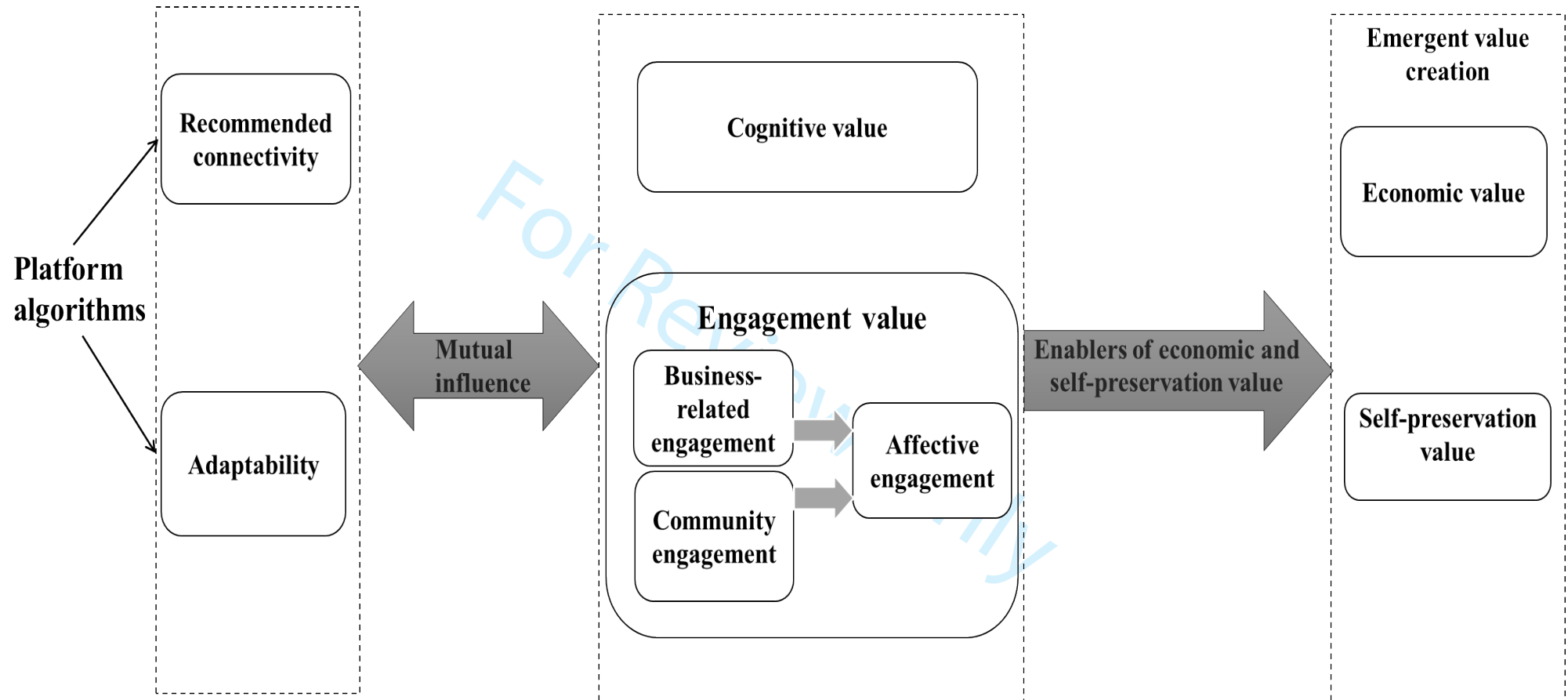


FIGURE 2 Mumpreneurs' experience of value creation on digital platforms.

6.3.1 Stage 1: Digital platform's mechanisms enabling value creation

Our findings show that the two mechanisms – (i) the *recommended connectivity* offered by digital platform's algorithms; and (ii) mumpreneurs' *adaptability* when using the platform – can directly control whether and when *engagement value* and *cognitive value* is created.

Recommended connectivity and *adaptability* link our mumpreneurs not only to customers and similar businesses but also to experts they can learn from (*cognitive value*) and to other mumpreneurs in similar circumstances; for example, others experiencing financial pressure, a precarious work–life balance, or childcare issues (*engagement value*). In addition, our findings show that the relationship between these mechanisms and both *engagement value* and *cognitive value* is bidirectional (i.e. mutual influence). Many participants have experienced that the way in which they engage and navigate (and adapt to) the platform can change what the algorithms display. This can result in a significant increase in their visibility and reach. Furthermore, for some participants, the engagement tools available through Instagram are important for coping with the constantly changing algorithms and the *adaptability* required of them as a result. This is exemplified in a quote from P21:

Every time people share their post, I also share, go to the post, liked and comment. It really does help because we can all really do so much for ourselves, especially when it comes to the algorithm. And this is what, if you know there's some set of people that no matter when you post, some people are there to like, to share, to comment, to help you grow. (P21)

We identified a bidirectional relationship between the *recommended connectivity* made by Instagram's algorithms and both *engagement value* and *cognitive value*. The frequent changes in Instagram's algorithms affect mumpreneurs' mode of engaging with audiences, which in turn causes the algorithms to change their recommendations. The quote below shows a participant's reflections on how she responds to such changes:

So, you know, we were doing regular posting, we were interacting with our consumer base, and then suddenly, the algorithms change, and, you know, we have to turn into posting reels. So, we continued, we continued doing our regular daily posting, but it wasn't reels, and we saw the reach going down, engagement going down, it affected the business as well. Then as soon as we turn the strategy around, we started doing more reels, we saw engagement going up, our following starting to go up slowly. (P1)

There are two strands to the experiences described by participants. First, they experience the various types of value generated through Instagram's algorithms at the same time as feeling that the algorithms have the power to control the destiny of their business and their network. Second, the constantly changing nature of how the algorithms work affects which information is displayed, how it is displayed, and the lifespan of the content they post – which, if not managed properly, ultimately has a negative effect on their business.

Mumpreneurs' learning enables them to adapt in an advantageous way and make more informed decisions.

Participant P1 talks about the way in which she balances other functions of the business with her marketing activities on Instagram:

But that means a lot of work because this is where, you know, we're running a business, when you're looking at financing, you're looking at supplies, you obviously have all these things. At the same time, you have to focus on learning how to make a video clip. And it's just not necessary, it's just not important in life. It just puts that added pressure on you. (P1)

Although P1 is resentful about the pressure that the algorithm exerts on her, the adaptability mechanism has also encouraged her to learn about how to create high-quality content that garners engagement, and she has adapted to the pace of work that this necessitates.

The data presented in this section speak of the numerous ways in which mumpreneurs feel put under pressure and 'play the game'. Yet, they also reveal that these women can adapt to this pressure by learning how to mould their businesses into stronger entities, grow their networks, and build more engagement. In this, Instagram's algorithm offers a mechanism through which value creation for mumpreneurs can occur by means of *adaptability*.

6.3.2 Stage 2: Enabling and emergent value creation

In addition to their bidirectional relationship with digital platforms' mechanisms, both *engagement value* and *cognitive value* serve as enablers of *economic value* and *self-preservation value* for mumpreneurs using Instagram for business. *Engagement value* and *cognitive value* are often experienced in the early stages of using Instagram in the context of mumpreneurship. As mumpreneurs engage with others on Instagram and

learn about the platform, their businesses start to make more profit and they can shape their identity as mumpreneurs. An example of this is described by P14:

Last month, for example, I had a sale from a man, and I was like oh my god, and I asked at the source on Instagram. It was amazing, so even if you in my case, I am not very active on Instagram. The minimum that you put in attracts a lot of people. Of course, you need to learn how to use the hashtag, so I had to learn how to use the hashtags, deliver the type of content I need to put in there as well, and that's what I said this has been an amazing learning curve. (P14)

In addition, describing how engaging and learning through the platform allows her to be more financially independent and preserve her identity as a mumpreneur while caring for her family, P21 explains:

It allows me to create a peaceful momentum in the house that I could look after them, and I can also earn money. I also grow myself, you know, because the happier I am the better mother I am, so the ultimate ambition is for my business and for my family life to sync so it's lovely. (P21)

To summarize, our findings show that there are two stages in mumpreneurs' experience of value creation. First, the platform's mechanisms (i.e., *recommended connectivity* and *adaptability*) shape the *engagement* and *cognitive value* that mumpreneurs experience; and it is bidirectional relationship. Second, the *engagement* and *cognitive value* created through the platform act as enablers of *economic* and *self-preservation value*. Our proposed model can apply to other entrepreneurs with limited resources and caring responsibilities.

7. DISCUSSION AND THEORETICAL CONTRIBUTIONS

This study reinforces the view that digital platforms can generate different types of value, both economic and non-economic (e.g., Barrett et al., 2016; Chamakiotis et al., 2021). Through examining mumpreneurs' use of community-based platforms using the case of Instagram, *engagement*, *cognitive*, *economic* and *self-preservation value* have been identified. Further, our study shows that value can be developed over time and at different stages of mumpreneurs' experience with Instagram. During this time, these mumpreneurs engage with and learn about the enhanced connectivity potential driven by the platform's algorithms. Thus, they develop more awareness of the workings of the algorithms and the related implications, which in turn, causes changes to the algorithms' recommendations in terms of connectivity. These changes impact mumpreneurs' ability and willingness to adapt to the opportunities provided by the platform. In relation to these findings, we identify specific mechanisms through which types of value are created: notably, *recommended* (by the algorithm) *connectivity* and *adaptability* (of mumpreneurs). Our findings show that there is a bidirectional relationship between these two mechanisms and the creation of *engagement value* and *cognitive value*. In turn, these two types of value enable *economic value* and *self-preservation value*, which are crucial for mumpreneurs.

Figure 2 presents the theoretical model (a process model of value creation) that derives from this study and depicts the mechanisms that contribute to creating different types of value for mumpreneurs: *engagement*, *cognitive*, *economic*, and *self-preservation*. Our findings show that these types of value are especially important for mumpreneurs with young children, due to the associated financial difficulties, high childcare costs, and family-work conflicts. These types of value developed at different stages of mumpreneurs' experience with Instagram can enhance business growth and

eventually reduce inequalities in heterosexual relationships, including polarization in care work (Oberhauser, 2002).

It is therefore crucial that mumpreneurs are empowered to overcome these challenges, and this empowerment can be both economic and non-economic (e.g. through support from other mumpreneurs on Instagram and through preserving their identity as a mother and as an entrepreneur). The process model of value creation also adds a temporal dimension to the attainment of the different types of value created in this context, recognizing that mumpreneurs' experience with the platform and the possibilities that the algorithms provide may take time to develop.

The study makes the following theoretical contributions. First, we add to existing IS literature on value creation in digital platforms (e.g., Barrett et al., 2016; Chamakiotis et al., 2021; Dong & Wu, 2015; Zhao et al., 2015) by developing a process model of value creation for mumpreneurs generated through digital platforms. Our study contributes to the growing body of literature on value creation through various digital platforms in the context of entrepreneurship, among other contexts (e.g., Bonina et al., 2021; Ciulli et al., 2020; Hellmann et al., 2016; Madon & Schoemaker, 2021; Schreieck et al., 2023), by focusing on specific community-based digital platforms that are widely targeted by specific groups of entrepreneurs. These are important areas to consider given the normative, masculine view of entrepreneurship steeped in stereotypes of heroic white males leading independent lifestyles (McDowell, 2008; Mayes et al., 2020; Pfefferman et al., 2022), tropes that can be problematic for mumpreneurs. By investigating the case of a community-based digital platform, Instagram, and how this platform benefits mumpreneurs with caring responsibilities for young children, this study confirms the co-existence of economic value and non-economic value (Chamakiotis et al., 2021; Gol et al., 2019; Pagani, 2013; Wulf & Blohm, 2020) which

are experienced and viewed as equally important by mumpreneurs. It also adds to this literature by identifying new types of value: *engagement*, *cognitive*, and *self-preservation*. These types of value represent mumpreneurs' business, social, and personal needs respectively, signalling the different roles that our participants play and the platform's ability to fulfil their different needs.

Second, this study expands our understanding of the impact of algorithms on platform users and value creation (Meijerink & Bondarouk, 2023). Mumpreneurs experience value created through Instagram in their business, social, and personal lives. This is contrary to explanations in previous research regarding users' possible lack of awareness of how algorithms often work and their potential benefits (e.g., Rader et al., 2018; Riemer & Peter, 2021). Community-based platforms' algorithms can determine mumpreneurs' networks and connections (business and personal) on Instagram, opening up a world of new possibilities for them and their businesses. Algorithms also create opportunities for mumpreneurs to build new relationships, shape their online identity and visibility, and make economic gains.

Third, our study depicts the temporal dimension of value creation by digital platforms for mumpreneurs, thereby extending the findings of previous research on economic and non-economic value creation (e.g., Barrett et al., 2016; Chamakiotis et al., 2021). Figure 1 elucidates how types of value (i.e., *engagement*, *cognitive*, *economic*, and *self-preservation*) are created for mumpreneurs and what mechanisms enable the creation of that value. Mumpreneurs do not use Instagram for business for the sole reason that it is convenient for combining their caring responsibilities with the ability to multitask effectively. Rather, our findings show that mumpreneurs use Instagram for business because of the *economic value* that it creates by offering them visibility, connectivity, and the potential for rapid business growth, in addition to

enabling their self-preservation (i.e., by developing and maintaining an identity as an entrepreneur *and* a mother). Thus, our findings around *economic value* and *self-preservation value* speak to the UK care economy that is characterised by extremely high childcare costs (Brearley, 2022), an unequal division of care work between mothers and fathers, and a lack of value that is attributed to unpaid care work by society (Chatzidakis et al., 2020).

Our proposed process model of value creation (Figure 1) shows that there are two stages through which mumpreneurs experience value creation on Instagram: *stage 1*, digital platform's mechanisms enabling value creation; and *stage 2*, enabling and emergent value creation. Our findings show that both the *recommended connectivity* of a digital platform's algorithms and mumpreneurs' *adaptability* when using these digital platforms for business (e.g., in terms of coping with the platforms' algorithms changes and managing their work–family balance) act as mechanisms that lead to the creation of three main dimensions of engagement value: *business-related engagement*, *engaging with a community of mumpreneurs*, and *affective engagement experienced by mumpreneurs*. This is important for mumpreneurs because they engage with business-related connections, gain support from other mumpreneurs in similar situations as a community, and connect in a meaningful way that can positively or negatively affect their emotions. In addition, through these mechanisms, mumpreneurs experience *cognitive value* because they learn through the platform. Our findings also highlight that mumpreneurs' engagement and learning through the platform cause changes to the platform's *recommended connectivity* and how mumpreneurs adapt to the platform. In other words, the interplay between the two mechanisms and types of value created in this context is bidirectional. Furthermore, our findings show that the *engagement value* and *cognitive value* experienced by

mumpreneurs serve to enable *economic value* and *self-preservation value* (i.e., emergent forms of value) through bringing new business opportunities that lead to profit and by enabling mumpreneurs to develop and maintain their identity as an entrepreneur and a mother.

Fourth, while previous work on mumpreneurs has focused on the post-feminist nature of the term (Duberley & Carrigan, 2013; Lewis, 2010) or discussed its role with regard to 'gender and entrepreneurialism in neoliberal meritocracy' (Littler, 2017), our work demonstrates how these women make strategic choices to run a business on community-based platforms such as Instagram. In doing so, UK-based mumpreneurs mitigate some vulnerabilities, such as by organizing their working hours to minimize childcare in the face of some of the most expensive childcare costs in the world (Brearley, 2020). They also encounter new ones, such as being at the mercy of platform owners who can choose to rapidly alter algorithms to maximize their economic gains. This contribution highlights the interplay between the ambitions of a particularly vulnerable subset of business owners and the economically driven strategies of powerful platform owners.

8. PRACTICAL IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH

Our findings have managerial implications for designers and managers of community-based platforms, as well as for mumpreneurs running small businesses on Instagram and community-based platforms more generally.

Instagram's managers should be aware that even though the platform's algorithms are sometimes perceived negatively by mumpreneurs, they still have the potential to create various forms of economic and non-economic value for these vulnerable users. The algorithms can be improved to offer new forms of value that improve mumpreneurs' confidence and trust in them. Furthermore, although courses

on running an Instagram-based business are available, such as Meta for Business-Instagram marketing courses, future courses could tailor information for specific types of businesses, including how to get the most out of algorithms and how to harness the power of algorithms. Furthermore, our findings show that various types of non-economic value are created through community-based platforms, specifically the case of Instagram and its algorithms: *engagement*, *cognitive*, and *self-preservation value*. Hence, platform designers should embed functionalities that further support the creation of these forms of value. This could be informed by workshops attended by designers, academics, and mumpreneurs to explore new ideas. We encourage platform designers to communicate the potential and limitations of algorithms to vulnerable groups in particular who may not view them positively despite benefiting from the value created through them.

Our findings also have implications for mumpreneurs running small businesses on community-based platforms, including Instagram, who generate various forms of value through the platform. For example, given that we found mumpreneurs can gain *economic value* from running a business on Instagram and they view this as important, interventions could support their entrepreneurial activity by funding training that would improve their digital and business skills in relation to running a business on Instagram. This can empower them to promote their businesses more effectively and find ways of reducing the pressures associated with competition in an open digital space, time constraints, and maintaining consistency. Importantly, our findings can help mumpreneurs to make informed decisions about the economic and non-economic value that using Instagram and other community-based platforms hold for them. This will allow them to be strategic about balancing the creation of value through Instagram with other types of value and other community-based platforms that they consider

integral to their business. This will be of particular benefit to this segment of entrepreneurs, who are time-starved due to an uneven care load and high childcare costs (Dunbar, 2021).

Finally, our study has some limitations and implications for future research. While our current research focused on mumpreneurs in general, further studies could delve deeper into specific groups. For example, exploring how refugees navigating entrepreneurship benefit from community-based digital platforms could offer valuable insights for designing economic and non-economic support structures. Additionally, our data was collected from mumpreneurs in the UK. Our UK-based sample opens doors for future research on mumpreneurs in diverse cultural contexts. Exploring how social and economic pressures in other countries influence value creation through these platforms could prove especially illuminating. Furthermore, our research focused on value creation for mumpreneurs generated through community-based platforms. Future studies can explore both value creation and value capture in this context to gain a deeper understanding of how value is both created and captured in this context.

Our research focuses on value creation for mumpreneurs with young children through algorithms on a digital platform. Focusing on this unique group of entrepreneurs, many of whom are vulnerable, is important; however, future studies can build on this by exploring the perceptions of, and the creation of non-economic value for, other groups of entrepreneurs, such as ethnic minorities. Such studies would be important, given the algorithmic bias reported in previous studies (e.g., Riemer & Peter, 2021). It would therefore be interesting to explore how these groups of entrepreneurs navigate around the barriers associated with algorithms. In addition, future research can conduct longitudinal studies with start-up companies to explore

how their perceptions of the types of value created through digital platforms and algorithms change over time, and how their previous career choices and employment influence how they experience each form of value.

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For Review Only

Exploring how mumpreneurs use digital platforms' algorithms and mechanisms to generate different types of value

Abstract

This study explores how digital platforms generate economic and non-economic value for a specific group of users: mumpreneurs. We collected qualitative data from 26 mumpreneurs in the United Kingdom who have caring responsibilities for young children and are running a business on the **community-based** platform Instagram. We found that through using Instagram and its algorithms, mumpreneurs can create various types of value in this context. Drawing on previous research into value creation, we make several contributions to the information systems literature. First, we unpack and explain alternative forms of value generated by digital platforms. Our findings show that through **community-based platforms such as Instagram**, mumpreneurs can create various types of economic and non-economic value – *engagement, cognitive, economic and self-preservation value* – that is consistent with their business, social, and personal needs. Second, we propose a process model of value creation; and we identify two mechanisms that lead to value creation through Instagram's algorithms: *recommended connectivity* and *adaptability*. Third, we identify a temporal dimension of value creation through Instagram. This article contributes to the theory in the growing body of literature on value creation linked to digital platforms and explains several implications for theory and practice.

Keywords: value creation; Instagram; mumpreneurs; digital platforms; algorithms

1. INTRODUCTION

Existing information systems (IS) research has found that digital platforms provide opportunities for generating economic value and non-economic value (Barrett et al.,

2016; Chamakiotis et al., 2021). Of these two categories of value, however, previous research has predominantly linked digital platforms with economic (financial) value (e.g., Gol et al., 2019; Pagani, 2013; Wulf & Blohm, 2020). For example, market reach and increased sales have been identified as positive outcomes that generate value. This type of value has received extensive attention in the IS literature as a driving force behind the use of digital platforms (Clarke & Davison, 2020; Constantinides et al., 2018). However, economic return is only one dimension of value creation. The value created by different groups of users through digital platforms is also strongly influenced by the power of a platform's algorithms. Algorithms are computer programs that define a series of steps that involve operating on data to produce an outcome (Gillespie, 2014).

Previous research has highlighted that digital platforms can generate economic value for entrepreneurs (Srinivasan & Venkatraman, 2018). Entrepreneurs must, at a minimum, base their choice of digital platform on an economic logic of network effects, ideally linking to different platforms according to the dynamic characteristics of networks of interdependencies between key actors (Srinivasan & Venkatraman, 2018). Business owners and influencers who have sufficient knowledge and resources are more able to navigate through algorithms to create value. However, digital platforms can also generate value (beyond economic value) for groups of entrepreneurs who may be more vulnerable and whose resources may be limited (Srinivasan & Venkatraman, 2018). One such group is mumpreneurs. A mumpreneur is 'an individual who discovers and exploits new business opportunities within a social and geographical context that seeks to integrate the demands of motherhood and business ownership' (Ekinsmyth, 2011, p. 105).

Research shows that mumpreneurs understand entrepreneurialism and motherhood to be compatible and of equal value, with women aiming to be 'good' mothers and successful business owners at the same time (Khan & Rowlands, 2018; Lewis et al., 2022). However, achieving this balance through self-employment can be challenging, and previous research has shown that running a business from home may be incompatible with managing a family (Lewis et al., 2022). Although many women set up small businesses on digital platforms in the belief that this will allow them to flexibly balance their trading activities with their family responsibilities, these hopes are not always realized: formal childcare may be costly or unavailable, childcare support can be unreliable or unavailable, and caring for children while running a business can be challenging (Duberley & Carrigan, 2012; Lewis et al., 2022; Rouse & Kitching, 2006). The term 'mumpreneur' being a gendered term in and of itself highlights the unequal care responsibilities taken on by mothers versus fathers, with many female entrepreneurs setting up businesses around childcare responsibilities (Ekinsmyth, 2014). Due to their various responsibilities, mumpreneurs' resources also tend to be limited; they may lack the time, funds, business-related digital literacy, and support required to run a business online (Duberley & Carrigan, 2012). Nevertheless, using digital platforms can create economic and non-economic value for various groups of entrepreneurs, including mumpreneurs, who often orient their entrepreneurial activities around both economic and non-economic value. For example, community-based platforms (e.g., Instagram, Facebook, Twitter) offer opportunities for value creation (Alaimo et al., 2020) because they enable users to create content in addition to exchanging it (Ameen et al., 2022; Bonina et al., 2021).

Instagram is a case of community-based digital platforms (Schreieck et al., 2023) that has various characteristics and offerings from a business perspective.

Similar to other community-based platforms, Instagram allows users to add hashtags to public stories, making them visible to people searching for a particular hashtag or location (Casaló et al., 2021; Kaleem, 2022). Hashtags, also called 'social tags' or just 'tags', are space-free words and phrases that begin with '#' (Klostermann et al., 2018). In 2020, more than 25 million businesses were on Instagram (Omnicoagency, 2021). In addition, 90% of users on Instagram follow a business, indicating that users are keen to keep up with brands and entrepreneurs on the platform (Zote, 2023).

Mumpreneurs who start running a business on Instagram often face serious challenges as they shift their use of the platform from personal to business; for example, challenges in such areas as business visibility, growth, engagement, and connectivity. Their knowledge of algorithms may also be limited due to the opaque business practices of digital platforms (Möhlmann et al., 2021), resulting in time deprivation and challenges in managing the work–family balance. In addition, their business-related actions aimed at generating value through digital platforms often emerge with no clear strategy other than trial and error, as they are unaware of the rankings used by the platform's algorithms to determine who and what gains visibility on social media (Cotter et al., 2020; Riemer & Peter, 2021).

In the UK context, mumpreneurs' vulnerability stems from the fact that mothers carry out most of the unpaid care work and women entrepreneurs are underprivileged with regard to procuring funding (Rose, 2019). Due to mumpreneurs' vulnerability, limited resources, and other (financial and non-financial) challenges, it is important to explore the mechanisms through which digital platforms' algorithms contribute to value creation for this group. In addition, researchers have recently called for explorations of alternative (non-economic) forms of value generated by digital platforms; for example, cognitive, professional, and epistemic social value (Chamakiotis &

Petrakaki, 2022). With these issues in mind, the aim of our study is to *explore how mumpreneurs navigate through algorithms and mechanisms that lead to economic and non-economic value creation on digital platforms, specifically Instagram as a case of community-based platforms.*

Two research questions guide this study: *How can mumpreneurs utilize community-based platforms' algorithms to create various forms of economic and non-economic value? What are the mechanisms and what is the temporal flow (sequence) of how mumpreneurs experience value creation on community-based platforms? We answer these questions by focusing on mumpreneurs based in the United Kingdom (UK) who are running a business on Instagram. Women in the UK who have young children – either in their early years (from birth to 5 years) or at primary school (between 5 and 10 years) – often have significantly greater caring responsibilities than their male counterparts and women with older children. Reports show that in the UK, the number of women who have young children and start a small business has risen sharply because their desire for more flexibility and better opportunities has not been fulfilled by traditional employment (Williams, 2013). In addition, the high cost of childcare in the UK is important in an individual's decision to become self-employed (Dunbar, 2021).*

Our research makes three main novel contributions. First, we explore and show the types of economic and non-economic value created for mumpreneurs through community-based platforms (the case of Instagram) and their algorithms. Second, we investigate the mechanisms that lead to value creation for mumpreneurs through algorithms. Third, we show the temporal dimension of value creation for these users through Instagram and its algorithms. Through a qualitative lens, we conducted interviews with women who: (i) have at least one child under age 11 (which often

means greater caring responsibilities); (ii) own a small business in the UK; and (iii) are active on Instagram.

We make several contributions to the literature on value creation through **community-based** platforms. First, we develop a process model of value creation for mumpreneurs generated through **community-based** platforms. Our proposed theoretical model integrates the mechanisms through which **community-based platforms'** algorithms generate various types of economic and non-economic value for mumpreneurs. In addition, we explore and unpack the types of non-economic value created through Instagram's algorithms for mumpreneurs. Furthermore, we depict the temporal dimension of value creation through **community-based** platforms for mumpreneurs, thus extending previous findings on the creation of economic and non-economic value (e.g., Barrett et al., 2016; Chamakiotis et al., 2021). Our findings offer guidance to mumpreneurs on maximizing value when setting up a business **on community-based platforms using the case of** Instagram.

The next section contains a review of the related literature on digital platforms and value creation, social media platforms focusing on the case of Instagram, and mumpreneurs and the care economy. We then present our methodology, followed by our findings. We proceed to discuss these findings and offer a theoretical framework. Finally, we discuss the practical implications and limitations of this study and suggest directions for future research.

2. DIGITAL PLATFORMS AND VALUE CREATION

Digital platforms are 'a set of digital resources that enable value-creating interactions between complementors and consumers' (Schreieck et al., 2023, p. 3). They share three basic characteristics: they are technologically mediated, they enable interaction between user groups, and they allow those user groups to carry out defined tasks

(Cusumano et al., 2019; Gawer, 2009; de Reuver et al., 2018). Digital platforms differ from physical systems (such as automobiles) in that the subsystem boundaries can be more loosely defined (which makes recombining elements less costly) and because information is non-rival (Parker et al., 2017). The openness of digital platforms can increase value and participation (Parker et al., 2017; Schreieck et al., 2023).

Previous studies distinguished between value creation and value capture in digital platforms (e.g. Schreieck et al., 2021; Gawer, 2022). While value creation refers to the processes aimed at increasing value generation, value capture refers to the mechanisms that make sure that an economic return from value creation and that profits are shared throughout the value creation network (Sjödín et al. 2020). In examining platforms' materialities and potential as digital artefacts and their basis for value creation for their users, the literature categorizes digital platforms into three types: *transaction*, *innovation*, and *community* (Bonina et al., 2021; Schreieck et al., 2023). In *transaction* platforms, value is created by helping two or more different types of users who could benefit from connecting, interacting with each other, and exchanging value (Bonina et al., 2021; Evans, 2012); examples include Uber and Amazon. *Innovation* platforms are software-based systems that provide core functionality that is shared by the modules that interoperate with them and the interfaces through which they interoperate (Tiwana et al., 2010); examples include Google and Android mobile application platforms. *Community* platforms enable their users to access messages from, and share messages with, other members (Butler et al., 2014); examples include Facebook and Instagram.

Community platforms bring together users who are interested in specific content, who become community members. Community members can produce and provide content on the platform or consume content that is already available.

Community platforms allow members to create, disseminate, and access content and messages in a range of forms (Butler et al., 2014). Given that the value of being part of a community increases with its size, direct network effects drive the growth of community platforms (Butler et al., 2014). The existing IS literature acknowledges that for individual and business users alike, Instagram has more significance than other digital platforms – including other community platforms (e.g., Ens et al., 2023; Senyo et al., 2023; Soliman & Tuunainen, 2022). Instagram is seen as **an example of community platforms which are rich in content because they rely on images, videos, and stories (Ameen et al., 2022; Hou & Shiau, 2020), which make them suitable platforms for entrepreneurial activities.**

The basis of value creation in the context of digital platforms can be summarized as facilitating the exchange of services and information between different parties in a multi-sided market. There are two aspects to this facilitation (Bonina et al., 2021): *matchmaking*, which makes it possible to search for and find an appropriate opposite to transact with; and *reducing friction* in the resulting interaction and transaction (Cusumano et al., 2019). Previous studies found that the features of digital platforms play a significant role in value creation in various contexts, including for humanitarian and sustainability purposes (e.g., Hellmann et al., 2016). For example, in the context of waste recovery in food supply chains, Ciulli et al. (2020) identified and explicated six brokerage roles played by digital platforms: connecting, informing, protecting, mobilizing, integrating, and measuring. In the context of digital identity as a platform for improving refugee management, Madon and Schoemaker (2021) found that the platform serves as a critical governance mechanism through generating value for various stakeholder groups while its technical functions interact with the everyday practices of service-delivery organizations and refugees.

Creating value for all parties is a key characteristic of digital platforms (Rangaswamy et al., 2022). For example, Barrett et al. (2016) found that as digital platforms are configured and reconfigured over time, they generate different types of value for different stakeholder groups (e.g., platform owners, patients, medical providers, pharmaceutical companies, clinicians, charities). Of the types of value identified, the researchers found that financial, reputation, and platform-related value benefit shareholders, organizational leaders and managers; service value and ethical value helps users (i.e., patients, charities, pharmaceutical companies); and epistemic value benefits wider professional groups by enhancing knowledge in specific areas (Barrett et al., 2016). Similar types of value contributing to knowledge creation and commercialization opportunities have also been recognized (e.g., Kallinikos & Tempini, 2014; Tempini, 2015). Besides, other studies have shown evidence of social value creation and its impact on the wider platform user-base (e.g., Goh et al., 2016). Chamakiotis et al. (2021) expanded this body of knowledge by investigating different types of social value; focusing on a digital health education platform set up to support junior doctors in post-war countries, they found evidence of epistemic, professional, and cognitive social value. Collectively, these studies show that digital platforms create value that is varied, diverse, and impacts on communities at large – beyond serving the interests of specific stakeholders.

In addition to identifying the different types of value that can be created through digital platforms, researchers have sought to explore the *mechanisms* through which value is created in this context. According to Zhao et al. (2015), value creation is developed through interactions between platform users and through sharing resources. Similarly, Chamakiotis et al. (2021) identified that the contributors to

creating different types of social value include the platform's connective capacity, users' collective engagement, and users' growing commitment.

Research has also highlighted control mechanisms used to increase the quality of value-creating interactions on digital platforms (Huber et al., 2017). Profiting from monetizing data captured from user profiles and behaviours for targeted advertising has led to criticism of hidden and unethical uses (Zuboff, 2015). Algorithms on social media platforms, which platform users may not know how to manage, have the power to control whether, when, and how value is created for them through these platforms (Wiener et al., 2023). As both community platforms and transaction platforms, social media platforms allow social activities and business activities; furthermore, they offer opportunities for value co-creation (Alaimo et al., 2020) by enabling users to create content in addition to exchanging it. These digital platforms may help to alleviate poverty by broadening access to resources (e.g. time, expertise, and support) and information (e.g., job opportunities, benefits advice) and by facilitating collective action and influence (e.g., social campaigning) (Ameen et al., 2022; Bonina et al., 2021; Nicholson et al., 2016).

3. **COMMUNITY-BASED PLATFORMS: THE CASE OF INSTAGRAM**

Like other **community-based** platforms, Instagram shares few details about the platform's algorithmic architecture and how it works. In general, algorithms function behind the scenes, with many users being unaware of their presence (Eslami et al., 2015; Rader et al., 2018). Even so, algorithms play an important role in structuring our online experiences (Beer, 2009; Bucher, 2012; Cheney-Lippold, 2011; Dolata et al., 2022; Gillespie, 2014). Several researchers have raised concerns about algorithms exercising too much influence over social realities (Beer, 2009; Gillespie, 2014; Kitchin & Dodge, 2011). Often, humans do not fully understand the outputs generated by

algorithms (Faraj et al., 2018), because these outputs are the result of complex computations on large volumes of data, with multiple algorithms feeding into one another without human intervention (Tarafdar et al., 2023). By establishing the conditions under which social media contents are seen, algorithms serve as disciplinary mechanisms that prescribe participatory norms (Bucher, 2012). Through divergent interpretations of Instagram's algorithms, knowledge of algorithms provides a space in which external motivations and choices affect platform behaviour beyond algorithmic directives (Cotter, 2019). Meanwhile, as external motivations and choices reenact discursive ideals, these ideals may be further reinforced through the feedback loop of Instagram's algorithmic architecture (Carah & Shaul, 2016).

Instagram users acknowledge that it is not clear precisely how the algorithms determine what content appears in their feeds and, in the long run, how their daily lives will be influenced by this new way of allocating information (Yang, 2018). Therefore, although users are aware of the technology, they are unconscious of its participation in their lives.

Instagram is dominated by images because of their engaging nature, and because users can cross-post images to other platforms. Instagram users can share images, give them captions, and tag them with keywords; other users can then 'like', comment on and share these uploads. In contrast to other image-sharing networks (e.g., Flickr, Pinterest, Facebook), the main idea behind Instagram is that users share 'snapshots' of everyday moments (Colliander & Marder, 2018). Instagram users utilize the social network to document their lives, present their identity (Kim et al., 2017), and express emotions with a relatively high level of intimacy (Pittman & Reich, 2016).

It has been claimed that **community-based platforms including** Instagram empower women psychologically by increasing their self-efficacy and their sense of

community (Ameen et al., 2021; Riquelme et al., 2018). A specific trend in this regard is that of mumpreneurs starting businesses on Instagram, leveraging the social media platform as a cost-effective way of growing their business while managing a family. As part of running an Instagram-based business, mumpreneurs partially act as social influencers to attract followers to their brand, build brand relationships, and connect with customers. Instagram's algorithms heavily influence these activities which can enable mumpreneurs to build connections and gain various advantages through Instagram which may exceed those gained from other community-based digital platforms. However, the gap in understanding of how different types of value can be created in the presence and control of such powerful platform algorithms makes it important to explore this area further. This is especially important for vulnerable groups of users, who include mumpreneurs.

4. MUMPRENEURS AND THE CARE ECONOMY

Oberhauser (2002, p. 4) draws attention to feminist 'critiques of capitalist discourse that shift the analysis of economic activity and social relations from a focus on the workplace to the examination of places outside the firm such as household and community'. To understand the future of the care economy, research should continue to investigate the mechanisms that drive job growth and polarization in care work. The normative, masculine view of entrepreneurship attaches more importance to long hours, competitiveness, and the pursuit of profit than it does to personal relationships (Mayes et al., 2020; Pfefferman et al., 2022). These traits present challenges for women who need to balance paid work with caring responsibilities for young children (McDowell, 2008). However, mumpreneurship holds the promise of allowing them to accommodate these difficulties (Lewis, 2010). In addition, traditional social norms are still reflected in the UK's business world: women are viewed as being less competitive

than men and as lacking the skills considered necessary for leading a successful business, such as assertiveness, leadership, and negotiation (Newable, 2020). Many women in the UK who are an entrepreneur and a mother have reported that they have had to sacrifice a leadership position due to the pressure of managing the work–life balance and the impression this gives to their male colleagues and employees (Newable, 2020).

Among heterosexual couples who have children, it is women who do the majority of the care work (Warren, 2011), even when a woman earns more than her male partner (Lyonette & Crompton, 2015). This situation was exacerbated during the COVID-19 pandemic (Ashman et al., 2022). In theory, having both parents working at home during a lockdown provided an opportunity for a fairer division of household labour in dual-career, heterosexual households. However, if children require attention while both parents are working at home, the father's work is likely to be prioritized and the mother's work interrupted (Medina & Lerer, 2020). Research carried out years before the pandemic found that many mumpreneurs managed the work–family balance by setting tight time boundaries, allocating work time to periods when their children were at school, in childcare, or, when necessary, in bed (Ekinsmyth, 2011). Many also ran their businesses so that they had 'down-time' during the school holidays (Ekinsmyth, 2011).

The terms 'mumpreneur' (Ekinsmyth, 2014) and 'blogger-preneur' (Pettersson McIntyre, 2020) highlight the appeal of identity options that promise women the apparently seamless blending of the private and the professional (Heizmann & Liu, 2020). Mumpreneurs are a group who deserve special attention in research, because they are breaking new ground in their business practices by redefining their

entrepreneurial identities in an attempt to find congruence between their role as a 'good mother' and their role as a businesswoman (Ekinsmyth, 2014).

Previous studies have identified several dominant discourses in digital culture that, to varying extents, shape these new enactments of entrepreneurial identity on **community-based platforms** – including blogs (Brydges & Sjöholm, 2019), Twitter (Marwick & Boyd, 2013), and Instagram (Brydges & Sjöholm, 2019; Petersson McIntyre, 2020) – while criticizing the sexist etymology of a term that would not occur in its gendered inverse, i.e., 'dadpreneur' (Ekinsmyth, 2014). By applying intersectionality theory to a study of Instagram as a community-based digital platform for highly privileged Australian women entrepreneurs, Heizmann and Liu (2022) found that the entrepreneurs produced idealized feminine identities by leveraging intersections of white, elite-class, heteronormative, able-bodied power within a broader neoliberal discourse. The literature is replete with research on the creation of a powerful online identity by packaging and communicating authentic personal narratives that combine photographs, videos, and activities to attract followers and customers (Audrezet et al., 2018; Audrezet & Koles, 2023; Duffy & Hund, 2019) and on using Instagram to develop strong brand relationships (Boerman, 2020).

While entrepreneurship is assumed by many to be primarily about creating economic value, this view risks neglecting other kinds of value, such as social, ecological, mental, and physical value, potentially created through entrepreneurial processes (Hindle, 2010; Lackéus, 2018). Therefore, clarification and widening of the term 'value' in connection to entrepreneurship is necessary to advance scholarly work in both entrepreneurship and education (Lackéus, 2018). Furthermore, despite the potential of community-based digital platforms such as Instagram to generate value for women entrepreneurs, the mechanisms that underpin this value creation have not

yet been explored. For example, once an algorithm has classified a social media platform user, it can use that classification in decisions about what information or products to show the user (Cotter, 2019). Better algorithms may boost the efficiency and effectiveness of platforms. In addition, Arriagada and Ibáñez (2020, p. 1) posit that ever-changing algorithms perpetually force content creators ‘to adapt their brand subjectivities and practices’. Through observing the content and users that attain visibility, users can discern the participatory norms that the algorithms ‘reward’ with visibility (Bucher, 2012).

5. RESEARCH DESIGN AND METHODOLOGY

We adopted a qualitative methodology for this study. This resulted in an inductive approach, which considers participants’ experiences as shaped by hermeneutic meaning systems (Thompson, 1997). Using a series of semi-structured interviews, we sought to examine mumpreneurs’ views and lived experiences of using Instagram. By ‘lived experiences’, we refer to the unique and biographical context inherent to each interview and how this informed our understanding of the data (Ellis & Flaherty, 1992). The theoretical method was iterative, requiring many rounds of interpretation and reference to the literature as themes emerged (Evans, 2013). Ethics clearing was procured ahead of the fieldwork.

Our selection criteria were that each research participant must: (i) be a woman entrepreneur in the UK; (ii) be the mother of at least one child under the age of 11; and (iii) use Instagram as a business platform. Female-owned businesses account for 29% of all small businesses in the UK (Smith, 2021), yet women are significantly under-represented in UK entrepreneurship (Bradshaw et al., 2021). For instance, 51% of female entrepreneurs in the UK are concerned about bias when raising capital

(Cotton, 2019). Furthermore, in the UK children under the age of 11 need to be taken to and collected from early years or primary education settings every weekday: a chore that adds significantly to care work.

To identify potential participants, Google X-Ray was used to search for UK-based, female-owned business handles on Instagram. This type of Boolean search enables users to trawl social media platforms for specific intersecting hashtags, a functionality that is not offered by Instagram itself. We used Google X-Ray to search for women who self-identified with the hashtag #mumpreneur alongside geographic descriptors such as #Midlands and #London. Having identified 260 female entrepreneurs in this step, we contacted them to explain the research aim, check whether they met all the criteria, and ascertain their availability and willingness to be interviewed. This process resulted in 30 mumpreneurs agreeing to take part in the study, though four of them dropped out at a later stage for various reasons. Our final sample therefore included 26 mumpreneurs, each of whom participated in the interview on the condition of anonymity and confidentiality. Towards the end of the data-collection process, the themes raised by participants became repetitive of those that emerged in earlier interviews; therefore, we deemed that theoretical saturation was reached and no further interviews were required (Gupta & Pathak, 2018; Hagaman & Wutich, 2017). The process of selecting and interviewing participants took place between October and December 2021.

Table 1 presents the participants' demographic characteristics. As the table shows, the participants represented a range of ages, backgrounds, and phases of entrepreneurship; this type of participant representation is recommended by Bowden (2005). The participants' ages ranged from 29 to 47, and the sample included participants from different marital statuses and diverse ethnic backgrounds. All those

from a non-British background were first-generation immigrants to the UK. Each participant had between one and four children, at least one of whom was under the age of 11. All the participants' Instagram-based businesses were classed as small, with a maximum of ten employees. Their businesses represented a variety of industry sectors, including art, marketing, food, production, and education, among others. Despite our efforts to include participants with diverse characteristics that included inviting trans and queer women who fulfilled our sampling criteria to participate in our study, we were only able to recruit heterosexual and cis-gender women.

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TABLE 1 Demographics of respondents.

Participant	Age	Number of children	Children's ages	Marital status	Type of business/industry	Number of years in business	Highest education level	Ethnic background	Previous work experience	Interview time (minutes)
P1	25–30	1	2 (years)	Married	Food	3	Master's	Indian	Employee	23
P2	36–40	1	6 (years)	Married	Art and marketing	1	Master's	White Russian	Employee	46
P3	46–50	4	25, 22, 17, 9 (years)	Married	Feminine hygiene	2	High school	White British	Business owner	34
P4	25–30	2	8, 3 (years)	Single	Activewear	3	Diploma	White British	Employee	27
P5	41–45	2	9, 5 (years)	Single	Food	3	Undergraduate	White Brazilian	Business owner	36
P6	36–40	1	2 (years)	Married	Marketing	9	Undergraduate	White British	Employee	23
P7	31–35	2	4, 2.5 (years)	Single	Beauty	12	School	French, Vietnamese	Employee	30
P8	41–45	2	10, 7 (years)	Single	Marketing	6	Master's	White Italian	Business owner	27
P9	25–30	1	2 (years)	Single	Fashion	8	Undergraduate	White European	Employee	28
P10	41–45	2	3 (years), 12 (days)	Married	Fashion	0.5	Undergraduate	South-east Asian	Employee	52
P11	31–35	2	4, 1.5 (years)	Married	Training	4	Undergraduate	White American	Employee	58
P12	41–45	2	15, 8 (years)	Married	Skincare	4	Undergraduate	Taiwanese	Employee	37
P13	31–35	2	3, 1 (years)	Married	Blogging	3	Undergraduate	Black African	Employee	43
P14	31–35	1	10 (months)	Married	Marketing	9	Master's	White	Business owner	70

P15	31–35	2	5, 4 (years)	Married	Interior design and architecture	1	Undergraduate	White British	Business owner	53
P16	41–45	2	12, 6 (years)	Married	Childcare platform	1	Master's	Eastern European	Business owner	35
P17	36–40	2	3 (years), 9 (months)	Married	Finance	4	Undergraduate	Asian, Indian	Employee	51
P18	41–45	1	6 (years)	Married	Education	9	Master's	Turkish	Not stated	21
P19	31–35	1	1 (year)	Married	Production	7	Undergraduate	White British	Business owner	60
P20	41–45	2	15, 10 (years)	Married	Photography	9	Undergraduate	Turkish-Cypriot	Used to run parents' business	74
P21	36–40	3	10, 9, 6 (years)	Married	Education	11	Master's	African	Employee	39
P22	41–45	2	3, 1 (years)	Married	Cleaning	3	Master's	White Lithuanian	Employee	60
P23	25–30	2	4, 2 (years)	Married	Photography	1	Undergraduate	White Polish	Employee	92
P24	31–35	1	5 (years)	Single	Fashion	5	Professional qualification	White British	Employee	32
P25	41–45	1	4 (years)	Married	Fashion		Master's	Mixed race	Employee	61
P26	31–35	1	2 (years)	Married	Food	2	Undergraduate	White Irish	Employee	46

The interviews took place on Zoom. They were recorded and then transcribed. The interviews lasted for between 23 and 92 minutes, with the mean being 45 minutes. The content was driven by the following topics: reasons for using Instagram for entrepreneurial activities; the relationship between Instagram use and work–life balance; and the impact of Instagram on business decisions. Sample questions included ‘Why did you choose to put your business on Instagram?’, ‘How much have your career goals influenced the way you run the business on Instagram?’ and ‘How have you managed having a family with young children and an Instagram-based business? Have you noticed any changes since you started the business?’ These questions aimed to elicit information from participants about how they experienced value creation on the digital platform and how their positionality as a mumpreneur affected this. We remained open to other issues and stories shared by the participants and prompted them to elaborate on relevant points. The participants were sent an information sheet and a consent form ahead of their interview.

The data analysis process followed Braun and Clarke’s (2006) thematic approach, which allows for the iterative exploration of themes as they emerge. This was done across the six stages prescribed by Braun and Clarke (2006): familiarization with the data; generating initial codes; searching for themes; reviewing the themes; defining and naming the themes; and writing up. During the first stage, each member of the research team read the transcripts. The generation of initial codes (stage 2) was inspired by early conversations about our interpretations of the transcripts and by exploring our interview notes. Open coding was applied to the data before any categories were captured (Miles & Huberman, 1994). During stage 3, the theme search, we met to formulate our thoughts on the most pertinent data. This was driven

by the motivation to give voice to participants' personal narratives. During the theme review stage, we robustly triangulated the themes between the three researchers, the IS literature, and concurrent political and macroeconomic developments. This also informed the definition and naming of the themes (stage 5), which responded to gaps in the literature and calls for research. The resulting codes and themes are presented in Figure 1.

For Review Only

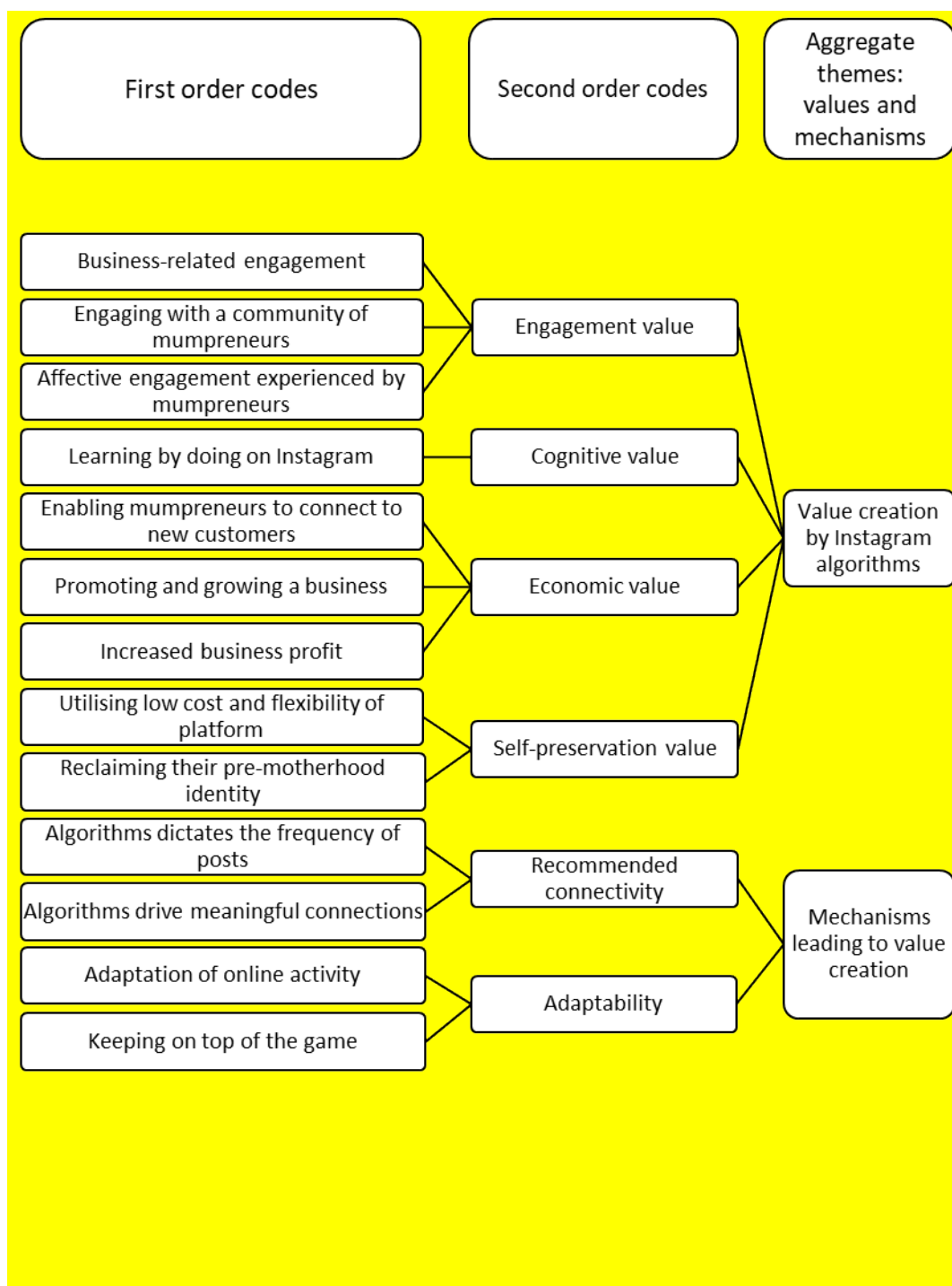


FIGURE 1 Coding tree.

The coding tree depicts how we subsumed **codes** relating to value creation by Instagram algorithms vis à vis mechanisms leading to value creation. The theme of value creation by Instagram algorithms is composed of **second order codes**, which we

coded as directly relating to how mumpreneurs utilize the platform's algorithms to generate engagement, *cognitive*, *economic*, and *self-preservation value*. For instance, we coded mumpreneurs' desire for *reclaiming their pre-motherhood identity* as a form of *self-preservation value* that can be accessed through utilizing the algorithms. The theme of mechanisms leading to value creation relates to the algorithms' demands on mumpreneurs, which constitute *recommended connectivity* and the *adaptability* mumpreneurs need to display in the face of the algorithm (e.g., *keeping on top of the game*). The temporal dimension of value creation stands as the ultimate theme under which all the subthemes rest, given that both the value created by Instagram's algorithms and the mechanisms that lead to that value creation are dictated by the chronological order in which mumpreneurs experience them. The analysis process that underpins this coding tree was what enabled us to generate a procedural model detailing relationships between different first order and second order codes and their aggregate themes in an iterative manner.

6. FINDINGS

This section starts by examining the challenges and opportunities faced by mumpreneurs. Then, it is structured around the core themes that emerged from the data analysis: types of value created for mumpreneurs by Instagram's algorithms; the mechanisms leading to value creation; and how this accumulates in a process model of value creation for mumpreneurs. Further illustrative quotes can be found in our data table in the appendix.

The mumpreneurs in this research expressed that they view themselves as different from entrepreneurs, highlighting that their care responsibilities render their decision-making and interactions different from those without these responsibilities.

This is exemplified in a quote from P11, who owns a childcare platform-based business, lives with a partner and has two children:

We do think differently to people who don't have children, and a prime example is I am a coach, but I have a coach, I believe everyone should have a coach like it's the most incredible thing. But like, my coach didn't have kids, and it's really, really obvious how they, she's super-efficient and all that, but they do, people do think differently as a business owner to people who have children. (P11)

Most of our participants highlighted the financial struggles and time pressures associated with being a mother of a young child, and many emphasized the high cost of living in the UK, which is the third-most expensive country for childcare in the world (Morris, 2023). Participants also explained that family and business are both important. These findings are emphasized in the following quotes from P12 and P21:

I think I keep telling myself I need to strike the right balance. I think one, trying to run a business is hard and wanting to be successful, you need to put a lot of effort in, but at the end of day, any of your success, if you don't have your family, it doesn't mean anything, really. So, I do remind myself all the time that I'm spending the quality time with them and to make sure I involve them, so they are part of my journey and part of my empire one day, hopefully. (P12)

We need to be financially supported and to not struggle. I don't want to say that money is the focus of that because it isn't for me, but equally it's important. I guess I just don't want my children to have to suffer if I don't feel that I'm working enough? (P21)

In addition, mumpreneurs appear to be aware of the opportunities Instagram provides for increasing business opportunities. As a digital platform, Instagram simplifies the expression of complex human emotions. Big data and algorithms subtly decide and define our social interactions and connectivity online. Participants highlighted that Instagram has unique features that allow them to expand their business rapidly, which they find to be more helpful than features of other social media platforms. In the quotes below, P6 (who runs a marketing business) and P10 (who runs a fashion business), who are both married, explain that Instagram's rich social content, open hashtags, and more engaged followers are features that make it a preferred digital platform for business:

Instagram, and for me, that's one of the main accounts to be on at the minute.... It suits a lot of the forms of media like video, animation, you can go live on it. So, for us, it's a really important channel at the moment. (P6)

We just find that Instagram is a bit more engaging in the sense that it's very easy for people to just see picture of something; I think that Facebook is easy as well, but just seems to be more of an engaged audience on Instagram. (...) Also, I've seen a lot of other businesses using it very successfully. (P10)

The rest of this section is structured around the three core themes that emerged from the data analysis: types of value created for mumpreneurs by Instagram's algorithms; the mechanisms leading to value creation; and how this accumulates in a process model of value creation for mumpreneurs.

6.1 Value creation through Instagram platform

Our data analysis identified that participants discerned four types of value created by Instagram and its algorithms: *engagement*, *cognitive*, *economic*, and *self-preservation*. The findings are presented below.

6.1.1 Engagement value

Engagement value refers to Instagram's ability to enable mumpreneurs to engage with other individuals, groups, and businesses through posts, comments, tags, direct messaging, and likes. Our findings show that this engagement value has three main dimensions: (i) *business-related engagement*; (ii) *engaging with a community of mumpreneurs*; and (ii) *affective engagement experienced by mumpreneurs*. Indeed, *engagement value* emerged as one of the strongest themes in our data.

In terms of *business-related engagement*, Instagram enables mumpreneurs to engage with potential and existing clients at various stages of their shopping journey. The literature has established that engaging with consumers through social media is an important aspect of gaining competitive advantage (Gómez et al., 2019; Osei-Frimpong, 2022). This is corroborated by the following quote from P9, who mentions that the platform enables mumpreneurs to engage with different individuals and businesses in a variety of ways:

I think it's not about the number of followers, it is actually the number of people that you keep interacting through all the time because, I mean, that changes a lot with the changes in the platform and the algorithm. I mean, that's what I care about, to be honest. (P9)

More specifically, P9 is highlighting the role that the algorithm – and mumpreneurs' understanding of it – plays in garnering engagement from followers, rather than simply increasing their numbers.

Engaging with a community of mumpreneurs is another strong theme in the data. The nature of Instagram – as a platform based on rich content and images, combined with strong algorithms – allows mumpreneurs to build and engage with a community of other mumpreneurs, who not only interact daily but also support each other by sharing experiences and promoting each other's brands:

There is, I think, five of us but they are not only business owners, these are mums, and I've sort of joined that group, it's basically like we like each other's posts and we comment on those posts, just to boost the engagement. (P23)

In the above quote, P23 sheds light on how she and fellow users take a proactive approach to increasing their engagement by joining mumpreneurs' Instagram groups. This, they consider, will manipulate the algorithm in their favour and increase their reach and engagement beyond the members of the group. P23 further establishes that this is a networking tool, which she and other mothers on Instagram use to help each other generate more engagement value.

For many participants, the support they exchange with other mumpreneurs on Instagram is of great significance. They see it as a form of empowerment provided by individuals in a similar situation (i.e., mothers running a small business in an open digital space), as the following quote shows:

I've got friends that I follow who are mother-owned-business owners, and they inspire me. Certainly, before I had children, I met up with a

few of them, because I was, like, I was frightened; I was like, how does this [running a business on Instagram] work? (P6)

In the quote above, P6 demonstrates the *engagement value* generated by the supportive environment she has established with other mumpreneurs.

Further, P2 describes experiences of engaging with and obtaining support from other mumpreneurs on Instagram:

She launched her business when she had a young child, and she is the main breadwinner of the family. So, I am lucky to have her as my colleague, as my friend, in a way mentor, by working more and collaborating a lot with women-owned businesses on Instagram, just because I feel it's a much more supportive environment. (P2)

The third dimension of engagement value is *affective engagement experienced by mumpreneurs*, which we refer to as the increase in positive or negative emotions when using social media. We found that affective engagement emerges from business-related engagement and community engagement: that is, when mumpreneurs experience business-related and community engagement on Instagram, it sparks positive or negative emotions, which they consider to be part of their experience on the platform. This affective engagement is evident in a quote from P15, who is married, has two children, and runs an interior design and architecture business:

I really admire spontaneous engagements when people are on Instagram, I don't like the part of influencer marketing where people are actually, they become a commodity and they sell themselves as a commodity. (P15)

In summary, our findings show that there is an interplay between three dimensions of *engagement value* (*business-related engagement, engaging with a community of mumpreneurs,* and *affective engagement experienced by mumpreneurs*) and that the first two dimensions lead to the third.

6.1.2 Cognitive value

Cognitive value refers to knowledge transfer and exchange (also referred to as 'know-how') between two parties (Chamakiotis et al., 2021). *Cognitive value* for mumpreneurs is created through *learning by doing on Instagram due to* the various learning opportunities that become available when users join or connect with expert groups or individuals. According to our participants, Instagram creates various opportunities for learning skills that are considered important in the context of entrepreneurship and knowledge exchange. In addition, as they spend more time using the platform, they start to identify areas of success and areas for improvement, as evident in the quote below:

I didn't learn marketing at school so have actually just learned by myself, with the help of Instagram and with the help of Canvas, how to create my own marketing campaign on Instagram, with the ads and everything, and I think that's actually a really good tool. (P7)

This quote exemplifies the cognitive value that is created for mumpreneurs who use Instagram as a platform for business. As explained at the beginning of section 6, mumpreneurs are a time-starved, vulnerable group of consumers who, in many cases, do not have access to the funds needed for investing in their learning and business development journey. In this context, the *cognitive value* generated by Instagram is important.

6.1.3 Economic value

The *economic value* created for mumpreneurs through Instagram's algorithms is related to: (i) *enabling mumpreneurs to connect to new customers*; (ii) *promoting and growing a business*; and (iii) *increased business profit*. The platform has created many business opportunities for the participants by providing opportunities to expand their business networks, *enabling mumpreneurs to connect to new customers*. In the following quote, P3 reflects on the *economic value* Instagram affords her:

Instagram is the consumer's market right now, it's very aesthetic, so as far as products go it's a great showcase for your products... (P3)

Several participants shed light on how using Instagram as a platform for business allows them to showcase their products and services and serves as a free and inclusive promotional tool, thus generating direct *economic value* for their businesses. Referring to her photography business on Instagram, P23, who is married with two children, explains *how she utilises the platform for promoting and growing a business*:

I will definitely continue and grow my photography business because that's what gives me financial gain and flexibility that I need for my children. (P23)

As evidenced above and in the quote below, *increased business profit is one of the ulterior economic values mumpreneurs see in the platform*. However, for other mumpreneurs, especially those who are single mothers, it can take a long time to formally start their Instagram-based business and see a financial gain, because they

have to balance their business activities with caring for their young children. P5 explains this as follows:

So, [my business] was basically built on my free time after my children bedtime. So yeah, so then it's, I think it was two years later when I actually started taking orders. So, I started in 2012, late 2012. From 2013 onwards, I was taking very small orders or sporadic orders, started building my confidence. Until then, few years later, I decided to take on us as a proper business. (P5)

Importantly, IS research has not yet explored how digital platforms enable mumpreneurs to become generators of *economic value*. With their significantly lower rates of obtaining funding (Rose, 2019) and their disproportionately high care workload (Brearley, 2022), mumpreneurs in particular benefit from Instagram's offer of a free marketing platform that has an extraordinarily high reach. The *economic value* identified in our data is one of the main benefits mumpreneurs experience in their journey.

6.1.4 Self-preservation value

In the context of our study, *self-preservation value* refers to the value created by enabling mumpreneurs to build an entrepreneurial identity through Instagram – primarily due to *utilising the low cost and flexibility of the platform*. Although motherhood and the associated lack of autonomy (including financial autonomy) have taken away some of their identity, they are *reclaiming their pre-motherhood identity* through the digital platform. The participants appreciate the opportunities Instagram provides to showcase their identity as an entrepreneur, as well as their identity as a mother. Within sociological studies, it is a well-documented phenomenon that mothers,

especially during the newborn stages of their child's life, experience a loss of identity (Bailey, 1999; Shea et al., 2016). We claim that their activity on Instagram can act as a tool for carving and preserving their self-identity. This is evident in the quote below, which tells of how founding her own coaching business on Instagram helped P15 to regain her confidence:

I had children and I massively lost my identity. And because I was always very career driven, and that was my, like, identity anchor, had children, I didn't go back to work because it was full-time hours in London and, like, that was just not going to work. And yeah, I just, took me a while to figure out like confidence issues (...), then I came back to coaching, is like this is actually what I want to do. And I thought, well, if I felt like this, I'm not the only person that's felt like this, so I started off thinking more about, you're more than just mum, you know, you can have your own dreams, ambitions, (P15)

This view applies to many other participants in our sample, most of whom were employed before having children or starting a business, and one of whom had been running their parents' businesses. Furthering the point in the quote above, P21 shares how preserving her identity as a mumpreneur is allowing her to support other women on Instagram who find themselves at this intersection of being a mother and running a business:

My big goal is number one, to be a force of influence in the women entrepreneur line of field because I have, not only do I have the passion to want to help people to build and grow their business; I've also got the experience, and I've also got the training. (P21)

These data support our claim that Instagram purports *self-preservation value* for mumpreneurs, with the digital platform acting as a tool within which identity can be carved. Simultaneously, doing this identity work as an entrepreneur and separating it from a private identity as a mother is perceived as challenging. This finding is also evident from our sampling method, which used Google X-Ray to find women who self-identified as ‘mumpreneurs’ by searching for the relevant hashtags (see Section 5). P21 addresses the overlap between her identity as a mother and her identity as an entrepreneur in the way she presents herself on Instagram:

There would have been an overlap if I put a lot of what I’m going through or what my personal life is, if I put that on social media, definitely I’m giving room for people to be part of it. But I’ve always been a private person, so I only get to share what I feel I’m open to share and I don’t feel judged about. (P21)

Although our participants experience tension about how much of their private roles to reveal, complicated further by the fact that they openly identify as #mumpreneurs, Instagram presents itself as a digital platform that offers *self-preservation value* to this group of business owners. A similar sense of space is evident in our data, which shows that women are creatively carving new identities that are more or less independent of their care duties – with the added benefit that utilizing the digital sphere allows them to scale up their business ventures (Hoelscher & Chatzidakis, 2021). This finding contributes to the IS literature by establishing *self-preservation value* as an important new non-economic type of value that is generated by digital platforms such as Instagram within our study context.

6.2 Mechanisms leading to value creation

While describing the various types of value that using Instagram has generated for them, our participants showed awareness of the role of algorithms in their platform experiences and the types of value created: *engagement*, *cognitive*, *economic*, and *self-preservation*. This enabled us to identify two mechanisms through which these forms of value are created on Instagram: (i) *recommended connectivity*, which is related to the algorithms-driven recommended connectivity and (ii) *adaptability*, which is related to mumpreneurs' flexibility in keeping up with the demands of Instagram's algorithms. These two mechanisms underlie the value creation identified in this study.

6.2.1 Recommended connectivity

As established, mumpreneurs experience the power of algorithm-driven *recommended connectivity*. Instagram automatically sorts an account's followers list once it has gathered sufficient data on three aspects: recent interactions, relationships, and follower relevance. Each aspect is influenced by multiple factors, which are analysed by Instagram's algorithms before sorting the followers list. Thus, Instagram's *algorithm dictates the order of posts* that users see when they scroll through their feeds. Based on specific signals, Instagram prioritizes posts, pushing some to the top and giving them the most visibility, while placing other content further down. This confirms that algorithms play an important role in structuring online experiences (Beer, 2009; Bucher, 2012; Cheney-Lippold, 2011; Dolata et al., 2022; Gillespie, 2014) and the highlighted concerns about algorithms exercising a significant influence over social realities (Beer, 2009; Gillespie, 2014; Kitchin & Dodge, 2011). Our findings show that in this way Instagram's *algorithm drives meaningful connections* for mumpreneurs, while leading mumpreneurs to content that can serve them at a business and personal level. Thus, this *recommended connectivity* constitutes a mechanism for enabling

mumpreneurs to obtain value through Instagram. This is exemplified in a quote from P1, who shows awareness of how the *algorithm dictates the order of posts*:

I think Instagram [...] kind of dictates how far your career goals, which basically, you know, we have to kind of do what the algorithm needs, you know, what helps us to stay, what helps us get that viewing, what helps us get that reach. (P1)

P5, who is a single mother, describes her experience *of how the algorithm drives meaningful connections* as follows:

People that buy from me, and they follow me, they connect with the kind of life that I take motherhood, running a business, being a single mother. I think it's important, I don't want the, I never wanted my Instagram to be just a portfolio; it was a journey, and it showed this journey. So, you can see from previous posts how not only my work evolved, but people also follow what I'm doing and [the girls], and that is so important for my followers to connect, and you know, the people really get involved. (P5)

6.2.2 Adaptability

Our findings reveal that to keep up with the demands of Instagram's algorithm, mumpreneurs have adapted their online activity so that the platform generates the various types of value that can be obtained. Therefore, we argue that *adaptability* forms a mechanism that encourages mumpreneurs to connect with, engage with, and learn from others. In addition, when mumpreneurs engage and learn through the

platform, they also learn how *adaptability of online activity* is more likely to get their content seen:

You have to keep up with the trends that come up on Instagram as well, there's always endless trends, and if you really want to be on top of your game, you have to resonate somehow with that trend. So, to give you an example, there is this concept of beige aesthetic that is ruling a lot of accounts on Instagram. And this is something that is a bit of a zeitgeist for that specifically channel, it is a code that people hold those tactics in their content and in their work. So, I like to get a bit involved with that, but I don't want that to rule everything I do so it becomes like everyone else's. (P9)

In the quote above, P9 demonstrates to what degree her work is influenced by trends on Instagram and the pressure *'to play the game'*. This is underlined by P15, who echoes the idea of *keeping on top of the game*:

Genuinely, you have to play the game to a certain extent and that is, you know, posting regularly.... Generally, I would post five times a week, I have stories pretty much every day, and I might take a break for 24 hours on a story, so if you take 24 hours off, your engagement goes up for that first story afterwards. So, there are little tricks and tips that you can figure out. But yes, like, there is a massive pressure, and when I started, I massively felt it in terms of showing up. (P15)

P15's words exemplify how on the one hand the algorithm creates pressure, but on the other hand she can convert this pressure into growing her business more proactively by following best practice examples.

For our participants, the process of working around algorithms to grow a business is a learning curve that requires flexibility in terms of time and strategy. An outcome of this is that it generates *cognitive value* for them. Many participants explained that for them, learning how to create content that can be supported by algorithms is just as important as learning about other core business processes. The need for *adaptability* is further reinforced by the aforementioned pressure that these mumpreneurs associate with coping with Instagram's algorithms.

6.3 A process model of value creation

In addition to identifying the various economic and non-economic types of value created for mumpreneurs through **community-based platforms, using the case of Instagram**, our findings show the mechanisms through which these different types of value are created on Instagram and the role of the platform's algorithms in this process. Accordingly, we propose a process model of value creation. This is explained in the following sub-sections and is depicted in Figure 2.

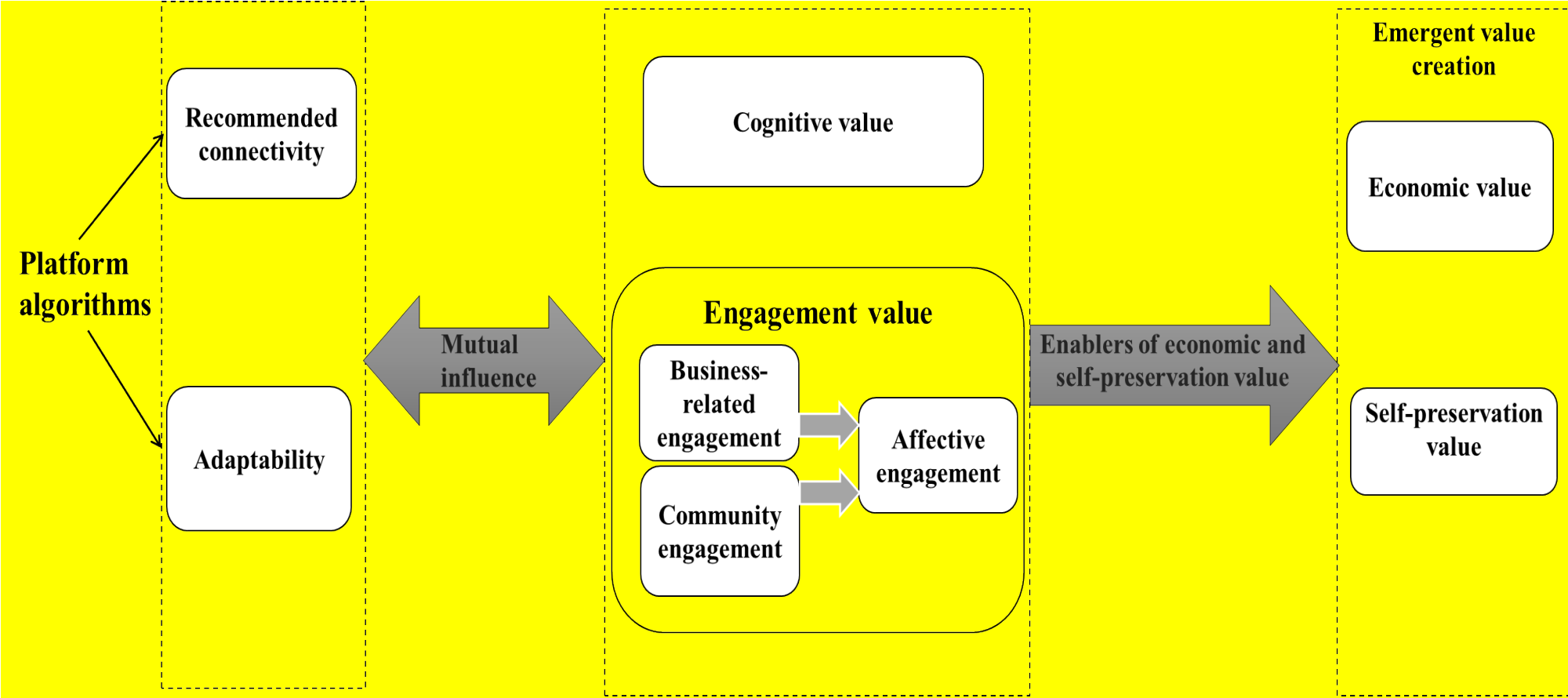


FIGURE 2 Mumpreneurs' experience of value creation on digital platforms.

6.3.1 Stage 1: Digital platform's mechanisms enabling value creation

Our findings show that the two mechanisms – (i) the *recommended connectivity* offered by digital platform's algorithms; and (ii) mumpreneurs' *adaptability* when using the platform – can directly control whether and when *engagement value* and *cognitive value* is created.

Recommended connectivity and *adaptability* link our mumpreneurs not only to customers and similar businesses but also to experts they can learn from (*cognitive value*) and to other mumpreneurs in similar circumstances; for example, others experiencing financial pressure, a precarious work–life balance, or childcare issues (*engagement value*). In addition, our findings show that the relationship between these mechanisms and both *engagement value* and *cognitive value* is bidirectional (i.e. mutual influence). Many participants have experienced that the way in which they engage and navigate (and adapt to) the platform can change what the algorithms display. This can result in a significant increase in their visibility and reach. Furthermore, for some participants, the engagement tools available through Instagram are important for coping with the constantly changing algorithms and the *adaptability* required of them as a result. This is exemplified in a quote from P21:

Every time people share their post, I also share, go to the post, liked and comment. It really does help because we can all really do so much for ourselves, especially when it comes to the algorithm. And this is what, if you know there's some set of people that no matter when you post, some people are there to like, to share, to comment, to help you grow. (P21)

We identified a bidirectional relationship between the *recommended connectivity* made by Instagram's algorithms and both *engagement value* and *cognitive value*. The frequent changes in Instagram's algorithms affect mumpreneurs' mode of engaging with audiences, which in turn causes the algorithms to change their recommendations. **The quote below shows a participant's reflections on how she responds to such changes:**

So, you know, we were doing regular posting, we were interacting with our consumer base, and then suddenly, the algorithms change, and, you know, we have to turn into posting reels. So, we continued, we continued doing our regular daily posting, but it wasn't reels, and we saw the reach going down, engagement going down, it affected the business as well. Then as soon as we turn the strategy around, we started doing more reels, we saw engagement going up, our following starting to go up slowly. (P1)

There are two strands to the experiences described by participants. First, they experience the various types of value generated through Instagram's algorithms at the same time as feeling that the algorithms have the power to control the destiny of their business and their network. Second, the constantly changing nature of how the algorithms work affects which information is displayed, how it is displayed, and the lifespan of the content they post – which, if not managed properly, ultimately has a negative effect on their business.

Mumpreneurs' learning enables them to adapt in an advantageous way and make more informed decisions.

Participant P1 talks about the way in which she balances other functions of the business with her marketing activities on Instagram:

But that means a lot of work because this is where, you know, we're running a business, when you're looking at financing, you're looking at supplies, you obviously have all these things. At the same time, you have to focus on learning how to make a video clip. And it's just not necessary, it's just not important in life. It just puts that added pressure on you. (P1)

Although P1 is resentful about the pressure that the algorithm exerts on her, the adaptability mechanism has also encouraged her to learn about how to create high-quality content that garners engagement, and she has adapted to the pace of work that this necessitates.

The data presented in this section speak of the numerous ways in which mumpreneurs feel put under pressure and 'play the game'. Yet, they also reveal that these women can adapt to this pressure by learning how to mould their businesses into stronger entities, grow their networks, and build more engagement. In this, Instagram's algorithm offers a mechanism through which value creation for mumpreneurs can occur by means of *adaptability*.

6.3.2 Stage 2: Enabling and emergent value creation

In addition to their bidirectional relationship with digital platforms' mechanisms, both *engagement value* and *cognitive value* serve as enablers of *economic value* and *self-preservation value* for mumpreneurs using Instagram for business. *Engagement value* and *cognitive value* are often experienced in the early stages of using Instagram in the context of mumpreneurship. As mumpreneurs engage with others on Instagram and

learn about the platform, their businesses start to make more profit and they can shape their identity as mumpreneurs. An example of this is described by P14:

Last month, for example, I had a sale from a man, and I was like oh my god, and I asked at the source on Instagram. It was amazing, so even if you in my case, I am not very active on Instagram. The minimum that you put in attracts a lot of people. Of course, you need to learn how to use the hashtag, so I had to learn how to use the hashtags, deliver the type of content I need to put in there as well, and that's what I said this has been an amazing learning curve. (P14)

In addition, describing how engaging and learning through the platform allows her to be more financially independent and preserve her identity as a mumpreneur while caring for her family, P21 explains:

It allows me to create a peaceful momentum in the house that I could look after them, and I can also earn money. I also grow myself, you know, because the happier I am the better mother I am, so the ultimate ambition is for my business and for my family life to sync so it's lovely. (P21)

To summarize, our findings show that there are two stages in mumpreneurs' experience of value creation. First, the platform's mechanisms (i.e., *recommended connectivity* and *adaptability*) shape the *engagement* and *cognitive value* that mumpreneurs experience; and it is bidirectional relationship. Second, the *engagement* and *cognitive value* created through the platform act as enablers of *economic* and *self-preservation value*. Our proposed model can apply to other entrepreneurs with limited resources and caring responsibilities.

7. DISCUSSION AND THEORETICAL CONTRIBUTIONS

This study reinforces the view that digital platforms can generate different types of value, both economic and non-economic (e.g., Barrett et al., 2016; Chamakiotis et al., 2021). Through examining mumpreneurs' use of **community-based platforms using the case of** Instagram, *engagement*, *cognitive*, *economic* and *self-preservation value* have been identified. Further, our study shows that value can be developed over time and at different stages of mumpreneurs' experience with Instagram. During this time, these mumpreneurs engage with and learn about the enhanced connectivity potential driven by the platform's algorithms. Thus, they develop more awareness of the workings of the algorithms and the related implications, which in turn, causes changes to the algorithms' recommendations in terms of connectivity. These changes impact mumpreneurs' ability and willingness to adapt to the opportunities provided by the platform. In relation to these findings, we identify specific mechanisms through which types of value are created: notably, *recommended* (by the algorithm) *connectivity* and *adaptability* (of mumpreneurs). Our findings show that there is a bidirectional relationship between these two mechanisms and the creation of *engagement value* and *cognitive value*. In turn, these two types of value enable *economic value* and *self-preservation value*, which are crucial for mumpreneurs.

Figure 2 presents the theoretical model (a process model of value creation) that derives from this study and depicts the mechanisms that contribute to creating different types of value for mumpreneurs: *engagement*, *cognitive*, *economic*, and *self-preservation*. Our findings show that these types of value are especially important for mumpreneurs with young children, due to the associated financial difficulties, high childcare costs, and family-work conflicts. **These types of value developed at different stages of mumpreneurs' experience with Instagram can enhance business growth and**

eventually reduce inequalities in heterosexual relationships, including polarization in care work (Oberhauser, 2002).

It is therefore crucial that mumpreneurs are empowered to overcome these challenges, and this empowerment can be both economic and non-economic (e.g. through support from other mumpreneurs on Instagram and through preserving their identity as a mother and as an entrepreneur). The process model of value creation also adds a temporal dimension to the attainment of the different types of value created in this context, recognizing that mumpreneurs' experience with the platform and the possibilities that the algorithms provide may take time to develop.

The study makes the following theoretical contributions. First, we add to existing IS literature on value creation in digital platforms (e.g., Barrett et al., 2016; Chamakiotis et al., 2021; Dong & Wu, 2015; Zhao et al., 2015) by developing a process model of value creation for mumpreneurs generated through digital platforms. Our study contributes to the growing body of literature on value creation through various digital platforms in the context of entrepreneurship, among other contexts (e.g., Bonina et al., 2021; Ciulli et al., 2020; Hellmann et al., 2016; Madon & Schoemaker, 2021; Schrieck et al., 2023), by focusing on specific community-based digital platforms that are widely targeted by specific groups of entrepreneurs. These are important areas to consider given the normative, masculine view of entrepreneurship steeped in stereotypes of heroic white males leading independent lifestyles (McDowell, 2008; Mayes et al., 2020; Pfefferman et al., 2022), tropes that can be problematic for mumpreneurs. By investigating the case of a community-based digital platform, Instagram, and how this platform benefits mumpreneurs with caring responsibilities for young children, this study confirms the co-existence of economic value and non-economic value (Chamakiotis et al., 2021; Gol et al., 2019; Pagani, 2013; Wulf & Blohm, 2020) which

are experienced and viewed as equally important by mumpreneurs. It also adds to this literature by identifying new types of value: *engagement*, *cognitive*, and *self-preservation*. These types of value represent mumpreneurs' business, social, and personal needs respectively, signalling the different roles that our participants play and the platform's ability to fulfil their different needs.

Second, this study expands our understanding of the impact of algorithms on platform users and value creation (Meijerink & Bondarouk, 2023). Mumpreneurs experience value created through Instagram in their business, social, and personal lives. This is contrary to explanations in previous research regarding users' possible lack of awareness of how algorithms often work and their potential benefits (e.g., Rader et al., 2018; Riemer & Peter, 2021). **Community-based** platforms' algorithms can determine mumpreneurs' networks and connections (business and personal) on Instagram, opening up a world of new possibilities for them and their businesses. Algorithms also create opportunities for mumpreneurs to build new relationships, shape their online identity and visibility, and make economic gains.

Third, our study depicts the temporal dimension of value creation by digital platforms for mumpreneurs, thereby extending the findings of previous research on economic and non-economic value creation (e.g., Barrett et al., 2016; Chamakiotis et al., 2021). Figure 1 elucidates how types of value (i.e., *engagement*, *cognitive*, *economic*, and *self-preservation*) are created for mumpreneurs and what mechanisms enable the creation of that value. Mumpreneurs do not use Instagram for business for the sole reason that it is convenient for combining their caring responsibilities with the ability to multitask effectively. Rather, our findings show that mumpreneurs use Instagram for business because of the *economic value* that it creates by offering them visibility, connectivity, and the potential for rapid business growth, in addition to

enabling their self-preservation (i.e., by developing and maintaining an identity as an entrepreneur *and* a mother). Thus, our findings around *economic value* and *self-preservation value* speak to the UK care economy that is characterised by extremely high childcare costs (Brearley, 2022), an unequal division of care work between mothers and fathers, and a lack of value that is attributed to unpaid care work by society (Chatzidakis et al., 2020).

Our proposed process model of value creation (Figure 1) shows that there are two stages through which mumpreneurs experience value creation on Instagram: *stage 1*, digital platform's mechanisms enabling value creation; and *stage 2*, enabling and emergent value creation. Our findings show that both the *recommended connectivity* of a digital platform's algorithms and mumpreneurs' *adaptability* when using these digital platforms for business (e.g., in terms of coping with the platforms' algorithms changes and managing their work–family balance) act as mechanisms that lead to the creation of three main dimensions of engagement value: *business-related engagement, engaging with a community of mumpreneurs*, and *affective engagement experienced by mumpreneurs*. This is important for mumpreneurs because they engage with business-related connections, gain support from other mumpreneurs in similar situations as a community, and connect in a meaningful way that can positively or negatively affect their emotions. In addition, through these mechanisms, mumpreneurs experience *cognitive value* because they learn through the platform. Our findings also highlight that mumpreneurs' engagement and learning through the platform cause changes to the platform's *recommended connectivity* and how mumpreneurs adapt to the platform. In other words, the interplay between the two mechanisms and types of value created in this context is bidirectional. Furthermore, our findings show that the *engagement value* and *cognitive value* experienced by

mumpreneurs serve to enable *economic value* and *self-preservation value* (i.e., emergent forms of value) through bringing new business opportunities that lead to profit and by enabling mumpreneurs to develop and maintain their identity as an entrepreneur and a mother.

Fourth, while previous work on mumpreneurs has focused on the post-feminist nature of the term (Duberley & Carrigan, 2013; Lewis, 2010) or discussed its role with regard to 'gender and entrepreneurialism in neoliberal meritocracy' (Littler, 2017), our work demonstrates how these women make strategic choices to run a business on **community-based platforms** such as Instagram. In doing so, UK-based mumpreneurs mitigate some vulnerabilities, such as by organizing their working hours to minimize childcare in the face of some of the most expensive childcare costs in the world (Brearley, 2020). They also encounter new ones, such as being at the mercy of platform owners who can choose to rapidly alter algorithms to maximize their economic gains. This contribution highlights the interplay between the ambitions of a particularly vulnerable subset of business owners and the economically driven strategies of powerful platform owners.

8. PRACTICAL IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH

Our findings have managerial implications for designers and managers of **community-based** platforms, as well as for mumpreneurs running small businesses on Instagram and **community-based** platforms more generally.

Instagram's managers should be aware that even though the platform's algorithms are sometimes perceived negatively by mumpreneurs, they still have the potential to create various forms of economic and non-economic value for these vulnerable users. The algorithms can be improved to offer new forms of value that improve mumpreneurs' confidence and trust in them. Furthermore, although courses

on running an Instagram-based business are available, such as Meta for Business-Instagram marketing courses, future courses could tailor information for specific types of businesses, including how to get the most out of algorithms and how to harness the power of algorithms. Furthermore, our findings show that various types of non-economic value are created through **community-based platforms, specifically the case of** Instagram and its algorithms: *engagement, cognitive, and self-preservation value*. Hence, platform designers should embed functionalities that further support the creation of these forms of value. This could be informed by workshops attended by designers, academics, and mumpreneurs to explore new ideas. We encourage platform designers to communicate the potential and limitations of algorithms to vulnerable groups in particular who may not view them positively despite benefiting from the value created through them.

Our findings also have implications for mumpreneurs running small businesses on **community-based platforms, including** Instagram, who generate various forms of value through the platform. For example, given that we found mumpreneurs can gain *economic value* from running a business on Instagram and they view this as important, interventions could support their entrepreneurial activity by funding training that would improve their digital and business skills in relation to running a business on Instagram. This can empower them to promote their businesses more effectively and find ways of reducing the pressures associated with competition in an open digital space, time constraints, and maintaining consistency. Importantly, our findings can help mumpreneurs to make informed decisions about the economic and non-economic value that using Instagram **and other community-based platforms** hold for them. This will allow them to be strategic about balancing the creation of value through Instagram with other types of value and other **community-based** platforms that they consider

integral to their business. This will be of particular benefit to this segment of entrepreneurs, who are time-starved due to an uneven care load and high childcare costs (Dunbar, 2021).

Finally, our study has some limitations and implications for future research. While our current research focused on mumpreneurs in general, further studies could delve deeper into specific groups. For example, exploring how refugees navigating entrepreneurship benefit from community-based digital platforms could offer valuable insights for designing economic and non-economic support structures. Additionally, our data was collected from mumpreneurs in the UK. Our UK-based sample opens doors for future research on mumpreneurs in diverse cultural contexts. Exploring how social and economic pressures in other countries influence value creation through these platforms could prove especially illuminating. Furthermore, our research focused on value creation for mumpreneurs generated through community-based platforms. Future studies can explore both value creation and value capture in this context to gain a deeper understanding of how value is both created and captured in this context.

Our research focuses on value creation for mumpreneurs with young children through algorithms on a digital platform. Focusing on this unique group of entrepreneurs, many of whom are vulnerable, is important; however, future studies can build on this by exploring the perceptions of, and the creation of non-economic value for, other groups of entrepreneurs, such as ethnic minorities. Such studies would be important, given the algorithmic bias reported in previous studies (e.g., Riemer & Peter, 2021). It would therefore be interesting to explore how these groups of entrepreneurs navigate around the barriers associated with algorithms. In addition, future research can conduct longitudinal studies with start-up companies to explore

how their perceptions of the types of value created through digital platforms and algorithms change over time, and how their previous career choices and employment influence how they experience each form of value.

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Appendix: Data table

First order code	Second order code	Description	Illustrative quotes
Business-related engagement	Engagement value	One of the key motivations for mumpreneurs to become active on Instagram was to drive prospective customers to their profiles which they used to showcase their offerings and drive engagement in the form of likes, shares, comments, and saves.	<p>It is easier to reach potential customers or people, employees as well on Instagram, because people spend majority of time on social networks now. (P8)</p> <p>I think it's not about the number of followers, it is actually the number of people that you keep interacting through all the time because, I mean, that changes a lot with the changes in the platform and the algorithm. I mean, that's what I care about, to be honest. (P9)</p>
Engaging with a community of mumpreneurs	Engagement value	Participants were motivated by finding communities of like-minded mumpreneurs that would support one another through informal groups and conversations around hashtags.	<p>There is, I think, five of us but they are not only business owners, these are mums, and I've sort of joined that group, it's basically like we like each other's posts and we comment on those posts, just to boost the engagement. (P23)</p> <p>I've got a wide range of friends that are mums that are also having their own businesses, and this is where we kind of help each other and share content on, like, our personal profiles, and things like that. (P1)</p> <p>I've got friends that I follow who are mother-owned-business owners, and they inspire me. Certainly, before I had children, I met up with a</p>

Affective engagement experienced by mumpreneurs	Engagement value	Mumpreneurs spoke about their affective responses to showing up	<p>few of them, because I was, like, I was frightened; I was like, how does this [running a business on Instagram] work? (P6)</p> <p>[I like] working more and collaborating a lot with women-owned businesses on Instagram, just because I feel it's a much more supportive environment, and we can give each other so many hands and options. (P2)</p> <p>She launched her business when she had a young child, and she is the main breadwinner of the family. So, I am lucky to have her as my colleague, as my friend, in a way mentor, by working more and collaborating a lot with women-owned businesses on Instagram, just because I feel it's a much more supportive environment. (P2)</p> <p>I actually created this new mum club from those groups. So, like, two weeks, and every day for two weeks, you watch their posts and stories, you know the person already, you can comment, and we just ended up discussing something, you know, that becomes our social platform, you become social with these mums. So, it's not really good for your growth, but it's good to find friends. (P22)</p> <p>I really admire spontaneous engagements when people are on Instagram, I don't like the part of influencer marketing where people are</p>
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		on Instagram both on their own profiles and posts of others.	actually, they become a commodity and they sell themselves as a commodity. (P15)
			You have to find a frequency of showing up that works for you, and I'm quite happy, I've now got time, you know, I'm quite happy to post daily or whatever and engage. (P16)
Learning by doing on Instagram	Cognitive value	Many of our participants did not receive formal marketing training and therefore chose to learn how to effectively market themselves on Instagram through practicing it, also with the help of related tools.	I didn't learn marketing at school so have actually just learned by myself, with the help of Instagram and with the help of Canvas, how to create my own marketing campaign on Instagram, with the ads and everything, and I think that's actually a really good tool. (P7)
			"There's so much to learn from Instagram. So, in terms of time efficiency, there are certain products that have helped me, there was a planner that I have, it's a monthly planner for businesswomen, and I use things like that, I use coping techniques in terms of how you cope with family life and business life. (P1)
Enabling mumpreneurs to connect to new customers	Economic value	Participants cited that Instagram allowed them to target and connect with new customers who would fit their target groups.	Instagram is the consumer's market right now, it's very aesthetic, so as far as products go it's a great showcase for your products... (P3)
			Last month, for example, I had a sale from a man, and I was like oh my god, and I asked at the source on Instagram. It was amazing, so even if you in my case, I am not very active on Instagram. The minimum that you put in

			attracts a lot of people. Of course, you need to learn how to use the hashtag, so I had to learn how to use the hashtags, deliver the type of content I need to put in there as well, and that's what I said this has been an amazing learning curve. (P14)
Promoting and growing a business	Economic value	To drive traffic to their business and to increase revenue was one of the core objectives of mumpreneurs in using Instagram as a platform.	I will definitely continue and grow my photography business because that's what gives me financial gain and flexibility that I need for my children. (P23)
Increased business profit	Economic value	Mumpreneurs within our sample cited improving their business' profit and therefore their net earnings as being a priority for them.	So, [my business] was basically built on my free time after my children bedtime. So yeah, so then it's, I think it was two years later when I actually started taking orders. So, I started in 2012, late 2012. From 2013 onwards, I was taking very small orders or sporadic orders, started building my confidence. Until then, few years later, I decided to take on us as a proper business. (P5)
Utilising low cost and flexibility of platform	Self-preservation value	Many participants had only minimal resources at their disposal when they started off their businesses. Instagram presented them with a low cost and flexible marketing solution.	I just want to be proud of the things that I've done, the things I've achieved. Pre-Covid, I think the reason behind my whole business was to teach my daughter that you don't need a qualification, you can go out and do anything you want to do if you put your mind to it (P20)
			It allows me to create a peaceful momentum in the house that I could look after them, and I can also earn money. I also grow myself, you

Reclaiming their pre-motherhood identity	Self-preservation value	Often participants would feel that embarking on motherhood was a departure from their prior identity. Entrepreneurship via Instagram offered them to reclaim this prior identity and to regain independence.	know, because the happier I am the better mother I am, so the ultimate ambition is for my business and for my family life to sync so it's lovely. (P21)
		I had children and I massively lost my identity. And because I was always very career driven, and that was my, like, identity anchor, had children, I didn't go back to work because it was full-time hours in London and, like, that was just not going to work. And yeah, I just, took me a while to figure out like confidence issues (...), then I came back to coaching, is like this is actually what I want to do. And I thought, well, if I felt like this, I'm not the only person that's felt like this, so I started off thinking more about, you're more than just mum, you know, you can have your own dreams, ambitions, (P15)	
		My big goal is number one, to be a force of influence in the women entrepreneur line of field because I have, not only do I have the passion to want to help people to build and grow their business; I've also got the experience, and I've also got the training. (P21)	
		There would have been an overlap if I put a lot of what I'm going through or what my personal life is, if I put that on social media, definitely I'm giving room for people to be part of it. But	

			<p>I've always been a private person, so I only get to share what I feel I'm open to share and I don't feel judged about. (P21)</p> <p>I like to keep my identity a bit separate to my business identity. So, I don't have much of an overlap. But yes, there are times when I have to put my face forward as a business owner, and sometimes there is overlap. (P1)</p>
<p>Algorithm dictates the order of posts</p>	<p>Recommended connectivity</p>	<p>Participants found that there was a minimum number of posts that they would have to generate to remain relevant in the face of the algorithm that prioritises more active accounts and accounts with high levels of engagement.</p>	<p>I think Instagram [...] kind of dictates how far your career goals, which basically, you know, we have to kind of do what the algorithm needs, you know, what helps us to stay, what helps us get that viewing, what helps us get that reach. (P1)</p> <p>So the way that algorithm works is when a post gets engagement, likes and comments, that post is likely to be shown to a larger amount of people because Instagram sees it as an interesting content, so they will share it... if you're a part of those engagement groups as we call them, obviously that helps... (P23)</p>
<p>Algorithm drives meaningful connections</p>	<p>Recommended connectivity</p>	<p>Participants described that their activities and searches on Instagram would both enable them to connect with new clients, who could meaningfully connect with their profiles and businesses and</p>	<p>People that buy from me, and they follow me, they connect with the kind of life that I take motherhood, running a business, being a single mother. I think it's important, I don't want the, I never wanted my Instagram to be just a portfolio; it was a journey, and it showed</p>

		<p>drive mumpreneurs themselves towards profiles of other mumpreneurs whom they wanted to engage in meaningful connections with.</p>	<p>this journey. So, you can see from previous posts how not only my work evolved, but people also follow what I'm doing and [the girls], and that is so important for my followers to connect, and you know, the people really get involved. (P5)</p>
			<p>Instagram worked better because I like connecting with people, and connecting with mothers and stuff like that, and it's just easier to reach your target audience through Instagram than it is through Facebook; it's just easier to use, easier to connect with the right audience. (P26)</p>
<p>Adaptation of online activity</p>	<p>Adaptability</p>	<p>Mumpreneurs had to frequently adapt their activity on Instagram to raise their profile online.</p>	<p>You have to keep up with the trends that come up on Instagram as well, there's always endless trends, and if you really want to be on top of your game, you have to resonate somehow with that trend. So, to give you an example, there is this concept of beige aesthetic that is ruling a lot of accounts on Instagram. And this is something that is a bit of a zeitgeist for that specifically channel, it is a code that people hold those tactics in their content and in their work. So, I like to get a bit involved with that, but I don't want that to rule everything I do so it becomes like everyone else's. (P9)</p> <p>The purpose of my Instagram until the lockdown happened and my business went</p>

			<p>down from, to about 20% what I did have, yes, it was very painful, and I started to do like Instagram as an influencer mom. When everything started to come back, I started to introduce and had these new ideas because I've learned from the platform, the possibilities, and what I can do by having clients following and turning them into loyal customers. (P24)</p> <p>As an entrepreneur, I try to have the mindset, a learning mindset, because I can't possibly know everything, my decision might not always be right, but it's the building block and to have that learning mindset is the key, I think. (P12)</p> <p>Every time people share their post, I also share, go to the post, liked and comment. It really does help because we can all really do so much for ourselves, especially when it comes to the algorithm. And this is what, if you know there's some set of people that no matter when you post, some people are there to like, to share, to comment, to help you grow. (P21)</p>
Keeping on top of the game	Adaptability	Mumpreneurs described the need to remain adaptable in the face of changing algorithms to remain relevant and keep driving meaningful connections to their profiles.	Genuinely, you have to play the game to a certain extent and that is, you know, posting regularly.... Generally, I would post five times a week, I have stories pretty much every day, and I might take a break for 24 hours on a story, so if you take 24 hours off, your

engagement goes up for that first story afterwards. So, there are little tricks and tips that you can figure out. But yes, like, there is a massive pressure, and when I started, I massively felt it in terms of showing up. (P15)

Like an algorithm, and so, it's a game, and everyone does it, everyone falls into the trap of I've got to do this, go do that, but if you're in it for the long game, you've got to play by your rules. [...] I think I've now got to the point... where I recognize I am setting the rules, I'm not letting Instagram dictate my rules..., but I think a lot of people don't. (P15)

I say follow people who you know are very successful in their business, and who are getting good results through social media. And just follow what they do in terms of the order of how they do things, how often they post on their walls, how often they post on their stories, what kind of hashtags they use, tagging locations, linking the Instagram to Facebook, and all this sort of stuff. (P17)

So, you know, we were doing regular posting, we were interacting with our consumer base, and then suddenly, the algorithms change, and, you know, we have to turn into posting reels. So, we continued, we continued doing our regular daily posting, but it wasn't reels, and we saw the reach going down,

engagement going down, it affected the business as well. Then as soon as we turn the strategy around, we started doing more reels, we saw engagement going up, our following starting to go up slowly. (P1)

But that means a lot of work because this is where, you know, we're running a business, when you're looking at financing, you're looking at supplies, you obviously have all these things. At the same time, you have to focus on learning how to make a video clip. And it's just not necessary, it's just not important in life. It just puts that added pressure on you. (P1)

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