

COMMENTARY

Bridging the gap through innovation: Startups required to tackle the scientist–practitioner divide

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We appreciate Zhou et al. (2024) for addressing the severity of the scientist–practitioner gap for small business owners. We agree with the authors’ message that small business is underrepresented in industrial and organizational (I-O) psychology research and that there is a lack of “alignment between I-O research topics and the day-to-day needs of small business” (Zhou et al., p. 11). However, we propose that the relevance of I-O research strongly depends on the type of small business at stake. This commentary seeks to extend the dialog by emphasizing the importance of distinguishing between startups and traditional small businesses in addressing and potentially bridging this gap. We make a call to action for innovation-driven small businesses to address and potentially bridge this gap themselves, starting from the practitioners’ side.

Small but not the same

One reason why many I-O theories might not apply to small business lies in businesses’ immense heterogeneity (Salmony & Kanbach, 2022): For two small businesses of the same size, one might be a corner store and the other an innovative startup (i.e., a young and growing company with an innovative business model or product; Kollmann & Pröpper, 2023); they likely have little in common besides their size. Arguably, complications may arise if one tries to make generalizable assumptions about the applicability of I-O research for these two companies. Therefore, we need to distinguish between “traditional” small businesses, which engage in existing business models, established products or services, and are neither dominant nor innovative in their field (Carland et al., 1984, p. 358), and (rising) startups.

Although definitions in the field of entrepreneurship vary considerably in academic studies, in this comment we refer to startups as small, young, and growing businesses (Kollmann & Pröpper, 2023), and an entrepreneur is the person starting or running this business. Startups are characterized by a strong growth orientation and a strategic innovative approach that is often disruptive in their field. Although only a small percentage of businesses are startups (19.2% of adults in the US were running a business younger than 4 years old in 2023, according to the Global Entrepreneurship Monitor, GEM, 2023), they have considerable impact on society, as they create jobs and drive a nation’s economic and technological advancement (Frese & Gielnik, 2014). An increase in entrepreneurial activity, that is, new businesses entering the market, is associated with a variety of economic and social changes, for example, increases in a country’s gross domestic product, number of exports, and number of patents (Cumming et al., 2014). In the following, we

differentiate between startups and traditional small business and outline why such a distinction is crucial for the relevance of I-O knowledge.

I-O theory affects small businesses differently

Even though startups are not “smaller versions of large companies” (Blank, 2013, p. 65), many insights from I-O research are more relevant to them than to most other small businesses. A few examples: Startups are characterized by a strong growth orientation, whereas most small businesses aim to remain a specific size (Leung et al., 2006; Salmony & Kanbach, 2022). Thus, theories on talent acquisition and personnel selection might be more applicable to startups intending to expand than to traditional small businesses that will stay small (Cardon & Stevens, 2004).

A second field of I-O psychology in which startups differ from traditional small businesses is their organizational culture (Gray et al., 2003). Startups require building a unique and robust organizational culture from scratch that needs to correspond to the firm’s goals and vision to attract potential new joiners and investors (Anning-Dorson, 2021; Greer et al., 2016). Although organizational culture in traditional small businesses is just as important, it might be established more slowly, requiring less immediate intervention (Schein, 2010).

Next, Zhou et al. (p. 12) argue that many leadership theories are impractical for small businesses due to their small size. However, given startups’ strong growth intentions, it is highly necessary for them to consider leadership pipelines early on and rely on leadership development theories—one of I-O psychology’s strengths. For example, a well-documented link exists between leadership effectiveness and startup performance, such as business survival and innovation (Dunne et al., 2016). The same applies to organizational change: With a strong focus on innovation and flexibility, startups are often associated with high fluctuation and turnover (Nyström, 2021). As such, they need to maintain a lean structure and be responsive to stakeholders, necessitating frequent changes. Conversely, leaders of traditional small businesses often have difficulty making decisions about organizational change and layoffs because they usually have high proximity to their employees (Cardon & Stevens, 2004). These particularities require different leadership approaches for which I-O delivers distinct theories.

Hence, startups show considerable differences compared to other types of small businesses when it comes to the applicability of I-O psychology’s research findings, and these differences go beyond differences between industries or economies. This adds another complication to the already troubling scientist–practitioner gap: Without testing I-O theories on different types of small businesses, we cannot know whether a theory applies to startup founders, to traditional small business owners, or only to corporations.

However, we suggest that small businesses, especially innovative startups, need not be just a complication in this ongoing divide: How can small businesses benefit research and scientific communication? We propose that the distinct characteristics of startups have the potential to narrow the gap between research and practice.

Building the bridge through innovation

According to Carland et al. (1984), innovation is what distinguishes entrepreneurs from other small business owners. Innovation not only involves creating something new, but it also aims to improve and combine existing aspects of a business, to enter new markets, to find new solutions, and to offer new business opportunities (Fiorentino et al., 2021; Garcia & Calantone, 2002; Heinemann et al., 2022). Arguably, the scientist–practitioner gap presents an open opportunity, even a demand, for innovators to find new ways to combine resources. All the pieces already exist (decades of research, motivated practitioners, digital libraries), and entrepreneurs should take on

the challenge of combining these resources in a new way, bringing the right knowledge to the right people.

The focal article adds to the extensive evidence of the severe scientist–practitioner gap in I-O psychology (see also Deadrick & Gibson, 2007; Fisher et al., 2021). However, the article also represents another paper “written by academics in [an] academic journal” (p.6) that will mostly be read by fellow academics (as will this commentary). As Zhou et al. rightly point out, the most promising steps to address the gap are through increased collaboration and communication between practitioners and researchers. But how can these be achieved? How can practitioners contribute to closing the gap? Although scholars write a lot about the scientist–practitioner gap, relatively few attempts have been made by practitioners to make use of the mountain of (apparently) untapped theoretical insights and contributions of I-O psychology.

Until now, I-O research has been largely unavailable to business owners who are not (a) academically trained themselves or (b) able to afford to hire “I-O scholars who have made their careers translating I-O research for business managers” as scientific consultants (Zhou et al., pp. 26–27). We propose that bridging this gap is a suitable task for entrepreneurs, whereby they can use creative approaches to realize the potential of scientific research for those small business owners who might benefit from it.

Some startups, such as Matter of Facts, Draw Science, and Things We Don’t Know, have already begun using technological advancements to increase the accessibility of information in scientific peer-reviewed journals. For example, the startup Matter of Facts¹ uses artificial intelligence to summarize current research streams and scientific debates in a specific field of interest in extensive reports for business owners. Draw Science² makes new research accessible and entertaining by summarizing research ideas and results in scientific infographics. Things We Don’t Know³ translates ongoing research debates into plain language, videos, and games. Another startup called Explainpaper⁴ uses AI to translate scientific writing into easier-to-understand language. Given the rapidly developing new technological possibilities driven by AI, these few examples are likely to be only the first of numerous innovations that will contribute to making research more accessible.

Considering the current state of generative AI, it seems unlikely that issues such as inaccessible or confusing language in scientific articles will be a serious obstacle for practitioners much longer. However, at the same time, technological advancements will bring along new difficulties, which will again require scholars to step in. For example, scholars will have an important role to play in monitoring the quality of the results produced by these technologies, as AI carries the risk of oversimplifying complex academic knowledge, placing it out of context, or simply getting it wrong. To prevent this, academics need to be actively involved in this development and work with practitioners (e.g., ambitious entrepreneurs) to recommend which new products or services meet the criteria of academic quality. More importantly, we hope that academics themselves will be encouraged to get involved and make their valuable research applicable. We encourage I-O psychologists to transfer their knowledge and take part in creating knowledge-based startups. Hence, we encourage young researchers to consider starting a business that builds on their own research as a promising and impactful career path.

Conclusion

Small businesses are underrepresented in much of the scientific knowledge of I-O psychology, and many theories are rather irrelevant for some small businesses. Notably, the difficulties of applying

¹<https://www.matteroffacts.de/>

²<https://pub.drawscience.org/>

³<https://www.thingswedontknow.com/>

⁴<https://www.explainpaper.com/>

research findings that might be relevant for some small businesses but not for others may be related to the large heterogeneity between small businesses. Specifically, some research theories may be more applicable for innovative startups but not for traditional small businesses. At the same time, we see enormous potential for those businesses to bridge the gap from the practitioners' side: Innovative startups can play a crucial role in creatively and effectively applying this knowledge to ensure that valuable insights are not lost in translation. Given the speed of technological advancements in this field, scholars are advised to actively engage in this process as closely as possible.

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