

# Studying Entrepreneurship With Mixed Methods

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Broadly speaking, entrepreneurship researchers have primarily collected and analyzed data that are either “quantitative” (i.e., based on numbers/figures) or “qualitative” (i.e., based on words and text)<sup>1</sup>. It has been less common for researchers to employ “mixed methods”, which combine both quantitative and qualitative data and analysis. This is unfortunate, because both quantitative and qualitative methods have strengths and limitations, and mixed methods studies have the potential to add rich insights to what we know about entrepreneurship. For example, while quantitative research can help entrepreneurship researchers to test entrepreneurship theories and hypotheses relatively easily and can generate generalizable results using diverse samples, the theories and variables utilized may be disconnected from the context-related experiences and comprehensions of practicing entrepreneurs. Relatedly, while qualitative research can help entrepreneurship researchers to have a rich, contextualized, process-oriented, and participant-based understanding of the complex entrepreneurial phenomenon, this understanding often requires a time-consuming data collection and analysis process. Also, qualitative findings can be difficult to generalize or test and validate with statistical methods<sup>2</sup>.

In this article, I first provide a short overview of mixed methods. I then illustrate how mixed methods can be used in entrepreneurship by considering the example of a study that investigates the characteristics of rapid-growth firms and their founders. I then synthesize the findings of this study. Finally, I propose some directions for future research that utilize mixed methods and that are related to the timely topic of digital entrepreneurship and its relationship to firm growth.

In summary, I argue that mixed methods studies offer several opportunities to the field of entrepreneurship. In particular, mixed methods allow researchers 1) to advance the current knowledge of entrepreneurship and firm growth, and 2) to obtain research results and findings that entrepreneurs find meaningful and helpful.

## Brief overview of mixed methods

Mixed methods research papers feature both quantitative and qualitative data and analysis. By collecting and analyzing both types of data, researchers can attain a better comprehension of the research phenomenon under investigation. The choice of a mixed methods design depends, among other factors, on the goals researchers pursue. One goal researchers might pursue is *development*, as in the case of the study by Barringer and colleagues below. When researchers have the goal of development in mind, they attempt to utilize the results from one analysis (e.g., quantitative analysis) to enlighten the results from the other analysis (e.g., qualitative analysis), as I illustrate below.

## Illustration: A study of rapid-growth firms and their founders

I illustrate how mixed methods can be used in entrepreneurship with Barringer, Jones, and Neubaum’s (2005) study of the rapid-growth firm and founder characteristics<sup>3</sup>. I should note here that, although the authors used a qualitative-quantitative approach and considered each analysis of equal importance, the quantitative analysis allowed them to have a clearer understanding through the identification of statistically significant variables. Specifically, the authors first reviewed 106 works on rapid-growth firms. Using qualitative and quantitative analysis, they then shed light on the differences existing between slow-growth and rapid-growth firms and the key characteristics (21 variables identified). Finally, the authors developed one empirically-grounded conceptual model highlighting four new statistically significant attributes among the 12 statistically significant variables: *entrepreneurial story*, *customer knowledge*, *training*, and *employee development*. In particular, the new attribute of *entrepreneurial story* is related to the sacrifices the entrepreneur has made to launch his/her company.

A purely qualitative study would have led researchers to identify the 21 variables in content analysis (including the four new attributes) and, possibly, other “new” (not already-existing) variables, potentially enriching their

contributions to theory. However, such an approach would have not revealed which variables are statistically significant. Thus, researchers would end up with a large set of variables and potential hypotheses, which is not very helpful when their goal is to build a parsimonious model. Also, researchers adopting a purely qualitative approach might be left with a partial understanding of the range of contexts within which their qualitative findings hold.

Guler (2007)<sup>4</sup> provides another example of a mixed-methods study pursuing the goal of *development*. Notably, the author examined the venture capital investment process using qualitative data obtained through interviews with 30 professionals in 21 venture capital companies plus senior executives in 3 venture capital-funded companies. Using the VentureXpert database, the author then tested her hypotheses with 1862 investment rounds in 796 companies by 364 venture capital companies between 1989 and 2004.

In sum, Barringer and colleagues' study (and, to a certain extent, Guler's study with statistical tests of differences between groups in every theme) sheds light on one important situation when mixed methods are desirable: when subsequent quantitative data and methods can help to detect statistically significant themes and variables (or, in other cases, taxonomy categories or scale items) following an in-depth exploration of the research problem with qualitative data and methods<sup>5</sup>. However, mixed methods are also desirable in other situations. For instance, subsequent qualitative data can also help to explicate (for instance, with interviews) the reasons why some hypotheses are (not) supported but also the mechanisms and processes potentially interacting behind statistical correlations. Thus, mixed methods are desirable when using quantitative or qualitative data and methods in isolation does not help to have a full understanding of the research problem<sup>6</sup>.

## Some directions for future research

One area especially ripe for research using a mixed methods approach is *digital entrepreneurship* (i.e., the alliance of entrepreneurship and digital technologies). Indeed, following other researchers, I argue that the burning debate about whether entrepreneurial opportunities are discovered or created can be approached from an interesting angle: digital industries and technologies can produce digital opportunities. Moreover, entrepreneurship researchers can use mixed

methods and focus on the relationship between digital entrepreneurship and firm growth. For example, entrepreneurship researchers taking a sociological approach can use qualitative data and methods to identify relevant sociological variables, items, or categories and then conduct statistical tests of the relationships among variables capturing various aspects of social networks, social institutions, digital entrepreneurship, and firm growth. Alternatively, follow-up qualitative data and methods can help to explain the causes of (not) supported statistical relationships and can help to better understand underlying mechanisms and processes.

In conducting mixed methods research, it is also important that researchers properly integrate the data they collect. For example, Tunarosa and Glynn propose that this integration may entail the *sequencing* of qualitative and quantitative data collection and analysis: qualitative first and then quantitative or quantitative first and then qualitative.<sup>7</sup> Echoing what I mentioned above, in the *qualitative first and then quantitative approach*, researchers can collect qualitative data (e.g., interview transcripts), analyze these data, and then develop some propositions related to these data before testing these propositions with statistical methods. Alternatively, in the *quantitative first and then qualitative approach*, researchers can first test a set of relationships or hypotheses with statistical methods before collecting (e.g., through interviews) and analyzing additional qualitative data with the goal of explicating the reasons why some hypotheses are supported and others are not in mind.

Thus, to return to the prior example, entrepreneurship researchers can follow the *qualitative first and then quantitative approach* and collect and analyze qualitative data on the driving role of social networks and institutions in enhancing digital entrepreneurship and firm growth and the links between social networks, social institutions, digital entrepreneurship, and firm growth and then develop some data-driven propositions before testing these proposition statistically. Alternatively, following the *quantitative first and then qualitative approach*, researchers can first test a set of relationships or hypotheses on the links between social networks, social institutions, digital entrepreneurship, and firm growth using statistical methods before collecting and analyzing complementary qualitative data to explain why some hypotheses are (not) supported.

Furthermore, there are likely other areas of entrepreneurship research that could be enriched by mixed methods studies – especially areas in which one approach has tended to dominate. For example, there have been many quantitative studies involving the construct of *entrepreneurial orientation*. Qualitative work on this topic might help extend or deepen our understanding of this phenomenon. However, to facilitate mixed methods research in entrepreneurship, it might be also necessary to ensure that more early-stage researchers are trained in both quantitative and qualitative methods<sup>8</sup>. For instance, this could be achieved by modifying doctoral programs in entrepreneurship or through professional development workshops at meetings in the field, such as those of the Academy of Management. In conclusion, this article contends that mixed methods have the potential to advance the field of entrepreneurship and provides some suggestions meant to advance that important cause.

6. For more details, see Creswell and Plano Clark (2007). Creswell, J. W., & Plano Clark, V. L. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks, CA: Sage.

7. For strategies of integration, see Tunarosa and Glynn (2017). Tunarosa, A., & Glynn, M. A. (2017). Strategies of integration in mixed methods research: Insights using relational algorithms. *Organizational Research Methods*, 20(2), 224-242.

8. See also Brush and colleagues (2003). Brush, C. G., Duhaime, I. M., Gartner, W. B., Stewart, A., Katz, J. A., Hitt, M. A., Alvarez, S. A., Meyer, G. D., & Venkataraman, S. (2003). Doctoral education in the field of entrepreneurship. *Journal of Management*, 29(3), 309-331.

## Footnotes and References

1. I acknowledge here that I have simplified these categories to facilitate a short discussion of the subject.

2. For more details, see Johnson and Onwuegbuzie (2004). Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-26.

3. Barringer, B. R., Jones, F. F., & Neubaum, D. O. (2005). A quantitative content analysis of the characteristics of rapid-growth firms and their founders. *Journal of Business Venturing*, 20(5), 663-687.

4. Guler, I. (2007). Throwing good money after bad? Political and institutional influences on sequential decision making in the venture capital industry. *Administrative Science Quarterly*, 52(2), 248-285.

5. Thus, qualitative data and methods can help to set the stage for subsequent quantitative research notably when researchers initially aim to explore the themes and variables related to a topic (e.g., rapid growth firms and founders such as in Barringer et al., 2005) or the items related to a scale (scale development) or the categories related to a taxonomy (taxonomy development).