Chapter 3
Stages of Growth Models

Stages of growth models are important for understanding scale-ups. One of the differences between scale-ups and HGFs is that research on HGFs does not take growth stages into account, as long as growth is fast enough. This chapter presents Steve Blank's 4-stage model of firm growth, where scaling up is stage 3. Hence, scaling-up does not occur directly at birth, among the youngest firms, but preparation is needed before scaling up. Differences between scaling up and so-called blitz-scaling are also discussed.

3.1 Stages of Growth Models and Their Discontents

Young firms go through considerable metamorphosis as they grow to become large mature organizations. Researchers have investigated the idea that firm growth unfolds according to a set of pre-determined stages. Prominent in this strand of literature is Greiner (1998; first published in 1972). Greiner's model starts with the case of an entrepreneurial young venture in which employees enjoy frequent and informal communication with the founding entrepreneur(s), known as the creativity stage. Then, after a crisis of leadership, a capable business manager is hired and business processes become more professionalized. Then, after a crisis of autonomy, the firm enjoys a period of growth through delegation, as the organizational structure becomes decentralized, and managers and employees are motivated by greater responsibility and financial incentives. The next stage emphasizes coordination through the use of formal systems such as planning systems and control & review procedures. Finally, the fifth stage prioritizes interpersonal collaboration and team action as a counter-reaction to perceptions of excessive bureaucratic red tape. Besides Greiner's model, other stages of growth models have also been proposed.

Stages of growth models have been investigated in empirical research. When submitted to rigorous analysis, stages of growth models do not give precise guidance

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for the real-world growth process because firms may pass through the stages in different orders, or keep facing the same problems many times, or perhaps even entirely skip some stages (Levie and Lichtenstein, 2010). As such, stages of growth models can give a useful rough idea of the types of challenges faced by growing firms, but they should not be taken too literally.

3.2 Scaling up as a Stage of Growth

At a basic level, the idea of two stages in the firm's life course is implied by slogans such as "from startup to scaleup" (Duruflé et al., 2017; Reypens et al., 2020; Vandresse et al., 2023) and "nail it then scale it" (Furr and Ahlstrom, 2011). Subsequent authors went beyond two stages, e.g. Piaskowska et al. (2021, p. 1): "we propose to define scale-ups as high-growth firms at an intermediate stage of organizational development (situated between the start-up and mature firm stage in the organizational life cycle), which pursue strategies that prioritize the attainment of economies of scale."

As such, the timing of scaling up is important (Hoffman and Yeh, 2018; Lee and Kim, 2023). Scaling-up is not something that firms should do from day 1, and scaling up is not something that firms should always be doing. Instead, scaling up is recommended only when "the time is right" (Hoffman and Yeh, 2018, p. 121) and conditions are favorable, i.e. when initial product development and testing stages are finished, when a product-market fit has been found, and the core business idea is sufficiently developed that it can be replicated at scale: "Scale-up is a stage when a company takes a *proven concept* and delivers it to a wider audience, often through market penetration and geographic expansion" (Hellmann and Kavadias, 2016, cited in Coviello, 2019, emphasis ours).

Similar in spirit, Contigiani and Levinthal (2019, p. 554) link scaling-up to the stages of a lean start-up approach:

> Specifically, the lean start-up approach explicitly distinguishes between a learning intensive phase, where the venture looks for product market fit, and a scaling phase, following the achievement of product market fit … the emphasis on self-conscious, dedicated effort on experimentation is specific to the first phase, while the leveraging of the learning obtained is central in the second phase.

In this vein, Sutton and Rao (2016, p. 269) warn against 'premature scaling' which involves adding employees before they are needed. "Hiring too many people too soon burns through cash, creates unnecessary administrative burdens, undermines innovation, and causes companies to focus on landing customers before they have anything worthwhile to sell them."

Figure 3.1 shows the "stages of growth" model put forward by Blank (2013), which helps illustrate the idea of scaling up.

With stages of growth models, it is easy to get an impression of the intuition behind this broad heuristic, although such an impression is vague and becomes difficult to empirically define when one starts to examine the details. This means that being a

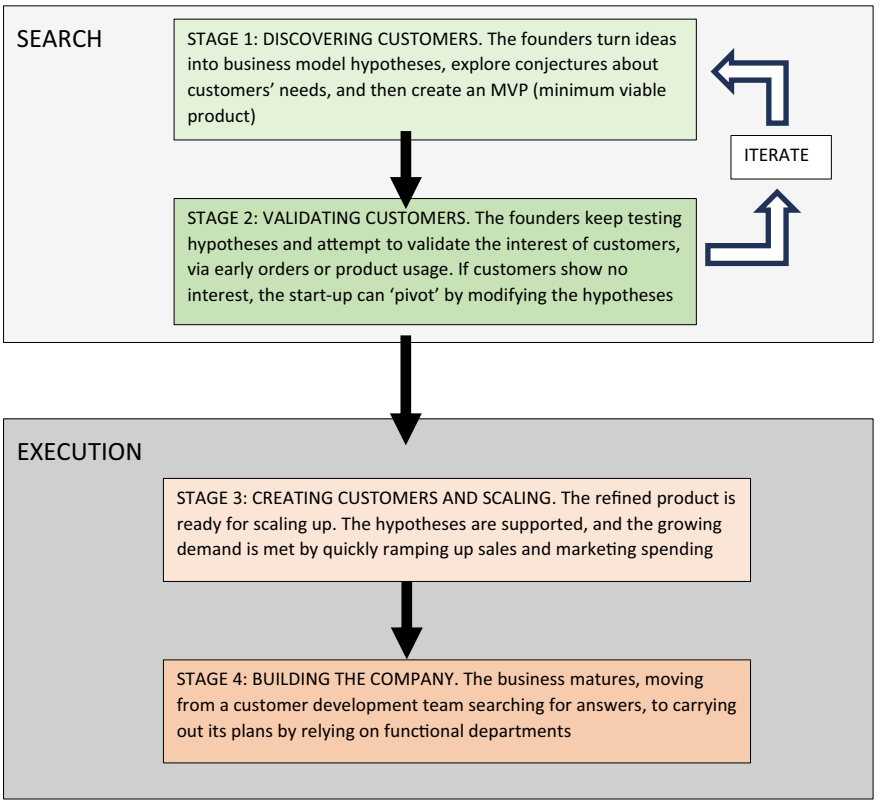

Fig. 3.1 Scale-up as stage 3 in a 4-stage growth model *Source*: our elaboration, inspired by Blank (2013) and Blank and Dorf (2020, Fig. 2.1) (Color online)

scale-up is not a stable trait of a firm, or a stable category of firms, but a short-lived episode. Furthermore, we can expect all the usual problems of "stages of growth" models (Levie and Lichtenstein, 2010), including that stages may not appear in order, firms may enter the various stages more than once, or perhaps in parallel, or perhaps not at all. In particular, many (probably most) firms will never be in a position where scaling up would be appropriate, if for example their core business idea has not achieved remarkable product-market fit that makes it amenable to massive growth in circumstances of near-zero marginal costs of production and distribution (Masters and Thiel, 2014). While stages of growth models may be useful heuristic tools to form an initial rough impression, they become increasingly unhelpful if one takes them too seriously (Coad, 2009; Levie and Lichtenstein, 2010).

3.3 Changes in the Structure of Growing Firms

Firm growth is not a homogenous quantity, there are different ways in which firms can grow. This leads to interest in "how" firms grow, as opposed to just "how much" firms grow (McKelvie and Wiklund, 2010). An analogy from humans would be that we can grow in terms of bone mass, in terms of muscle mass, or in terms of fat, or any combination of these. For an athletics trainer, there is a big difference if a 3 kg weight gain comes from gaining fat, gaining muscle, or becoming pregnant. Scaling up does not correspond to all possible kinds of growth, but a very specific type of growth. This is why we are unconvinced by attempts to define scale-ups exclusively in terms of growth amount (e.g. Belitski et al., 2023; Denney et al., 2023; OECD, 2021). Instead, we think it is important to define scale-ups in terms of how they grow: a key role of up-front costs, intangible assets, marketing investments; a growth that involves near-zero marginal costs, as well as a growth style that corresponds to a shift from iteration and pivoting to a standardized product prototype and business model that is ready to be scaled up.

Scaling up is a supply-side push. Uncertainty surrounding the product offering has been substantially removed because of the emergence of a satisfactory product. The demand conditions for the product are favorable (e.g. if demand is characterized by increasing returns and network externalities, Giustiziero et al., 2023), now that product-market fit has been achieved between what customers seek and what the refined product offers.

3.4 Born Scale-ups?

The literature on entrepreneurship and international business has expressed interest in the phenomenon of 'born globals'—firms that internationalize from an early age. Is there such a thing as 'born scale-ups'? Can some firms start scaling right from birth?

In the light of the stages-of-growth perspective, it becomes clear why we consider that scale-ups are young but not too young. Scaling up is not the first stage in a stages-of-growth model, but the third (see Fig. 3.1). Hence, the probability of being a scale-up is not necessarily the highest at birth. While relatively young, scale-ups cannot correspond to the youngest group of firms because of the preparatory stages they need to finish before starting to scale. A "born scaler" probably is just a case where the early stages of pivoting and search have not been recorded properly (e.g. occurring in stealth mode while working for a previous employer) such that the officially registered date of birth is mismeasured.

Given that scaling up is a stage that takes place after birth, rather than at the time of birth, researchers are encouraged to investigate what happens in the stages before scaling up.

> More attention is needed to understand what happens during the periods leading up to scaling and accelerated growth – what actions do firms take and what preparatory capabilities do they seek to cultivate to facilitate scaling? (Jansen et al., 2023, p. 15)

Scaling up is the time for applying rather than the time for learning. Learning activity is concentrated in the stages preceding scaling; and the scaling stage is the time for applying the knowledge that has been so far accumulated. Nevertheless, scaling that involves growth into international markets might need some learning and adapting to local markets characteristics (Tippmann et al., 2023; Jansen et al., 2023), even for firms in the scale-up stage. Hence, while saying that most learning/development/adaptation happens before the scale-up stage (Blank, 2013), nevertheless there is still the need for some learning to take place during scaling. Such learning that occurs during scaling could refer to learning about customer needs in new markets, as opposed to learning how to refine the basic features of the product such that the product's performance increases.

3.5 Can Scale-ups Have More Than One Product?

Scale-up is generally considered to be a single-minded focus on delivering an innovative new product or service. The literature has discussed whether multi-product firms can become scale-ups (e.g. Giustiziero et al., 2023; Jansen et al., 2023). The scaling-up of multi-product firms is unlikely because it would draw away resources from other products, even if it does not lead to cannibalization. Practitioners have stated that scaling-up that involves multiple products is particularly complicated.[1] Also, empirical analysis might find it difficult to detect this scaling up if the overall scaling event is "diluted" and hidden when looking at aggregated data (i.e. aggregated across products up to the firm level).

In our definition (shown later), a scale-up must have annual growth of 20% on average at the firm-level (not just at the product level), and multiproduct firms with fast-growing products might struggle to reach this threshold when their growth is considered at the firm-level. Nevertheless, a multi-product firm could be a scale-up: either if one product is growing very fast (e.g. Apple at the time of surging iPhone sales (Hoffman and Yeh, 2018), or in the case where multiple products are being driven by a single scalable technology or capability (c.f. Braguinsky et al., 2021; Srhoj et al., 2022). Therefore, multi-product firms can potentially be scale-ups, as long as they satisfy the empirical requirements. However, as discussed before, our focus is on the firm-level. This means that product-level scaling-up will only be

[1] "I will just say that this idea of running multiple businesses has been among the most complicated parts of scaling" Mariam Naficy, founder and CEO of Minted (Gil, 2018, p. 160).

manifest in our scale-up indicator if the product's growth has sufficient effects at the aggregate firm-level to push the firm into the scale-up category.[2]

3.6 Blitz-Scaling vs the Lean Startup Perspective on Scaling up

The stages-of-growth model in Fig. 3.1, based on principles of lean startup (Ries, 2011; Blank, 2013) has been criticized by Hoffman and Yeh (2018, p. 75): "we're huge fans of Eric Ries and his lean start-up methodology. It is an excellent process for systematically tackling risk. But the fact is that most start-ups don't follow that process."

Specifically, the Blitz-scaling concept introduced by Hoffman and Yeh (2018) takes an even more extreme view on scaling: firms should start furiously scaling up even if they do not yet have a decent prototype:

> Starting a company is like jumping off a cliff and assembling an airplane on the way down. (Hoffman and Yeh, 2018, p. 28)

Instead of waiting to have developed a viable product, the recommendation to startups is to move fast, even to the point that entrepreneurs should "launch a product that embarrasses you" (Hoffman and Yeh, 2018, p. 206). This is because blitz-scaling prioritizes speed over efficiency: no matter how many mistakes are made, the important thing is getting big fast, pre-empting the competition and accelerating the virtuous cycle of positive network externalities for a growing user base (Hoffman and Yeh, 2018, p. 5). A vivid illustration of the urgency of growth, even at the expense of efficiency, comes from a conversation between Reid Hoffman and PayPal co-founder Peter Thiel:

> Peter, if you and I were standing on the roof of our office and throwing stacks of hundred-dollar bills off the edge as fast as our arms could go, we still wouldn't be losing money as quickly as we are right now. (Hoffman and Yeh, 2018, p. 43)[3]

Fortunately, the blitz-scaling method worked well for Reid Hoffman and his ventures PayPal and LinkedIn.

However, this extreme type of scaling (i.e. blitz-scaling) has been the subject of criticisms. O'Reilly (2019) writes that "blitzscaling is not really a recipe for success but rather survivorship bias masquerading as a strategy." Lee and Kim (2023) provide evidence that scaling too early is generally more problematic than scaling too late, in their large-sample analysis of scaling up.

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[2] Authors interested in the phenomenon of scaling of products inside multiproduct firms may want to develop their own product-level indicator (such a task is beyond the scope of this book, but a useful starting point could be Baumgartner et al., 2023).

[3] The context behind this quote is that, during PayPal's early days, the company was growing 5% per day, but losing money on transactions, because customers could use the service for free while paying with credit cards. As such, PayPal was absorbing the 3% credit charge processing fee, while charging users nothing.

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