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Looking inside the 'black box' of digital firm scaling: An ethnographically informed conceptualisation

Ross Brown [a,*], Suzanne Mawson [b], Augusto Rocha [c], Alex Rowe [a]

[a] Business School, University of St Andrews, The Gateway, North Haugh, St Andrews KY16 9RJ, UK
[b] Hunter Centre for Entrepreneurship, Strategy and Innovation, Strathclyde Business School, University of Strathclyde, 199 Cathedral Street, Glasgow G4 0QU, UK
[c] Business School, University of Edinburgh Business School, 29 Buccleuch Place, Edinburgh EH8 9JS, UK

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ABSTRACT

In recent years there has been an upsurge of interest in firm scaling. Owing to the fact our conceptual and theoretical grasp of this phenomenon remains under-developed, this paper offers a novel conceptualisation of the scaling process based on an in-depth ethnographic study of a London-based digital Fintech. Scaling involves deliberately enacting and surmounting a series of managerial challenges such as human capital re-positioning, business model reconfiguration, customer acquisition and the acquisition of external growth capital. Our theoretical contribution views the micro-foundations of scaling as a distinctive relational process-based phenomenon. Under the conceptual framework posited, entrepreneurial human capital and successful scaling are inextricably interwoven. Entrepreneurial founders and managers are pivotal for orchestrating scaling and our conceptualisation builds upon the trigger point model of firm development, which reinforces the primacy of entrepreneurial agency for optimising growth triggers.

1. Introduction

In recent years there has been an upsurge of interest in firm scaling with this "hot topic" (Jansen, 2023; Palmié et al, 2023)[1] clearly transcending academia into the realms of the popular business discourse and public policy (see, for example, Sullivan, 2016; Innovate UK, 2017). Due to technology platforms, app-based knowledge architectures and negligible marginal costs, many digital ventures are now able to scale at a transformational pace (Gartner et al, 2024). This has resulted in a plethora of so-called "superstar" unicorn ventures, which scale rapidly as they exploit unique market and technological opportunities (Kotha et al, 2022; Kuratko and Audretsch, 2022).[2] While there are clearly common facets germane to digital firms enabling rapid scaling, there is still considerable heterogeneity evident across digital ventures in the manner in which they evolve and upscale (Jansen et al, 2023; Piaskowska et al, 2021; Stallkamp et al, 2022).

While it is widely recognised that digital firms tend to be more easily "scaleable" due to significant economies of scale in their productive resources, a pervasive use of IT, rapid entry into target markets coupled with low distribution costs and strong network effects (Nambisan et al, 2019; Mihailova, 2023; Giustiziero et al, 2023; Zeng et al, 2022), our conceptual knowledge of the micro-foundations underpinning successful scaling in digital ventures remains partial. While the extant literature has delved into particular facets assumed integral to successful upscaling (Jansen et al, 2023), it has yet to properly establish the underlying mechanisms orchestrating the entirety of the scaling process. Palmié et al (2023) found in their systematic review of the scaling research field as much as 70 % of the literature focuses on one specific aspect of the scaling process. Consequently, "we know very little about specific actions, behaviours, and capabilities needed to scale up new businesses successfully and sustain high growth over time" (Jansen et al, 2023). This paper wishes to address this lacuna and in doing so it strongly affirms the centrality of entrepreneurial founders and managers as central drivers navigating the firm scaling process.

Due to a lack of conceptual and theoretical development, scaling is "broadly misunderstood and largely under-researched" (Mula et al, 2024, p.12). So-called 'scale ups' are firms often conflated with firms experiencing periods of rapid growth, despite growing recognition that

* Corresponding author.
E-mail addresses: Ross.Brown@st-andrews.ac.uk (R. Brown), s.mawson@strath.ac.uk (S. Mawson), augusto.rocha@ed.ac.uk (A. Rocha), Alex.Rowe@st-andrews.ac.uk (A. Rowe).

[1] Interestingly, Palmié et al (2023) identified 172 papers published on this subject matter to date.
[2] Unicorn ventures are defined as private firms valued at more than one billion dollars.

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scaling and high growth are two distinctive conceptual phenomena (Hart et al, 2021; Raby et al, 2022). While a period of high growth will sometimes be a precursor to scaling, it is not necessarily a prerequisite. Indeed, some firms can rapidly grow under the employment/turnover metrics commonly adopted by the OECD to measure episodes of rapid growth (OECD, 2008) without organisationally scaling (Coad et al, 2024). Some scholars rightly note that "scaling is not just about high growth" (Coviello, 2019, p. 5; Brown et al, 2017) but rather it entails undergoing a process of "structural transformation" within a firm (Coad et al, 2024). Despite this, many academics and policy makers erroneously continue to conflate them by using the terms interchangeably (see, Audretsch et al., 2024; Bohan et al., 2024; OECD, 2021).

In essence, high growth is an *ex-post* numerical phenomenon (i.e. denoting outputs such as growth in terms of employment/turnover). Scaling, on the other hand, is fundamentally an organisational concept encompassing the processes of organisational change and transformation whereby organisations overcome a series of "managerial challenges" by *intentionally* enacting processes, routines and growth enhancing activities. How a firm orchestrates – and how effectively it executes – these processes will crucially determine its ability to successfully scale (Jansen et al, 2023). Equally, there have been calls for greater consideration of the human side of growth and scaling, including an acknowledgement of the tensions, trade-offs and challenges that are inherent to firm development and growth (Raby et al, 2022).

Ostensibly, a lack of research on the "temporal dynamics of growth and scaling" has largely restricted our conceptualisation and theorisation of the scaling process (Kotha et al, 2022, p. 24). What decisions are made? How do these link to inputs, resources and past events? What actions are taken? When? What are the implications of these and how are they shaped by endogenous and exogenous pressures? This issue is of particular relevance given the fast-moving pace of change in modern day economies, where digitalisation has dramatically re-calibrated the manner in which firms develop, grow and scale at rapid velocity (Nambisan et al, 2019). Therefore, some have called for new models of firm development and scaling – i.e. the dynamics and constituent elements and the sequences of events – through which new ventures evolve and scale (Shepherd and Patzelt, 2020).

Following others (Shepherd and Patzelt, 2020; Zeng et al, 2022), this paper seeks to address some of these omissions in the literature by developing a conceptual model of firm scaling, informed by empirical insights from a novel ethnographic study of the longitudinal scaling process within a London-based digital Fintech firm. To date, this empirical approach has been used sparingly to examine the intricacies of scaling.[3] For decades, business and management research has relied on a dominant set of methods with little creativity and customisation in research designs (Christofi et al, 2024). Processual research on digitalised firm growth has therefore been constrained, possibly due to limited research access to the internal workings within scaling firms (Mula et al, 2024). By contrast, the novel methodological approach adopted herein helps us "unpack further the scaling process" as it temporally unfolds (Bohan et al, 2024, p.12), reflecting calls for "novel theorizing of entrepreneurship processes" (Van Burg et al, 2022, p. 4). Ethnography itself is recognised as an immersive methodology for research to support theory building for new, emergent and complex entrepreneurial phenomena such as firms undergoing hyper-growth and scaling (Sharpe, 2018; Hlady-Rispal et al, 2021). By immersing oneself in a research site for a long period of time "everyday 'normal' and 'regular' aspects of entrepreneurial life can be captured" via ethnographic methods, which would largely be forgone in surveys, interviews or diaries (Van Burg et al, 2022, p. 9).

The key objective of this paper is to *explore the 'black box' of scaling to better understand the micro-foundations and dynamics of scaling and to conceptualise how scaling is practically enacted within digital ventures.* In meeting this objective, the paper makes a number of important theoretical contributions. First, it contributes to the digital firm scaling research domain by conceptualising the key interrelated micro-foundations of scaling. Whilst the existing literature has focused on certain discrete activities associated with scaling, we aim to examine scaling in a holistic sense involving multiple activities and processes (financial, human capital, organisational etc). Second, it engages in much-needed theory development by building on and elaborating dynamic models of firm development, specifically firm trigger points (Brown and Mawson, 2013) and transitions between dynamic entrepreneurial states (Sternad and Mödritscher, 2022). The conceptual model developed in this paper stems from the process of "construct splitting", which delineates existing constructs into different specific dimensions to provide accurate portrayals of the different elements of those constructs (Fisher and Aguinis, 2017). To the best of our knowledge this is the first such attempt at undertaking this kind of nuanced conceptualisation within firm scaling literature.

The paper is structured as follows. It begins with a review of the literature. The methodology and data are then outlined. We then develop and discuss our conceptual model of firm scaling. A discussion of the paper's conceptual contribution then follows. Conclusions and future research directions are then delineated.

2. Review of the literature

2.1. Definitional issues

Ambiguity on what constitutes scaling continues to abound. Before dissecting prior theoretical literature, we wish to establish exactly what we mean by scaling, It is important to acknowledge that definitions of scaling are inherently "messy" (Coviello, (2019, p. 5) with some defining scaling rather opaquely as "an increase in the size of a focal subject that is accompanied by a larger-than-proportional increase in the performance resulting from the said subject" (Palmié et al, 2023, p. 2). Another confusing and muddled definition views scaling as a process whereby managers rapidly expand a firm's outputs by transforming the internal organization, leveraging digital resources without "a corresponding *ex-ante* increase in inputs" (Coviello et al, 2024, p. 2). Others denote scaling reductively "as a time-limited process of exponential growth" (Bohan et al, 2024, p.3), which erroneously conflates scaling and growth. More expansively some claim scaling to be "spreading excellence within an organization as it grows" (Shepherd and Patzelt, 2020, p.1) in order to "add customers, capacity, and capability fast enough to maximize the market opportunity" (O'Reilly and Binns, 2019, p.58). Some suggest scaling refers to "strategies that prioritize the attainment of economies of scale" (Piaskowska et al, 2021p. 1) which occurs when a firm "dramatically expands the scale of its business operations" (Hellman and Kavadias, 2016, p.7). Jansen et al (2023, p. 14) usefully delineate the process more explicitly incorporating a temporal dimension, designating scaling as "the organizational and strategic routines by which firms grow exponentially through the expansion, replication, and synchronization of resources and practices over time".

Given the vague and reductive nature of some of these definitional depictions above, greater clarity is needed to disentangle growth and scaling in a digital fintech business environment. Digital firms provide an interesting context to examine scaling because traditional divisions between technological applications and business strategy have become blurred as digital business models and digital systems become closely inter-twined (Gartner et al, 2024). We strongly agree with other scholars that scaling involves "structural transformation", whereby scale-ups have a significantly different structure before and after the growth period (Coad et al, 2024). Herein we wish to offer a more expansive and nuanced definition of scaling to incorporate "*activities to substantively enhance the magnitude of business operations by intentionally enacting managerial processes over time to achieve economies of scale which can*

[3] For a rare exception see Tippmann et al (2023) who drew on participant observation and field notes.

enhance growth-enabling strategic activities".[4] Importantly, we consider the term 'scaling' to refer to organisational and managerial activities and processes, rather than merely depicting a categorical 'type' of firm or indeed a 'episode' of exponential growth as erroneously depicted by some (Bohan et al, 2024). Whilst we recognise that this definition is not exhaustive or all-encompassing, we think it nicely encapsulates the key organisational determinants of scaling processes in digital ventures.

2.2. Theoretical foundations of firm scaling

Ever since the seminal work of the economist Edith Penrose in the 1950s (Penrose, 1959), understanding the dynamics of firm growth has been a central research theme facing entrepreneurship and management scholars. The early work by Penrose subsequently dominated thinking and theorising around the nature of firm growth for the next 30–40 years. From a Penrosean viewpoint, "history matters" in that growth is fundamentally perceived as essentially an evolutionary process involving the gradual accumulation of knowledge and "resource bundles" unique to the firm (Garnsey, 1998). According to Penrose there is a cumulative process of interaction between the "market opportunities of the firm and the productive services available from its own resources" (Penrose, I960, p. 14). Implicit in Penrose's resource-based view (RBV) is that resources and knowledge acquisition are inextricably linked to firm size and age (i.e. as firms grow and become bigger/older they accrue additional knowledge and resources to help them grow further). Indeed, she notes that in general "the larger and older firm has certain advantages over the smaller and newer firm which eases its operating problems" (Penrose, 1959, p. 205).

Given the intellectual lineage of the RBV and association with economists such as Penrose it is perhaps unsurprising that many scholars focused on the growth rate rather than the growth process *per se*. Indeed, some criticisms of Penrose's RBV note that insufficient attention is paid to the entrepreneurial traits, dynamic capabilities and behaviours of entrepreneurs and employees shaping the growth of firms (Augier and Teece, 2007). From a Penrosean vantage point, the role of people and entrepreneurial management are largely overlooked. The strategic management scholar David Teece has been one of the most outspoken critics of the RBV for the lack of focus on aspects such as entrepreneurial management and resource mobilisation (Teece et al, 1997; Teece, 2007). In response to this he forwarded the important concepts of ordinary and dynamic capabilities. According to Teece, ordinary capabilities "*are about doing things right*" whereas dynamic capabilities entail "*doing the right things, at the right time*" (Teece, 2016, p. 210). Teece claims effective entrepreneurial leadership is about "sensing and understanding opportunities, getting things started, and finding new and better ways of putting things together" (2007, p. 1346). While top managers have always been considered instrumental to competitive success, how managers carry out the strategic work of competitive actions has remained somewhat akin to a "black box" (Simsek et al, 2022, p.1).

2.3. Conceptual depictions of firm scaling

In tandem with the widespread adoption of the RBV since Penrose's work, firm development has hitherto often been rather crudely conceptualised via anthropomorphic life-cycle models (Phelps et al, 2007; Sternad and Mödritscher, 2022). Indeed, stages of growth became the dominant theoretical paradigm adopted towards understanding business development from the 1960 s up until the turn of the 21st Century (Levie and Lichtenstein, 2010). According to Hamilton (2010), life cycle stage models also dominate textbook expositions of small business growth. Like the RBV, implicit in these life-cycle models is that as firms develop (and grow), they accumulate resources and knowledge enabling further development and growth. Knowledge accumulation is thus central in these frameworks. Whilst intuitively appealing, the adoption of a life-cycle schema rests on three unlikely propositions: first, distinctly different 'stages' of development are clearly discernible; second, the order in which organisations undergo these recognisable stages is *de facto* pre-determined and thus predictable; and third, organisations undergo the same sequence of developmental changes, just like human beings (Phelps et al, 2007).

In recent years, the ontology of stage models – a linear, sequential and deterministic process – has been seriously questioned by a number of scholars (Hamilton, 2010; Levie and Lichtenstein, 2010; Brown and Mawson, 2013; Sternad and Mödritscher, 2022). Such has been the volume of criticism that a recent review of the literature offered a "terminal assessment" of life-cycle models of firm development (Levie and Lichtenstein 2010). In contrast to the biological foundations of stages models, organisations are not like organisms in that they do not have a genetic code controlling their development.

Replacing those outmoded biological assumptions with more recent formulations from complexity science, organisations can anticipate and even co-create their environment, making internal shifts to fit current or projected changes and thus moving firms into new "dynamic states" (Levie and Lichtenstein, 2010). According to the dynamic states approach, entrepreneurs or managers create effective links between the internal value creation system of a firm and external opportunities, enabling firms to leverage business opportunities and create value for customers. Critically, these new theories recognise the complexity and specificities of firm development, noting that the "growth processes of firms are nonlinear, follow different development patterns, and are contingent on an interplay of various internal and external forces that together determine a firm's options for exploration and exploitation" (Sternad and Mödritscher, 2022, p, 952).

Sternad and Mödritscher (2022) elaborate on the move between dynamic states via "entrepreneurial leaps". Their model depicts entrepreneurial leaps as triggered by crises (distress) as well as by arising opportunities, which can both influence the development of the firm without necessarily following a predetermined sequence. Under this perspective, key decisions and actions "trigger" virtuous or vicious cycles leading to either organisational resilience or failure during key temporal junctures (Sternad and Mödritscher, 2022). Linked to this viewpoint is a growing focus on the important concept of organisational "trigger points" as key inflection points shaping the developmental trajectories of firms (Brown and Mawson, 2013). Building on the dynamic states model outlined above, the trigger point concept suggests that a firm uses these events to move between different dynamic states, thereby propelling a firm towards stronger growth and increased scale (Coad et al, 2021; Jibril et al, 2022; Tunberg and Gaddefors, 2022 Rees-Jones et al, 2024). The concept of trigger points is fundamentally shaped by a number of different endogenous, exogenous and co-determined events which fundamentally instigate change within an organisation (Brown and Mawson, 2013). Implicit in the trigger point concept is the primacy of entrepreneurial agency, a shift from the foundational principles of the RBV with it attendant focus on firm resources.

Although previous research has identified the outcome of trigger points and their role in shaping dynamic states**,** the concept has received less academic attention in relation to firm scaling. Of central importance to the trigger concept is the notion of "bifurcating parallel pathways" which allow for multiple possible trajectories (i.e. so-called "forks in the road") during the scaling process (Cloutier and Langley, 2020, p. 10). In their study of the evolution of new ventures, Ambos and Birkinshaw (2010) observed two distinct forms of transition (i) *sustaining transitions*, akin to a fork in the road, in which the new venture built on whatever capabilities and relationships had been created in the previous period to move forward, and (ii) *disruptive transitions*, which were akin to a cul-de-sac, in which the new venture had to move backward by dropping some the capabilities and relationships created previously, before moving

[4] These strategic activities include, *inter alia*: human capital re-positioning, digital optimisation, business model configuration, rapid user acquisition, internationalisation and acquiring external growth capital.

forward. In other words, it is how entrepreneurs and managers respond to, shape and capitalise on opportunities during the transition period arising from triggers (Sternad and Mödritscher, 2022) which ultimately determines their evolutionary trajectory. While these newer conceptual schemas afford much greater nuance around the discontinuous, punctuated and turbulent manner in which scaling takes place than traditional life-cycle approaches, they do little to shed light on the internal processes of how firms – and entrepreneurs — capitalise on trigger points to upscale a business.

2.4. Empirical studies of firm scaling

In recent years an embryonic literature has begun to emerge which attempts to conceptually unpack the core elements of scaling (see Shepherd and Patzelt, 2021; Gartner et al, 2024; Zeng et al, 2022). To date many scholars have focused on certain discrete activities associated with scaling such as business model configuration and user base growth. While the extant literature has delved into particular facets assumed integral to successful scaling, it has yet to properly establish the underlying mechanisms orchestrating the entirety of the scaling process. For example**, e**xamining the business models in over 90 successful Scandinavian scale ups, Nielsen and Lund (2018) identified 5 traits recurrent across these firms: adding new distribution channels; removal of traditional capacity constraints; outsourcing capital investments to partners; getting partners to assume multiple roles in the business model; and establishing platform models in which even competitors may become customers.

While business model configuration and user growth are considered central to successful scaling, however, they do not operate in a vacuum. Without other linked elements, scaling will not necessarily succeed. For example, many scholars stress the crucial role of raising external finance to enable the scale up process, especially in digital firms who are often pre-revenue for a number of years (Kerr and Nanda, 2015). Given the added value and relational connections available to firms funded by venture capitalists such as scouting, upskilling and coaching new ventures (Meglio et al, 2017), financing activity allows firms to obtain a critical resource, thus promoting a particular growth-enabling activity (Piaskowska et al, 2021). Another interesting recent case study of scaling in the Chinese firm, Tencent, shows the importance of relational connectivity with the firm's wider ecosystem and interaction between internal and external resources are what gives rise to the capabilities needed to scale (Zeng et al, 2022). Importantly, those scholars argue that the relational properties of interaction and integration between internal and external resources are what gives rise to the capabilities needed to scale (Zeng et al, 2022). Therefore, scaling arguably cannot be viewed as a singular or solitary activity, but rather as a holistic process facilitating organizational growth, replication and synchronisation (Jansen et al, 2023).

According to Shepherd and Patzelt (2021), the entrepreneurship field would benefit greatly from future studies that explain how knowledge management facilitates scaling; how scaling is influenced by founder replacement; and how current scaling influences the drivers of subsequent scaling. The central theme of their thesis is the pivotal importance of knowledge and social capital as a fundamental ingredient of scaling. They argue that as organisations grow, greater formalisation of knowledge transfer is required within firms. Therefore, scaling "is enhanced for ventures with higher intra-organizational social capital (i.e., structural, cognitive, and relational) than ventures with lower social capital" (Shepherd and Patzelt, 2021, p.4).

Another key element of scaling is the role played by the original founder and how they engage with other actors involved in the organisational scaling process. According to some, there are a dense array of so-called "beneath the surface" interactions between top managers and other parties as they make sense of the competitive environment, select appropriate responses, and liaise with stakeholders to secure needed resources, align behavior, and legitimize the proposed course of action" (Simsek et al, 2022, p. 2). However, It is also well established in the entrepreneurship literature that starting a venture and scaling a venture are two distinctive tasks both requiring different skillsets, relational connections, experience and knowledge (Shepherd and Patzelt, 2021). Therefore, how firms manage the difficult transition from a founder-led organisation to a professionally managed one is central to successful scaling. Indeed, comprehending this complex managerial succession process is often a crucial trigger instigating and/or impeding the scaling process (Kaehr et al, 2019) and something this paper sought to disentangle.

We can see that the concept of scaling has been sketched out in fairly broad-brush terms by scholars thus far, with a significant number of conceptual limitations remaining. First, much of the work is normative by nature and omits the fact that scaling is not a universally benign panacea. Just as periods of rapid growth often come unstuck due to managerial overstretch (Brown and Mawson, 2013), it is very likely that many firms undertaking periods of rapid scaling will encounter similar periods of jeopardy and organisational upheaval when these are executed ineffectively.[5] Some label this the "dark side of scaling" (Palmié et al, 2023) which arises when firms perform very well across some metrics (i.e. user growth) but much less effectively across others (i.e. profitability). Therefore, periods of rapid scaling are likely to be inherently disruptive and debilitating for some firms, resulting in their eventual demise. This is in line with the view that growth trigger points do not always equate with successful organisational outcomes unless handled adroitly (Brown and Mawson, 2013; Rees-Jones et al, 2024).

Second, whilst key components of the scaling process have been identified they have not, as yet, been properly examined and unpacked in a holistic manner. Furthermore, as others have noted, the crucial interconnections between scaling micro-foundations and processes have also yet to be properly explored (Shepherd and Patzelt, 2021). Thus, current conceptions of scaling seem inadequate and partial, focusing on individual components, be they business model configuration, user base growth, or founder succession, rather than viewing these as interconnected elements in a greater whole. Thus far, the literature has failed to properly establish the underlying mechanisms navigating the entirety of the scaling process. Some scholars maintain inductive research is needed to identify the core capabilities that underpin the different types and varieties of scaling (Jansen et al, 2023). It appears that the innate complexities and specificities of the scaling process requires much more detailed probing inside firms using the types of intensive research techniques often overlooked by firm growth scholars to fully explore the "black box" of scaling to build more empirically-informed theorisations of the scaling process (Hlady-Rispal et al, 2021; Simsek et al, 2022).

3. Method and data

As noted earlier, this conceptual paper seeks to understand the nature, core constituents and dynamics of scaling and to conceptualise how scaling is practically enacted within digital ventures. A common approach in conceptual papers is to start from a *focal theory*, arguing that a particular concept, theory, or research domain is internally incomplete (Jaakkola, 2020). This approach is sometimes called "theoretical elaboration" which occurs when pre-existing conceptual ideas or a preliminary model drives a study's design (Fisher and Aguinis, 2017). Herein, we draw on the increasingly dominant domain theory from high growth entrepreneurship, specifically the concept of "entrepreneurial leaps" and the dynamic firm "trigger points" model (see, e.g. Coad et al, 2021; Sternad and Mödritscher, 2022; Jibril et al, 2022; Tunberg and Gaddefors, 2022; Rees-Jones et al, 2024), linked to illustrative empirical data in an iterative process of theorisation (Lindgreen et al., 2021).

To address the observable shortcomings in the existing scaling

[5] Satterthwaite, S., & Hamilton (2017), denote HGFs as "shooting stars" on account of the ephemeral nature of rapid growth.

literature, we identify the dynamics of the scaling phenomenon and develop a conceptual process model of firm scaling (Cornelissen, 2017; Jaakkola, 2020). We do so by storytelling and sensemaking from one specific organisational context, where the data "illuminates the patterns and different types of processes that constitute entrepreneurial endeavours" (Van Burg et al, 2022, p.7). Single case studies, albeit infrequently deployed, have been shown to provide rich and compelling insights into the growth and scaling processes and strategies within entrepreneurial ventures (Vinnell and Hamilton, 1999; Gartner et at, 2024; Zeng et al, 2022). Such intensive empirical case studies have also been shown to provide the strong foundations required to engage in theory development (Eisenhardt and Graebner, 2007), whilst simultaneously revealing strong insights in the process of digital firm scaling (Zeng et al, 2022). Thus, the illustrative data from our case study serves to contextualise and enunciate our conceptualisation.

To this end, we adopted an abductive approach to account for "surprising observations in the course of experience" (Hansen, 2008, p. 457). This approach was crucial to enable theoretical elaboration. Owing to the intimate connection between theory and empirical data (Cornelissen and Durand, 2014), an abductive approach allowed for "empirical theorizing" using empirical findings to stimulate conceptualisation (Sætre and Van De Ven, 2021; Mithani and Kocoglu, 2022). Drawing on two key models to support theory development (see section 4.1), we cycled between extant theory and empirical observations to conceptualise the scaling process. This approach towards theorisation enabled us to frame entrepreneurial scaling as an "open-ended, iterative journey…..that entrepreneurs articulate and communicate via language" bringing theory and practice into closer alignment (Shepherd et al, 2021, p. 960).

Ethnography has often been described as a longitudinal research method, geared towards a "process based" understanding of organizational life (Sharpe, 2018). Our empirical data was collected over a twelve-month period (2018–2019) in a London-based Fintech organisation[6] via autoethnography, an approach to research and writing that seeks to describe and systematically analyse personal experience in order to understand cultural experience. Autoethnography refers to either an ethnography of one's own group, or to an ethnography that is "highly reflective of the situatedness of oneself in the context of study, and thus is likely to be more transparent about the role of the researcher than other methods" (Van Burg et al, 2020, p. 9). By deeply immersing oneself in a research site for a long period of time, everyday 'normal' and 'regular' aspects of entrepreneurial life can be witnessed, experienced, and captured. One member of the research team undertook the role of a participant-observer embedded in the organisation under examination (Brewer, 2000). This provided unique and powerful insights how organisations operate, enact changes and reconfigure themselves.

The spatial location for the study is important as London is one of the strongest ecosystems for Fintech businesses in the world. Fintech businesses are quite unique given their strong ability to undertake transformational user growth. Being home to around 40 % of all Europe's Fintech unicorns London provides an excellent vantage point to investigate the scaling process in this dynamic spatial/institutional context (Spigel, 2022).[7] London is also home to a number of major international venture capital (VC) firms which provide large sums of "smart money" to help nurture rapidly growing firms such as the firm examined herein (Brown et al, 2024). It is also host to a rapidly growing sub-set of Fintech firms aimed at financial services and associated products, which have witnessed incredible growth in recent years (Spigel, 2022). Crunchbase estimate that more than $500 has been injected into these types of Fintech firms over the past five years.[8] It appears that the locational context for the work strongly benefited the scaling process due to the unique agglomeration advantages evident in the London Fintech entrepreneurial ecosystem.

The data was collected via a research team member over a twelve-month period (2018–2019) acting as an overt embedded participant-observer in the organisation in question (henceforth 'Money4Kids').[9] The participant-observer had a dual role acting both as a consultant for Money4Kids and as an objective researcher. Practising participant observers are generally perceived to be better positioned to blend into the host environment than purely hands-off observers (Tillmar, 2020). This type of action research is likely to produce insights which cannot be "gleaned in any other way" thereby enabling theory elaboration from practice (Eden and Huxham, 1996, p.82). A further implication is that the researcher has the possibility of gaining a privileged insight into the lived experience of the firm examined (Sharpe, 2018). This allowed the capture and revelation of meaning-making processes that may have otherwise been hidden or concealed to outsider observers (Van Maanen, 2011).

A rough calculation is that the researcher took part in studying the firm for approximately 200 days which translates roughly to around 1500 h of exposure to the firm and its behavioural activities. During the observation period the researcher collected the information via, *inter alia*, observations and involvement of group and team meetings, structured and unstructured interviews, impromptu conversations, documentary analysis of organisational materials (for both internal and external audiences) and interrogation of commercial and operating data. Such multiple data sources allow for triangulation and internal validity (Brewer, 2004), highlighting to the researcher promising lines of empirical enquiry as they temporally unfolded, thus enabling theory construction in a timely efficient manner (Hammersley and Atkinson, 2019). Interestingly the ethnographic data collection process ended abruptly when the researcher was recruited by another rapidly scaling firm. Counterintuitively, these types of unplanned or premature exits from the research field can be beneficial for the *ex post* theorizing process (Michailova et al, 2014), especially if the researcher uses their sensemaking experiences to distance and disconnect themselves from the original research site.

In terms of data analysis, the qualitative data collected from interviews and field notes were analysed inductively to allow findings to emerge. Three of the authors (including the embedded researcher) coded the data independently, starting with open coding to identify emergent issues and themes before coding based on connections with theory and the literature (Johnstone, 2007). Emphasis was put on 'meaning' rather than 'words', to ensure the attention to nuance and detail that makes ethnography a powerful methodological approach for exploring organisations (Geertz, 1973). The researchers then compared their interpretations (Creswell, 1994), resulting in the creation of new analytical codes and themes (Leitch et al 2010; Yamamura et al, 2022). Different thematic issues then emerged from this analysis including, *inter alia*, founder succession, business model configuration, customer acquisition and access to finance etc.

Importantly, the embedded researcher was involved in key activities with strong exposure to key decision makers, including close engagement with the CEO and Top Management Team (TMT). The participant observer met with the other members of the research team roughly once a month to discuss, reflect upon and synthesise their experiences in the firm. In doing so, we hoped to catch indications of scaling "as they happen[ed]" (Brundin, 2007, p. 279) to best address what are inherently emergent processes which manifest over a long(er) period of time

[6] At the organisation's request, further sectoral and other identifying information is withheld to ensure anonymity.

[7] https://startupsmagazine.co.uk/article-london-fintech-capital-europe#:~:text=Over%2038%25%20of%20European%20fintech,second%20highest%20ranking%20city%2C%20Berlin.

[8] https://www.elinext.com/industries/financial/trends/fintech-apps-for-kids-and-teens/.

[9] Money4kids is a pseudonym; the real name of the firm has been withheld for confidentiality reasons.

(Davidsson, 2005). At the time the study began, the firm was undertaking key scaling activities such as acquiring significant volumes of new customers, implementing new HRM protocols, internationalising into new markets and securing additional external sources of funding.

4. Developing an empirically-informed conceptual model of firm scaling

In this section we will put forward and discuss a conceptualisation of firm scaling developed through our abductive process of theory building. As outlined earlier, we abductively cycled between our illustrative empirical analysis (via the ethnographic study) and relevant theoretical and conceptual framings from the firm growth and scaling literature. The context for the longitudinal ethnographic study was "Money4Kids", a London based fintech firm offering a unique pre-paid debit card offering for children aged between six and eighteen. Money4Kids was originally founded by an English female entrepreneur and began trading in 2012 after several years of background research into youth banking products and wider consideration of financial literacy issues amongst children and young people. The founding entrepreneur had no entrepreneurial or financial services experience *per se*, but she had strong experience of logistics and customer service.[10] Money4Kids developed a pre-paid debit card embedded within a subscription-based business model, the first of its kind in the UK at the start of the Company's trading. It is now one of several players in this market space, but remains the market-leader that has undergone significant scaling since its inception.

This section starts by outlining the framing adopted from the literature to support theoretical development, specifically Brown and Mawson's (2013) trigger points process model linked to Sternad and Mödritscher's (2022) conceptualisation of transitions or 'entrepreneurial leaps' between different dynamic organisational states. Building on ethnographic empirical data from the Money4Kids case, it will then present and discuss a conceptualisation of firm scaling, specifically considering the role of various discernible triggers in developing the micro-foundations required to instigate and support scaling.

4.1. Framing to support theory development

As discussed earlier in this paper, the scaling literature has largely been devoid of work to conceptualise and build theory to help holistically explain the process of firm scaling. As shown earlier, elements of scaling have been conceptually unpacked but not the process of scaling in its entirety. In recent years a number of conceptual models have emerged with the potential to have explanatory power in terms of understanding firm scaling. As noted previously in Section 2.2, dynamic models of firm growth have gained traction in the literature given their ability to theorise as to the processes and mechanisms underpinning empirical observations of organisational upscaling. This is particularly relevant for theorising, as scaling is recognised to be an *iterative process* whereby firms overcome an evolving series of managerial challenges which reorient to new developmental trajectories (Coviello, 2019).

To support theorisation of a process-based conceptualisation of firm scaling, two key models have been used as a theoretical framing to support further theory development. First, we build on Brown and Mawson's (2013) model of trigger points to help identify points of change which act as a catalyst to fundamentally reconfigure a firm and its operations to support scaling. The concept of trigger points is fundamentally shaped by a number of different endogenous, exogenous and co-determined events which fundamentally instigate change within an organisation (Brown and Mawson, 2013). After experiencing an initial trigger, firms are recognised to enter a pivotal 'transition phase', during which time firms respond to initial triggers (see Fig. 1 below). To support theorisation, we also build on Sternad and Mödritscher's (2022) conceptual model of transition, whereby firms take steps to adjust and amend their operations to capitalise on the 'adaptive tension' (p.21) provided by a trigger in order to shift their company's developmental trajectory via an 'entrepreneurial leap'. This conceptual framing emphasises the non-linearity of firm development, yet supports identification of key thematic elements and development patterns which shape both entrepreneurial intentions and managerial challenges. This is of particular relevance when theorising about firm scaling.

4.2. Empirical observations of scaling from Money4Kids

Our abductive approach to theory development has drawn on empirical data and observations from our Money4Kids ethnographic case. Fig. 2 below shows a timeline of the firm's temporal evolutionary journey, depicting key events shaping their scaling process. After developing their prepaid debit card and commencing trading in 2012, the company directors determined a strategic focus on scaling the business with their motto being to "*scale without growing pains*". This corresponded with the launch of their first direct competitor in the UK (Competitor A), reaffirming their thoughts on the market potential of their offering. They raised a small amount of funding Series A (£250 k from high-net worth investors £1.7 m through convertible loan notes) to support renaming and rebranding the organisation to better align with their product and market messaging and to invest in additional marketing.

The following year, in 2014, Money4Kids started to put in place the foundations for intensive scaling. Most critically, they recruited a new CEO with a strong track record of scaling consumer web businesses (including a number of US-based Unicorns) who instituted a range of performance metrics based on unit economics, particularly around customer acquisition and retention. To support this process, the company raised a further £1m from high-net worth investors. By 2015 Money4Kids was seeing strong traction in the market, as well a wider market development including the launch of their first US-based direct competitor. The company recognised the need for further funding to support its development so in addition to raising funding via a number of convertible loan notes, they started to explore crowdfunding as a potential source of funding. In 2016 they launched their first crowdfunding campaign on the UK equity crowdfunding platform, Crowdcube, raising £4m which was earmarked for technical infrastructure as well as to support internationalisation into the US market which was seen as a lucrative market to enter.

Additional competitors in the UK and the US started operating, challenging Money4Kids' offering in certain respects (e.g. by offering a

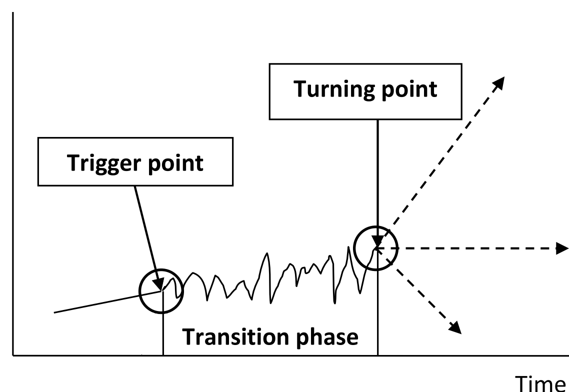

Fig. 1. Growth trigger process.
Source: Brown and Mawson (2013).

[10] Interestingly, the firm excelled on these aspects which helped cement customer satisfaction which was a keen determinant of the firm's initial success. Thanks to one of the anonymous reviewers for pushing us on the entrepreneurial backstory of the founder of Money4Kids.

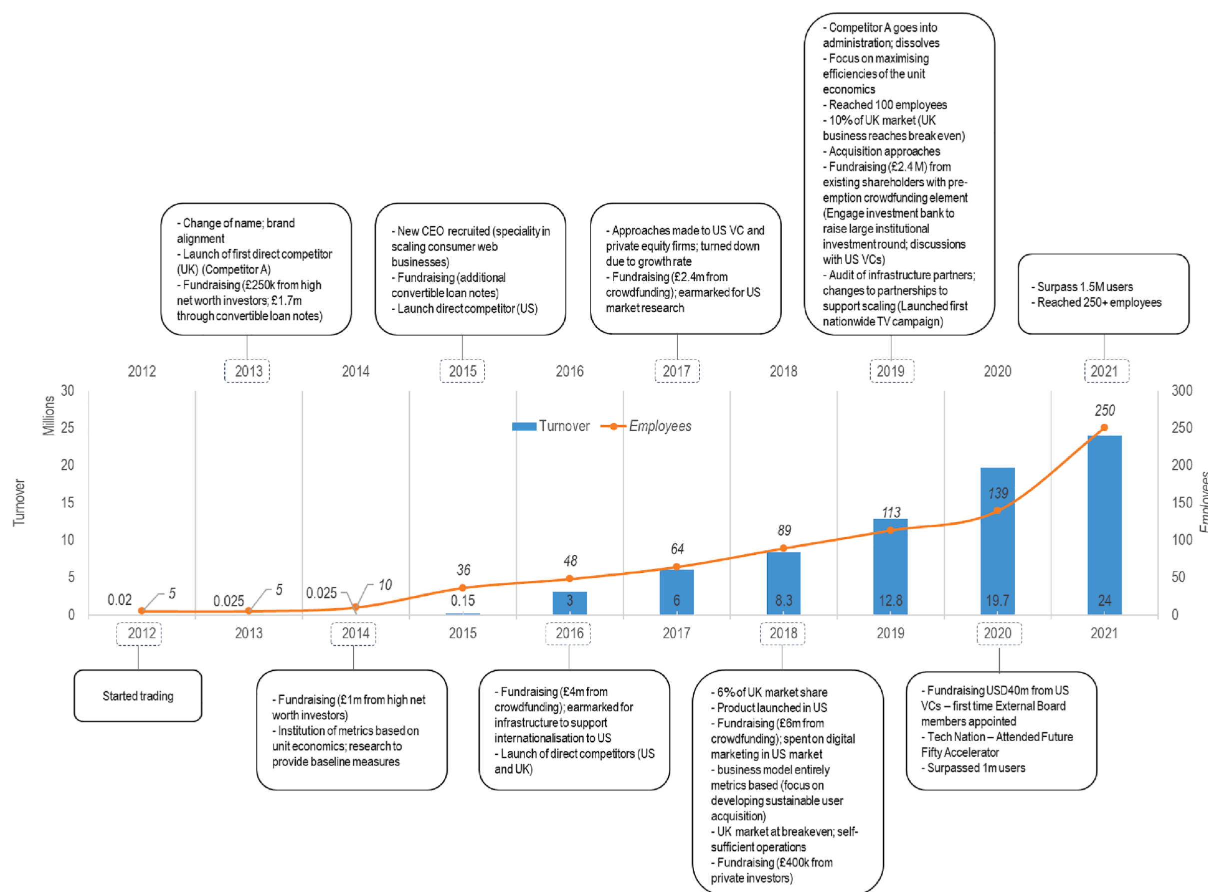

Fig. 2. Timeline of Money4Kids scaling journey.

free service, rather than a subscription business model). The company continued to develop as planned, prioritising the fine-tuning of the unit economics and performance metrics rather than seeking to implement product developments or internationalise to new markets faster. As a result, the company saw limited turnover growth, with the firm remaining pre-revenue between 2012–2016. To further finance expansion into the US, in 2017 Money4Kids made a number of approaches to US-based Venture Capital and Private Equity firms, but were consistently declined by VCs due to their perceived modest growth rate. These funders remarked that they would expect to see such Fintech firms growing much more rapidly, and that turnover growth was preferable to the sustainable business model that Money4Kids was prioritising. To compensate for this lack of funding, Money4Kids again turned to crowdfunding to fund their US market research and development, raising £2.4 m in Q3 of 2017.

By 2018, Money4Kids had reached a UK market share of 6 % and financial breakeven. Operations were nearly self-sufficient and turnover growth was occurring, corresponding with growth in employees, starting a period of intensive growth in turnover/employment. By 2018 Money4kids were the 8th fastest growing company in the UK according to the Sunday Time tech track (Sunday Times, 2018). This rapid growth provided financial stability which allowed the company to prioritise international development, launching their offering in the eastern states in the US. In addition, Money4Kids embarked on an ambitious fundraising campaign to support further scaling, raising £400 k from private investors and £6m from a third round of equity crowdfunding. Additionally, turnover growth increased substantially. In 2019, seeing turnover growth of over 50 %, the company reached 100 employees in the UK. With performance metrics in place coupled with strong user growth, the organisation shifted focus to maximising the efficiency of these unit economics. To manage the sizable (and growing) headcount, a professional HR manager was recruited to develop and implement HR procedures across the organisation. This was a particularly successful year for Money4Kids: they reached 10 % share of both UK and US markets, with US revenue matching – and then exceeding – UK revenue and a low monthly churn rate of customers 1.5 %.

The company was subject to a number of acquisition approaches from other UK and US based Fintech firms, but remained independent as initially envisaged. This owed to their belief that a premature exit wouldn't maximise their expected windfall from the business. Therefore, it reopened discussions with US-based VC firms, whilst also undergoing an audit of its infrastructure partners to ensure fitness to support further scaling and raising £400 k from private investors. Against this backdrop, Money4Kids' first UK competitor (Competitor A) went into administration and dissolved, citing instability of their financial model. Despite the challenging trading conditions arising from the Covid-19 crisis, Money4Kids saw continued scaling in 2020 due to large uptake in contactless payments which occurred during the pandemic, continuing its trend of c.50 % year on year revenue growth. By the end of 2021, the firm had over 2 million users and 188 staff members. After a protracted 18-month negotiation due to Covid, they completed a transformative fundraising round of Series A VC with US VCs of $40 m to support operational expansion, thereby achieving a company valuation of £90 m. Following this successful raise one of the partners of the VC and another accomplished CEO and marketing expert both joined the Board of Money4Kids.

4.3. Conceptualising the digital firm scaling process

It is now our intention to advance a conceptualisation of the scaling process. In essence, there appear to be core micro-foundations, or activities and processes underpinning firm scaling (see Fig. 3 below).

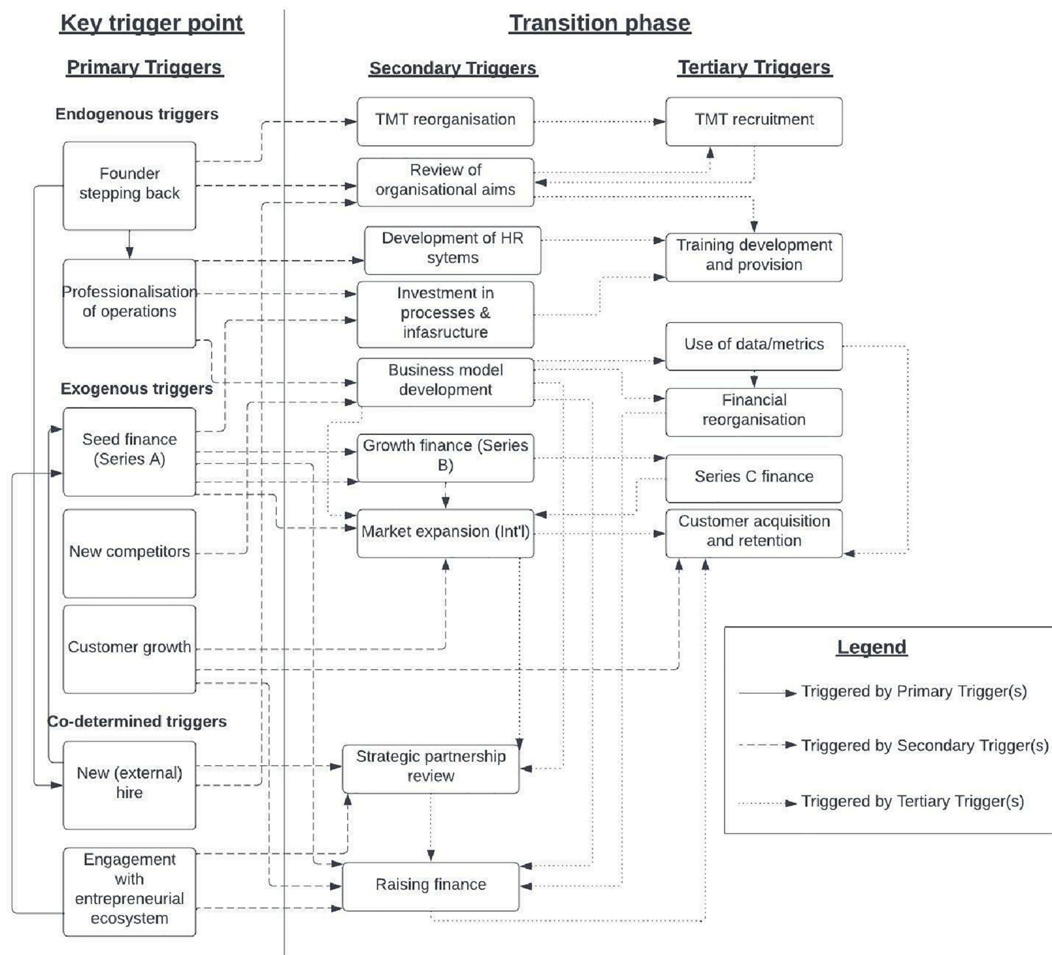

Fig. 3. Processual model of Digital firm Scaling. *Source*: Authors.

These largely arise in response to key moments of change within the organisation, where they capitalised on so-called 'triggers points', whereby organisations attempt to respond to the effects of such triggers during a tumultuous 'transition phase' (Brown and Mawson, 2013) by "building infrastructure, changing structures and processes developing new products or services, or enhancing capabilities and skills" (Sternad and Mödritscher, 2022, p. 972). Critically, during a transition phase triggers may also interact to cause additional secondary (or even tertiary) triggers. This implies that firms face an even greater state of flux and set of managerial choices and challenges than current scaling models fully account for. We will now conceptualise the firm scaling process by considering in detail the role of primary triggers (endogenous, exogenous and co-determined), as well as the resulting transition phase linked to secondary and tertiary triggers.

4.3.1. Primary triggers

4.3.1.1. Endogenous triggers. Scholars maintain that a firm's accelerated growth depends on both endogenous factors and exogenous factors (Belitski et al., 2023). In our conceptualisation, endogenous triggers occur as a direct consequence of actions taken within the company itself. A key endogenous trigger in the scaling process relates to human capital repositioning, whereby the original founder(s) migrate away from the TMT to a less hands-on (often a non-executive role) position within the firm. As other scholars have noted, starting a new business venture and scaling a venture are two very different discrete tasks requiring different skillsets, relational connections and experience (Shepherd and Patzelt, 2021). The transition from a founder-led venture to a more professionally managed firm is a crucial primary trigger in the scaling process and one fraught with potential pitfalls, especially when founders fail to acknowledge their managerial limitations (Shrivastava and Higgs, 2023).

As we saw with Money4Kids, the replacement of the founder with a new CEO with prior industry experience of scaling major consumer businesses (a primary co-determined trigger) moved the firm onto a different trajectory, one actively focused on scaling the business nationally and internationally. It was widely acknowledged within Money4Kids that this elevated the cognitive mindset of the firm firmly towards a much more professionally run and ambitious organisation – and one with a global outlook. In this instance, the new TMT was able to impart a discernible culture of scaling within the organisation, working to create both an overarching organisational goal and a set of underpinning structural processes to support this ambitious scale-oriented culture. This chimes with other work showing how previous management experience increases the capabilities to achieve rapid growth (Demir et al, 2017; Kaehr et al, 2019).

As a consequence of the introduction of a more professionally run business operation, necessitated by the reconfiguration of the new TMT and driven by the new CEO, a raft of other processes and developments became embedded into Money4Kids which enabled further scaling. During the onset of the new management, our employee noted that the firm began to "*grow the team beyond the current size of the business*". It was noted earlier how growing headcount in the firm led to the appointment of a professional HR manager who was recruited to develop and implement HR procedures across the organisation. When organisations grow rapidly they can often encounter difficulties maintaining effective

HRM systems, a by-product of which can result in poor recruitment decision-making (Hambrick and Crozier, 1985). Indeed, a key distinguishing feature of rapid scaling is the abnormal need to recruit new employees in a short time frame, hence the need for good HRM systems to manage this effectively. Therefore, having the ability to upgrade and leverage employees' skills has been shown to depend largely on effective HRM systems and practices in the firm (Barringer et al., 2005; Demir et al, 2017). These types of formalised processes are crucial for maintaining the effective management of human capital within a rapidly developing operation. They are also vital for overseeing a good culture of positive workplace relations within organisations which are conducive to strong employee involvement and commitment.

4.3.1.2. Exogenous triggers. Exogenous triggers are largely driven by external actors, be they investors, institutional actors, customers or stakeholders. As evidenced within Money4Kids, raising growth capital to finance organisational expansion is a key primary trigger to support firm scaling. A fundamental element when raising finance is the ability of a firm to engage in relational interactions with financiers and other external investors (van Rijnsoever, 2020). A key source of growth capital for innovative scaling firms, especially in the digital realm, is equity finance given the inherently risky nature of these informationally opaque firms which precludes them seeking other types of mainstream debt finance (Kerr and Nanda, 2015;). This is often obtained either directly with the investors –such as venture capitalists (VCs) or business angels (BAs) – or via other intermediaries within an entrepreneurial ecosystem such as equity crowdfunding platforms or business accelerators. Accessing these equity investors with 'deep pockets' to help scale firms is often problematic especially in Europe compared to the US owing to paucity of major VCs in some European countries. In addition to capital, VCs can confer invaluable additional benefits in the form of advice, mentoring and social capital associated with this kind of "smart money" (Lerner and Nanda, 2020). They may thus shape the operational development of the investee firm by driving the replacement of a founder with a professional TMT (Gerasymenko and Arthurs, 2014), often simultaneously improving firm performance (Ewens and Marx, 2018). Therefore, obtaining major growth finance from equity investors (often overseas based VCs) plays a pivotal role as a micro-foundation of scaling, as demonstrated by the successful VC raise by Money4kids in 2020.

Another important exogenous primary trigger with implications for firm scaling is a change in the competitive landscape, particularly the emergence of new direct competitors. Identification of new competitors in the UK and abroad instigated a focus on business model development within Money4Kids with regard to market expansion. While for many firms (especially SMEs) internationalisation can be a random or almost an accidental process (Kiss et al, 2012), even for so-called "born globals" (Hennart, 2014), an awareness of the competitive landscape (and of market potential) plays a significant role in positioning for scaling. Instead of seeing new competitors in the UK as a threat to scaling, Money4Kids interpreted this change in competition to mean that the concept of pre-paid debit cards for children had gained strong market traction and thus demonstrating it as a growing proven market niche.

4.3.1.3. Co-determined triggers. Co-determined triggers are more challenging to classify as they are neither purely the result of actions within a firm, nor the result of external actors or forces (Brown and Mawson, 2013). Rather, such triggers represent a combination of internal and external elements. Fundamentally linked to the primary endogenous trigger of a human capital repositioning from a founder stepping back is a new external hire. Hiring a new external member of a firm's TMT, particularly a new CEO, is recognised to be a precarious challenge for entrepreneurial ventures (Kaehr et al, 2019**)**. Not only might an external CEO have limited understanding of a venture's core offering (particularly from a technical perspective), they may also have a detrimental effect on team dynamics and learning (Clarysse and Moray, 2004). This can sometimes arise due to the involvement of recruitment consultants in the hiring process with little knowledge of their clients. Yet external or 'outside' CEOs can also bring positive effects in terms of scaling activities such as business model development and international market development (Gerasymenko and Arthurs, 2014), as evidenced within Money4Kids.

It is now recognised in the scaling literature that connections to external actors are crucial (Zeng et al, 2022). These also acted as a crucial co-determined trigger in the scaling of Money4Kids. Connected to the central importance of finance in the scaling apparatus of firms is the ability to interact, connect with and successfully navigate other institutions and entrepreneurial actors within a firm's entrepreneurial ecosystem (EEs). Indeed, there is a sizeable and rapidly growing literature demonstrating the crucial role of relational connections and networks underpinning the nature of different ecosystems (see van Rijnsoever, 2020; Rocha et al, 2021). It is now well accepted that some EEs offer unique resources, such as specialist finance, repositories of knowledge and human capital, which then confer on firms' specialist assets to help them scale. A good example of an EE offering firms these specialist assets is London's Fintech EE (Spigel, 2022) which meant that being located in London offered the firm a unique array of benefits to help them scale the firm.

We saw from the case examined herein that in terms of obtaining external finance, Money4Kids used other actors in the London EE to raise early-stage growth finance via the London-based crowdfunding equity platform, Crowdcube.[11] Often a key benefit of this form of investment is the speed of raising this form of equity finance which in turn enabled the company to gain resources for scaling at a critical juncture for the firm. Furthermore, they also used other actors in the London EE, such as a major investment bank to help them obtain a major VC fund raising exercise in 2020. The success of these fundraising episodes was central to the firm's ability to upscale and was undoubtedly facilitated via their strong relational connections in the local Fintech EE.

4.3.2. Transition phase and interconnected subsequent triggers

As primary triggers act as a catalyst for change, they mark the beginning rather than culmination of the scaling process. It is not the trigger itself that matters for firms, rather it is what these organisations do in response to the primary triggers (Brown and Mawson, 2013). Critically, for understanding scaling, primary triggers appear to cause a 'chain reaction' of further secondary and even tertiary triggers instigating firm development and scaling processes. Thus, post-trigger transition is far more complex that currently accounted for in extant models, where the assumption generally is that firms predominantly work to adapt to the outcomes of a single primary trigger point. This marks an important theoretical contribution by elaborating on the prior concept of triggers via the process of "construct splitting" (Fisher and Aguinis, 2017) and emphasising scaling as a process, rather than outcome.

What our illustrative case strongly shows is the cumulative and interconnected nature of trigger points. As discussed, within Money4Kids the primary trigger of a new TMT (and the subsequent hiring of a new outside CEO) resulted in a number of secondary and tertiary triggers which sparked further scaling of the firm. One of the most important was a refinement of the company's business model (i.e. towards a subscription model) emphasising aggressive customer acquisition and high rates of retention, which was directly linked to the CEO's prior professional experience as well as personal preferences in terms of firm management strategy. The business model provides a pathway by which technological innovation and knowhow combined with the utilisation of tangible and intangible assets are converted into a stream of profits

[11] In 2016, the firm raised £4m via the equity crowdfunding platform, Crowdcube.

(Teece, 2018). While commonplace in the sphere of digital businesses, subscription-based business models are not often deployed by banks and payment firms who typically charge fees based on the transactions undertaken. However, the decision by Money4Kids to deploy a subscription model was a novel approach which effectively guaranteed a recurring income stream from their service even when their customers do not utilise the product. According to some, the "path to profitability" and scaling is business model design and should be a fundamental objective when scaling digital firms (Teece and Linden, 2017; Nielsen and Lund, 2018). Indeed, business model configuration is seen as a core element of a firm's dynamic capabilities and essential for ensuring superior firm performance (Teece, 2018).

Another modification of the firm's organisational business model configuration came when they decided to audit the firm's payment partners at the bequest of the new CEO, who felt that existing partners did not have the capacity to scale in parallel with Money4Kids. This then led to them moving to a much larger and more reliable payment partner. This strategic choice of partners chimes with others who have examined successful scalable businesses (Nielsen and Lund, 2018; Zeng et al, 2022). The review of strategic partnerships was also linked to plans for market expansion, where further partners were required to support their overseas operations. Money4Kids focused their initial market entry to the US for a variety of strategic and operational reasons. The US represented a significant opportunity given the size of the addressable market and detailed market analysis by the firm demonstrated that the UK model was directly relevant and could be successfully replicated in that context. Comprehensive research by the firm revealed strong similarities between the US and UK in terms of demographics, value proposition appreciation, and growing mobile banking coupled with a history of children receiving pocket money. This reflects observations in the literature that many such "born digital firms are readily scalable" (Monaghan et al, 2020, p. 18). In other words, they are able to quickly leverage economies of scale in their core business processes, thereby allowing for early and rapid international growth. Instead of evolutionary internationalisation common in many typical firms, the manner in which "born digitals" internationalise is more likely to be time-compressed involving a minimal physical footprint (Monaghan et al, 2020). However, due to the heavily regulated nature of the product, Money4Kids could not internationalise ubiquitously (like a music streaming service Spotify) which again speaks to the heterogeneity within scaling of digital firms (Stallkamp et al, 2022).

Finally, revisions to Money4Kids' business model resulted in a new focus on metrics to measure and track key performance indicators such as the rate of new subscribers, speed from registration to account activation and account attrition. While maintaining a strong focus on such metrics is necessary to keep a track on operational developments, it is also vital to be able to demonstrate the validity of as business model to future investors who are also often very metric-driven (rather than turnover *per se*) when making important investment decisions. This type of tertiary trigger arises due to the result of the interconnected secondary trigger (i.e. more professional TMT).

5. Discussion of theoretical implications and contributions

In the previous section we have attempted to provide an empirically-informed conceptualisation of firm scaling using Brown and Mawson's (2013) and Sternad and Mödritscher's (2022) models as our conceptual framing to support our theoretical elaboration. To date, nobody to the best of our knowledge has undertaken this form of nuanced conceptualisation within firm scaling literature. In doing so we have outlined how primary triggers (endogenous, exogenous and co-determined) instigate a periods of change, from which firms address a number of managerial challenges (in the form of secondary and tertiary triggers) in order to build firm-level micro-foundations to support the process of organisational scaling. We have identified a number of key primary triggers and related managerial challenges which are undoubtedly generalisable to a wider population of firms. Critically, we have outlined how these interact, identifying that firm scaling is an iterative process whereby a firm actively reconfigures itself organisationally, operationally and culturally with the view to becoming a larger and more well-developed entity. This is of particular relevance for both digital fintech companies and ambitious entrepreneurial ventures more widely (Monaghan et al, 2020).

At the heart of our conceptualisation are crucial and multifaceted primary triggers which in turn engender various organisational transitions, during which time the micro-foundations of scaling are developed and deployed as firms experience and respond to additional interconnected secondary and tertiary triggers. These micro-foundations also enhance a firm's dynamic capabilities, which appear to be crucial to support scaling activity over time. Whilst we would agree with others that the scaling process is likely to have variances across firms, and also across different sectors, we would argue that the development of certain processes and practices required to successfully scale a business are to some degree universally applicable. In other words, scaling is a consciously enacted accretion and accrual of particular processes and activities linked to key managerial challenges, rather than some random accidental consequence of rapid growth.

Unlike others, such as Shepherd and Patzelt (2020) who attribute knowledge to be at the heart of scaling, our conceptualisation stresses organisational processes and managerial capabilities (managerial/organizational, financial, innovation) enacted by entrepreneurial management. In short, people trump knowledge in terms of scaling. Therefore, herein we identified human capital processes as a crucial mechanism inculcating a culture of scaling within firms. The orchestration of these people-centred capabilities is crucially important and links to prior theoretical concepts such as Teece's dynamic capabilities which stresses the need for adept entrepreneurial management – "doing the right things at the right time"- to drive business performance (Teece, 2016). This important finding aligns with other literature on the role of people in high growth firms which emphatically stresses the centrality of "founder level dynamic capabilities" as the lynchpin mediating rapid growth (Rees-Jones et al, 2024). Innovative and creative entrepreneurial human capital is the central element of the successful scaling repertoire, driving organisational processes such as the professionalisation of business operations, development of new internal procedures and processes and engagement with the relevant stakeholders needed to ensure further operational upscaling.

6. Conclusions

In this paper we have sought to explicate and conceptualise the processual nature of firm scaling in digital entrepreneurial ventures. Our key research objective was to explore the 'black box' of scaling to better understand the micro-foundations and dynamics of scaling and to conceptualise how scaling is practically enacted within digital ventures. To accomplish this, we developed and discussed a process-based conceptual model of firm scaling building on empirical insights collated from a methodologically innovative longitudinal ethnographic study of a London-based Fintech undergoing the process of scaling. Under our conceptual framework posited, entrepreneurial human capital and successful scaling are indivisible.

In proposing this process model of firm scaling, we see this as a starting point to help inform and develop the nascent conceptual literature on firm scaling. At the heart of scaling lies key organisational triggers, which we now understand to be deeply interrelated. Our model enabled us to undertake theory elaboration via a process of "construct splitting", which occurs when existing constructs are split into specific dimensions to provide accurate portrayals of the different elements of those constructs (Fisher and Aguinis, 2017). Our delineation of various trigger points (primary, secondary and tertiary) is central to the scaling model posited and offers an important form of theoretical development by elaborating the original growth trigger model initially posited by

Brown and Mawson (2013).

From our work, we have identified scaling to be an intentional, deliberate and calculative process to hone a firm's dynamic capabilities. While the scaling literature thus far has tended to compartmentalise scaling, we found that successful scaling often entails orchestrating multiple constituent elements including, *inter alia*: human capital repositioning, digital optimisation, business model configuration, rapid user acquisition, internationalisation and acquiring external growth capital**.** It involves the accretion of new resources/capabilities whilst simultaneously overcoming competing multiple managerial challenges. While no two firms are likely to evolve in precisely the same manner, we view the scaling process as having certain "core" constituent elements determining the effectiveness of successful scaling, which are relevant to a wide range of firms, particularly those operating in the digital space. Undoubtedly, the salience of this conceptual model has strong implications for other digitally oriented firms, which arguably have a certain *modus operandi* underpinning the scaling process.

So why are people so pivotal to scaling? Strategic leaders strategically "sense and seize" opportunities for growth and then reconfigure the organizational transformations necessary to scale enterprises (Simsek et al., 2015), endorsing the viewpoint that "leadership explanations should occupy a more prominent role in explanations of scaling" (Jansen et al, 2023, p. 24). Recently there have been further calls, which we would also endorse the need for a greater incorporation of the human side of growth and scaling (Raby et al, 2022). According to Teece, the theory of the firm "can be less of a caricature if it can embrace the idiosyncratic characteristics of managers and organizational processes" (Teece, 2016, p. 215). Our work has powerfully demonstrated that scaling is an innately *people-centric*, process-based iterative phenomenon, involving a multi-dimensional range of interrelated and co-evolutionary activities and dynamics. This strong people dimension, coupled with a (sometimes) limited resource base, perhaps calls into question the universal veracity of existing theoretical constructs (such as the RBV) commonly adopted by scholars to help explicate and conceptualise the scaling process (see, for example, Giustiziero, et al, 2023).

As always there are limitations with our approach. An important caveat is the unique nature of the Fintech sector which makes accelerated scaling achievable via rapid user growth coupled with a relative ease of market development and internationalisation. Other firms may face additional challenges impeding their scaling trajectory. Our methodological approach, whilst particularly helpful for theorisation, may also result in potential limitations. A common criticism of ethnographic methods is their lack of objectivity due to cognitive biases exhibited by the researchers immersed in a new organisational setting (Johnstone, 2007). We acknowledge this as a plausible drawback. However, we feel this is more than outweighed by the depth of knowledge and the powerful insights garnered by adopting this research technique. We also openly concede that basing our conceptual framing on a single case incurs limitations in terms of generalisability to other organisational contexts. We would thus encourage others to investigate the process of scaling over a wider gamut of entrepreneurial ventures and contexts, ideally drawing on further diverse methodological approaches to support further theorisation and conceptualisation of what is an inherently multifaceted, complex and fascinating entrepreneurial phenomenon.

CRediT authorship contribution statement

Ross Brown: Writing – review & editing, Writing – original draft, Supervision, Methodology, Investigation, Formal analysis, Conceptualization. **Suzanne Mawson:** Writing – review & editing, Writing – original draft, Investigation, Conceptualization. **Augusto Rocha:** Writing – review & editing, Writing – original draft, Visualization. **Alex Rowe:** Validation, Methodology, Investigation, Conceptualization.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The authors do not have permission to share data.

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Ross Brown works at the University of St Andrews and is a leading entrepreneurship scholar specialising in entrepreneurship research, entrepreneurial ecosystems, small business finance and high growth entrepreneurship. He has published extensively on these topics in leading entrepreneurship and innovation journals such as Research Policy, Small Business Economics, Regional Studies and the International Small Business Journal.

Suzanne Mawson is a Senior Lecturer who works at the Hunter Centre for Entrepreneurship at the University of Strathclyde. She is a leading figure in the field of high growth entrepreneurship, customer engagement and entrepreneurial ecosystems. She has published in leading entrepreneurship journals such as Research Policy, Industrial Marketing Management and the International Small Business Journal.

Augusto Rocha is a Lecturer who works for the University of Edinburgh. His research focuses on entrepreneurship and firm scaling with a strong focus on entrepreneurial finance. He has published extensively in leading entrepreneurship journals such as Research Policy, Regional Studies, the Journal of Business Venturing Insights and the International Small Business Journal.

Alex Rowe is an honorary Research Fellow at the University of St Andrews. Alex has participated in a number of entrepreneurship-related research projects and is an expert in firm scaling, entrepreneurial finance and ethnographical research methods. Alex has published in leading journals such as Industrial Marketing Management and the International Small Business Journal.