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DIFFERENT TYPES OF INNOVATION IN THE MICRO-FIRM: A TEST OF THE DETERMINANTS AND THE MODERATING EFFECT OF GENDER (INTERACTIVE PAPER)

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INTERACTIVE PAPER

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Principal Topic

Increasingly research points to the importance of the small firm as a major contributor to innovation (Carlsson, Acs, Audretsch, & Braunerhjelm, 2009; Laforet, 2013); however, these studies often use the SME designation (up to 250 employees) to define small firms. We contend that a finer-grained examination of "small" firms is warranted and we specifically compare micro (fewer than 10 employees and sales less than €2M) and small firms (10-50 employees and sales between €2M and €50M). We do so because resource theory and barriers to entry suggest that micro-firms may have to innovate in ways unique from other small firms. Additionally, research examining the micro-firm innovation processes is limited even though micro-organizations account for at least 90% of the organizations in the US and 92% in Europe (US Census data; European Commission).

Method

Our sample is taken from the 2011 European Commission and European Central Bank Survey on Access to Finance of SMEs telephone survey. From the complete data set of 15,216 firms, we created a subsample of micro (n=2655) and small firms (n=2404) to enable testing of our hypotheses. To measure innovation we drew upon the definitions of the different types of innovation from the extant literature including Argyres (2011), Zhou and Wu (2012), and Zawislak et al. (2012). We used ordinal generalized linear modeling (Williams, 2006) to analyze the data.

Results and Implications

An examination of the descriptive data indicates that overall micro-firms are less likely to engage innovation than are small firms. In particular, micro-firms engage in less product, process, and managerial innovation; however, growing (albeit slowly) micro-firms are more likely to engage in managerial and marketing innovations. Fast growing small firms are more likely to engage in product and process innovation. There is no significant gender difference across firms; however, age of the firm is significant. Micro-firms tend to grow through managerial and marketing innovations and do not engage in product and process innovation until they are older. Overall these findings provide initial evidence that micro-firms and small firms should be separated in empirical analyses.

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