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## Positively deviant: Identity work through B Corporation certification

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### ABSTRACT

Despite widespread and growing public interest in sustainability certifications, many social entrepreneurs have opted not to obtain such certification. Drawing on recent studies highlighting the salience of both gender and context in shaping differences among social enterprises, we develop an identity-based framework for explaining heterogeneity in the adoption of sustainability certification. We test our ideas using a sample of 1251 U.S. firms obtained from B Lab, the organization responsible for assessing Certified B Corporations. Our results show that woman-owned businesses are twice as likely to qualify for certification and more than three times as likely to certify. Moreover, this propensity to certify is amplified in contexts where sustainability norms are weak, mimetic pressure to obtain sustainability certification is low, and woman-owned businesses are less prevalent. These findings support our central theoretical argument that certification differences are due to actors' efforts to engage in identity work, strengthening their sense of self-coherence and distinctiveness by way of this authentication process. We conclude by highlighting our contributions to existing scholarship on social entrepreneurship, identity work, and certification adoption, as well as strategic implications for B Lab.

### 1. Introduction

Launched in 2007, the B Corporation (B Corp) certification offers one of the most noteworthy societal attempts to increase the awareness and credibility of social entrepreneurship (Gehman and Grimes, 2017; Honeyman, 2014; for a review, see Cao et al., 2017). Although this certification has grown in popularity and prominence, many social entrepreneurs have opted not to certify. Such variation in social entrepreneurs' adoption of the B Corp certification suggests the need for further attention to the differences between social entrepreneurs that might help explain this variation.

Scholars have only begun to examine the differences between social entrepreneurs, highlighting evidence of both identity and contextual factors that might shape social entrepreneurs' values and thus their varied choices and actions (Dimitriadis et al., 2017; Gehman and Grimes, 2017). Prior findings reveal how identities grounded in societal gender expectations can affect one's orientation toward pro-social and pro-environmental causes (Dietz et al., 2002; Eagly, 2009; Hyde, 2014; Zelezny et al., 2000). The contemporary gendered stereotypes and expectations that characterize the United States, for instance, often encourage values-based differences that lead to more proactive engagement by women with such causes. Recent studies suggest that contemporary values-based differences between genders lead to greater representation of women among social entrepreneurs (Hechavarria et al., 2012), as

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well differences in the degree to which women social entrepreneurs forego the use of commercial activities to support their growth (Dimitriadis et al., 2017).

Beyond this potential for values-based differences stemming from gender expectations, social entrepreneurship spans different industrial and regional contexts, which also vary in their support (or lack thereof) for social and environmental values (Dacin et al., 2011; Gehman and Grimes, 2017; Moroz and Hindle, 2012). Such differences regarding sustainability values are likely to render the adoption of the B Corp certification as more or less deviant (i.e., non-conforming) relative to a social enterprise's regional and industrial context. Accordingly, in this paper, we build on these studies of identity and contextual differences among social entrepreneurs to address the following research question: *Why and under what conditions do businesses choose to obtain sustainability certification?*

Our study relies on data originally collected by B Lab, the organization directly responsible for establishing and issuing the B Corporation certification. Specifically, we test our hypotheses using data from a sample of 1251 U.S.-based social enterprises which had completed the extensive B Impact Assessment, an audit covering nearly 200 questions about their businesses' environmental, social, and governance practices. These data provide a unique opportunity to observe a large sample of businesses, some of which obtained certification and others of which did not. We further supplemented these data with measures from MSCI ESG KLD STATS, which enabled us to examine the extent to which sustainability norms are contextually prevalent, as well as data from the U.S. Census Bureau Survey of Business Owners on the contextual prevalence of woman-owned businesses.

Overall, we find that woman-owned businesses are not only more likely to qualify for the B Corp certification, but once qualified, are more likely to obtain the certification. More notably, we find that this effect is amplified within region-industry contexts where sustainability norms are weaker, mimetic pressure to become a B Corp is lower, and woman-owned businesses are less prevalent. These findings offer support for our central theoretical argument that actors pursue certifications not as a means for overcoming legitimacy deficits but rather as a form of identity work that affirms those actors' values which are contextually distinctive. Identity work refers to “people being engaged in forming, repairing, maintaining, strengthening or revising the constructions that are productive of a sense of coherence and distinctiveness” (Sveningsson and Alvesson, 2003:1165). In developing these theoretical arguments, we also link with prior research on *positive deviance*, defined as “intentional behaviors that significantly depart from the norms of a referent group in honorable ways” (Spreitzer and Sonenshein, 2004: 841). Perhaps most notably, our theorization and results offer insight into the ways that women, acting as positive deviants, may play an integral role in helping “jumpstart” organizational communities associated with positive social change.

## 2. Theoretical development

To understand organizational action, we must understand the values that underpin such action. Drawing on Selznick's (1957, 1949) prolific work on the topic, Kraatz and Flores (2015: 356) argued that values can best be understood as “human beliefs about the things that are worth having, doing, and being (i.e., normative goods or ‘ends’).” The founders and owners of entrepreneurial businesses are especially likely to infuse their values into their organizations (Baker and Pollock, 2007; Cha and Edmondson, 2006; Schein, 1992). This infusion process is achieved by way of values practices, “the sayings and doings in organizations that articulate and accomplish what is normatively right or wrong, good or bad, for its own sake” (Gehman et al., 2013: 84).

Among the different values practices that shape organizational action, some prominent contemporary examples relate to environmental, social, and governance-related (ESG) aspects of sustainability (Ansell, 2011; Etzion and Ferraro, 2010). Although many of the practices that guide organizational action relate primarily to technical or efficiency concerns, a select group of individuals and their organizations have demonstrated a growing commitment to move beyond such concerns to use their organizations to address social and environmental problems (Bansal and Clelland, 2004; Etzion and Ferraro, 2010). As these demonstrations have increased, third-party advocates have sought to galvanize the credibility of such efforts by championing new labels (e.g., social entrepreneurship) and certifications (e.g., B Corp). Recently, the B Corporation certification has emerged as a widely celebrated means for owners and founders to effectively certify their values practices, adding a “stamp of approval” that validates their unique set of values (Cao et al., 2017; Gehman and Grimes, 2017; Honeyman, 2014).

### 2.1. How gender affects the proclivity of actors to certify their values

While B Corp certification has been celebrated frequently in the media, adoption of the certification remains a relatively rare occurrence. This raises questions about individual differences among entrepreneurs which might affect the propensity to certify an organization's values practices. Our theorization begins by drawing on the burgeoning women's entrepreneurship literature (for reviews, see Fischer et al., 1993; Jennings and Brush, 2013). Prior research on gender, for instance, has documented differences not only in how men and women entrepreneurs are perceived by others but also how they evaluate potential entrepreneurial opportunities (Baron et al., 2001; Gupta et al., 2014, 2009; Thébaud, 2015). There is now mounting research evidence from diverse settings—e.g., small businesses, corporate intrapreneurship, large cities, and online crowdfunding—that gender has a salient influence on entrepreneurship decisions and outcomes (e.g., Greenberg and Mollick, 2016; Kalnins and Williams, 2014; Lofstrom et al., 2014; Parker, 2011).

Gender might be expected to affect certification in two equally important ways. On the one hand, given that women social entrepreneurs face liabilities or legitimacy discounts associated with gender stereotypes, patriarchy, and institutionalized segregation (Thébaud, 2015; Zhao and Wry, 2016), they might view certifications as a means for overcoming such liabilities and discounts. This argument would be consistent with a signaling perspective on certification—that certifications provide instrumental value through

their ability to demonstrate greater conformity with legitimate ways of doing business (Etzion, 2009; Feldman and March, 1981; Terlaak and King, 2006). On the other hand, to the extent that women social entrepreneurs perceive ESG-related values as central and distinctive to their identities, the desirability of related certifications might increase because they provide a means for affirming that which they perceive as contextually distinctive. This latter argument would be consistent with an identity-work perspective on certification—that certifications enable actors to authenticate their identities via external standards (Gehman and Grimes, 2017; Glynn and Lounsbury, 2005; Jones et al., 2005).

While both perspectives are plausible more generally, we suggest that in the context of social entrepreneurship and B Corporations, an identity-work perspective on certification likely is more pertinent for several reasons. If woman-owned organizations wish to adopt certifications to overcome legitimacy deficiencies, we would expect them to pursue certifications that are (a) widely-adopted, (b) compensatory (i.e., signaling the organizations' strengths in areas presumed deficient), and (c) under-scrutinized (e.g., no penalties associated with inauthentic adoption). Yet the B Corp certification does not meet any of these three criteria. First, adoption of the certification is currently growing, but is by no means common. Second, given gender stereotypes (Dietz et al., 2002; Eagly, 2009; Hyde, 2014; Zelezny et al., 2000), it is unlikely that audiences would presume woman-owned businesses to be deficient in sustainability values and thus in need of certifications that might signal otherwise. Third, if organizations adopt sustainability certifications merely as signaling or promotional tools, they are subject to increased scrutiny and skepticism (e.g., greenwash monitoring; Carlos and Lewis, 2017). Consequently, we develop our hypotheses regarding the importance of gender in this setting by attending to how sustainability certifications provide entrepreneurs with opportunities to engage in identity work, authenticating the values they deem central and distinctive, rather than as a tool for overcoming legitimacy deficiencies.

## 2.2. Gender-based identity work as a source of B Corp certification adoption

Within contemporary Western society the expectations associated with gender differences often are pronounced, particularly as they relate to prosocial behaviors and outcomes (Eagly, 2009; Hyde, 2014). These expectations often translate into different reported values between men and women. For example, Beutel and Marini (1995) found that among American adolescents, women are more compassionate, less receptive to materialism, and more likely to emphasize the importance of purpose and meaning in life than men. Zelezny et al. (2000) similarly reported that women show stronger pro-environmental attitudes than men, and the effect holds across ages and nationalities.

A number of studies within the field of management and entrepreneurship build on these findings, revealing the implications of gender for individual and organizational action (Adams and Funk, 2012). Through an analysis of Fortune 500 businesses' charity records from 1996 to 2006, Marquis and Lee (2013) reported that companies with a high proportion of women managers are more generous in their philanthropic donations. Similarly, drawing on environmental disclosure data from > 300 large companies in the United Kingdom, Liao et al. (2015) reported that companies with more women on their boards are more likely to disclose greenhouse gas emissions and that those disclosures tend to be more extensive. Building on findings suggesting that women entrepreneurs value financial success less than men entrepreneurs (Carter et al., 2003), Hechavarria et al. (2012) showed that women entrepreneurs are more likely to become involved in social and environmental entrepreneurship. Most recently, Dimitriadis et al. (2017) found that among a population of social entrepreneurs, women-run organizations are less likely to embrace commercial activities, choosing to focus on fulfilling social missions instead.

Since ESG values are more central and distinctive to female gender role expectations, we argue that the B Corp certification and its emphasis on those same values, offers an important cultural resource or external standard that facilitates gender-related identity work. Prior studies of identity work highlight the ongoing ways that individuals affirm those aspects of their self-concepts which they perceive as central and distinctive (Kreiner et al., 2006; Snow and Anderson, 1987; Sveningsson and Alvesson, 2003). Most of these studies focus on the discourse or narratives that individuals use to construct and negotiate personal identities amidst social groups (Phillips et al., 2013; Sveningsson and Alvesson, 2003). Building on this research, here we argue that certifications offer an alternative means beyond speech acts for engaging in identity work by authenticating the values deemed most central and distinctive to their organizations. In other words, founders who view ESG-related values as both central and distinctive to their identities and those of their organizations can adopt the B Corp certification to affirm and confirm those values. Given prior research on gender-related identity differences, we expect that women, on average, are more likely to adopt sustainability certification.

**Hypothesis 1.** Woman-owned businesses are more likely to obtain environmental, social, and governance (ESG) certification, all else being equal.

## 2.3. Which woman-owned businesses are most likely to certify their values?

So far, we have theorized that woman-owned businesses are more likely to obtain B Corp certification, as a means for engaging in identity work. Undergirding our theorization is an understanding of how sustainability values comprise a distinctive part of gender expectations for women, thereby increasing women owners' proclivity to engage in identity work, authenticating aspects of their identities they perceive as positively deviant. Sustainability values and the degree to which they are truly distinctive, however, are moderated by one's context. Specifically, in this section, we draw on research which has stressed the importance of understanding entrepreneurship in context (Autio et al., 2014; Dacin et al., 2011; Garud et al., 2014; Shepherd, 2015; Thébaud, 2015).

In particular, we theorize how differences in the strength of sustainability norms, the prevalence of Certified B Corporations, and the size of the identity group within the context might moderate certification likelihood. The following theorization and

accompanying hypotheses, which focus on how contextual distinctiveness encourages certification adoption, thus offer further bases for testing the veracity of the identity-work perspective on certification adoption versus the alternative legitimacy signaling perspective. In other words, if the relationship proposed in our first hypothesis is due primarily to a perceived need for identity work (as opposed to legitimacy-related deficiencies), then we would expect the likelihood of woman-owned businesses obtaining certification to be even more pronounced in certain contexts that accentuate the distinctiveness of the certification and its underpinning values.

### 2.3.1. *The strength of sustainability norms*

Much of the entrepreneurship and innovation literature offers insight into the benefits associated with novelty as a function of deviance from prevailing conventions and practices. Although actions that depart from normative conventions may introduce legitimacy challenges, they may also afford opportunities for differentiation (Kennedy and Fiss, 2009; Wijen, 2014), enabling more effective identity work (Shepherd and Haynie, 2011). This suggests that although strong normative conventions often encourage conformity, in some cases, we should expect such conventions to provide opportunities for identity work via positive deviance.

Although there is little prior research on how this might affect certification efforts specifically, Delmas and Grant's (2014) research is suggestive. They showed that among California wineries eco-certification was relatively uncommon; just 28 out of 1495 wineries they studied were eco-certified. Since California and many of its companies are widely regarded as progressive in terms of environmental and social values, an eco-certification likely offers a limited basis for owners of these wineries to engage in effective identity work. Stated more generally, to the extent that the values of the context are closely aligned with those underpinning a particular certification, the certification's ability to confer distinctiveness is limited (Navis and Glynn, 2011; Zhao et al., 2017). As a corollary, in contexts where the values underpinning a third-party certification are abnormal, a certification may prove more effective as a basis for identity work.

In our research setting, we have hypothesized that woman-owned businesses on average are more likely to adopt sustainability certifications, as they provide a means for those women owners to engage in identity work, authenticating values which are deemed central and distinctive. However, as noted in the winery example above, distinctiveness is always a relative (vs. absolute) characteristic; the distinctiveness of an actor's values depends on the context. Although embracing sustainability values at the organizational level may be viewed as distinctive in general, certain contexts may already embrace these same values, thereby limiting the differentiation such a certification may provide. Conversely, in contexts wherein these values are less common, we would expect that women owners and founders are even more inclined to view their embrace of sustainability values as positively deviant and thus even more inclined to adopt sustainability certifications as a basis for identity work.

**Hypothesis 2.** The likelihood that a woman-owned business obtains ESG certification increases (decreases) in contexts with weaker (stronger) sustainability norms.

### 2.3.2. *The prevalence of Certified B Corporations*

While the strength of sustainability norms in a given institutional context is likely to shape the degree to which sustainability values are perceived as distinctive, so too is the mimetic environment. In other words, distinctiveness may be driven by the extent to which ESG-certifications have diffused within a given context. As such, we also consider the contextual prevalence of other Certified B Corporations and how such adoption might further affect the propensity of woman-owned businesses to obtain certification.

Typically, it is assumed that organizations adopt new practices as a result of mimetic pressures, but this is not always the case (Ansari et al., 2010). For instance, in a study of the diffusion of domestic partner benefits among Fortune 500 firms, Briscoe and Safford (2008) found that a number of "activism-prone" firms adopted such benefits early, well before widespread diffusion. That is, in the early stages, practice adoption was not driven by classic mimetic forces, but by organizational identities associated with positive deviance. This is in contrast to mainstream companies, which only offered domestic partner benefits once more prominent and "activism-resistant" firms began to adopt (Briscoe and Safford, 2008: 460).

Given the positive deviance logic driving our overall theorization, we propose that mimetic diffusion of the B Corporation certification within a context can undermine the distinctiveness of both the certification's practices and its underpinning values (Brewer, 1991; McGuire et al., 1978). According to the founder of one Certified B Corporation: "Anyone interested in the integrity of their brand should be wary of joining too many clubs. The fact is, you don't become a great brand by being associated with a group" (Grover, 2012). Thus, we argue that woman-owned businesses will be even more prone to adopt the B Corp certification as a means for identity work within settings in which the diffusion of the B Corp certification is relatively suppressed. Specifically, because a relative lack of adoption of the B Corp certification enhances the certification's distinctiveness, this offers women, who are on average prone to perceive corresponding values as central and distinctive, an even greater opportunity to authenticate those values as truly distinctive.

**Hypothesis 3.** The likelihood that a woman-owned business obtains ESG certification increases (decreases) in contexts with fewer (more) Certified B Corporations.

### 2.3.3. *The size of the identity group*

Thus far, our arguments have focused on the strength and prevalence of sustainability norms and practices as two different contextual factors that might shape individuals' relative propensities to engage in identity work by way of certification. We extend this line of argument by considering how the relative size of the woman-owned business population might similarly affect sustainability certification adoption. Although research suggests that the increased size of a given identity group enhances members' power within a given context (Ely, 1995), such increased size can also diminish the salience of the associated identity within that setting (Mehra et al., 1998). In other words, relative rarity is what makes identity markers noticeable and thus relevant for identification,

differentiation, and subsequent action.

Regarding sustainability certification adoption, we expect that the relative size of identity groups stereotypically associated with pro-social and pro-environmental values (Dietz et al., 2002; Eagly, 2009; Hyde, 2014; Stern et al., 1993) should affect not only whether that identity is noticeable and deemed salient, but also whether the underpinning values might serve as a source of distinction. Since evidence suggests that woman-owned businesses are more likely to embrace pro-social values in general (Hechavarria et al., 2012), we might expect that a relative lack of such organizations would increase the perceived opportunity for identity work, thereby encouraging woman-owned businesses to adopt the B Corp certification as means for authenticating their distinctiveness.

**Hypothesis 4.** The likelihood that a woman-owned business obtains ESG certification increases (decreases) in contexts with fewer (more) woman-owned businesses.

### 3. Method

#### 3.1. Sample construction

We obtained the data for this study from the Duke University Center for the Advancement of Social Entrepreneurship (CASE), as part of its “CASE i3 B Lab and GIIRS Research Project” (Duke University, 2015). We were one of four research teams granted access to these data through its so-called RFP #2. The complete dataset includes hundreds of variables on a total of 2979 companies worldwide. The data were collected by B Lab, a not-for-profit corporation headquartered near Philadelphia, Pennsylvania, using Version 3 of its B Impact Assessment, which first became available in July 2011 (Duke University, 2014).<sup>2</sup>

We constructed our sample using the following criteria. First, we included businesses based in the United States with a reported industry classification (1295 observations met these criteria).<sup>3</sup> Second, to assess whether sustainability norms within a given context moderate certification likelihood, as described below we appended data from MSCI ESG KLD STATS (hereafter MSCI STATS), “an annual data set of positive and negative environmental, social, and governance performance indicators applied to a universe of publicly traded companies” (MSCI, 2015: 10). Third, to assess whether the prevalence of the identity group within a given context moderates certification likelihood, we similarly appended data from the 2012 U.S. Census Bureau Survey of Business Owners (CBSBO). Within the initial dataset, 44 observations could not be matched with data from these latter sources. Our final sample included 1251 observations of businesses that had elected to take the B Impact Assessment, matched with data from MSCI STATS and the CBSBO. Table 1 provides an overview of the sample characteristics. Of note, about 48% of the sample elected to obtain B Corp certification and some 14% of the sample businesses reported being woman-owned.

#### 3.2. Dependent variable

A key strength of the CASE B Lab data is that they enabled us to examine the entire risk set, of businesses that took the B Impact Assessment but elected not to become certified, and those that took the assessment and became certified. Accordingly, our dependent variable, *Certified B Corporation*, is dichotomous, coded 1 for businesses that became certified following assessment, and 0 for businesses that did not become certified.

#### 3.3. Independent variables

To assess Hypothesis 1, we measured *woman-owned* as a dichotomous variable coded 1 for businesses that reported being woman-owned on the B Impact Assessment, and 0 for businesses that did not report being woman-owned. Although the CASE B Lab data are de-identified (i.e., it is impossible to ascertain the identity of a specific business), we devised an approach that enabled us to append data regarding attributes of each region-industry context. First, using the CASE B Lab data, we coded each business in our sample as belonging to one of five different regions of the United States (North, South, East, West, and Central).<sup>4</sup> Second, we coded each business as belonging to one of 18 industry groups.<sup>5</sup> We then concatenated these two categorical variables, enabling us to identify every business in our sample as belonging to one of 73 unique region-industry contexts (some theoretically possible region-industry

<sup>2</sup> We thank B Lab for augmenting the RFP #2 data by clarifying: 14 observations with conflicting values for *Region US* and *Region World*; 9 observations with reported B Impact Scores > 200; and 3 observations reportedly founded after 2013. Additionally, B Lab provided ISIC codes for 20 observations where these data were missing from the original dataset.

<sup>3</sup> To be included in our sample, an observation had to include: (a) a value of North America in the field *Region World* and a value of North, South, East, West or Central in the field *Region US*; and (b) values in one or more of the following fields: *Industry Category*, *Industry*, *Sector*, or *ISIC Code*.

<sup>4</sup> These five regions are the most granular regional identification available in the CASE B Lab data. According to B Lab: *North* included Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; *South* included Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia; *East* included Connecticut, Maine, Massachusetts, New Hampshire, New York, Pennsylvania, Rhode Island, Vermont, Washington, DC, and New Jersey; *West* included Alaska, Arizona, California, Hawaii, Nevada, New Mexico, Oregon, Utah, and Washington; and *Central* included Colorado, Idaho, Montana, Kansas, Oklahoma, Texas, and Wyoming.

<sup>5</sup> We followed the International Standard Industrial Classification (ISIC), Revision 4. Among 21 possible categories, our sample included no observations in categories O (Public administration and defense...); T (Activities of households as employers...); and U (Activities of extraterritorial organizations and bodies). We coded a company's ISIC categories based on its three-digit ISIC codes where available ( $n = 866$ ). For the remaining cases, we inspected the fields *Industry Category*, *Industry*, and/or *Sector*, and assigned each observation to the relevant ISIC category.

**Table 1**  
Sample overview ( $n = 1251$ ).

Characteristic	Percentage
Qualified for B Corp certification	81.45
Obtained B Corp certification	48.04
Woman-owned	13.99
Industry	
A - Agriculture, forestry and fishing	0.80
B - Mining and quarrying	0.08
C - Manufacturing	13.03
D - Electricity, gas, steam and air conditioning supply	2.08
E - Water supply; sewage, waste management and remediation activities	0.48
F - Construction	0.64
G - Wholesale and retail trade; repair of motor vehicles and motorcycles	24.30
H - Transportation and storage	0.40
I - Accommodation and food service activities	1.28
J - Information and communication	9.35
K - Financial and insurance activities	6.39
L - Real estate activities	0.88
M - Professional, scientific and technical activities	26.30
N - Administrative and support service activities	1.84
P - Education	4.48
Q - Human health and social work activities	2.40
R - Arts, entertainment and recreation	2.48
S - Other service activities	2.80
Region	
Central	9.43
East	29.34
North	7.03
South	15.35
West	38.85
Size	
0 employees	20.30
1–9 employees	42.45
10–49 employees	24.30
50–249 employees	9.19
250–999 employees	2.72
1000 + employees	1.04

combinations did not occur empirically in our sample). While this approach is somewhat unique, we believe it is consistent with the logic pioneered by Porac et al. (1995) in their study of the Scottish knitwear industry (i.e., a single region-industry in our parlance). For reference, in 11 of the region-industry contexts, just one business had taken the B Impact Assessment, whereas in the largest region-industry (i.e., West-Wholesale and Retail Trade), 129 businesses had taken the B Impact Assessment. More typical was the South-Education region-industry, which included 17 assessed businesses.

To test Hypothesis 2, we sought a way to measure the extent to which businesses in these same contexts were committed to sustainability norms comparable to those being assessed and certified by B Lab. Following prior work (e.g., Gehman and Grimes, 2017), we collected data from MSCI STATS, the most widely used and critically evaluated source of sustainability ratings among management scholars (for assessments, see Chatterji et al., 2009; Hart and Sharfman, 2015). Specifically, we used MSCI STATS for 2012, which represented the midpoint of our 2011–2013 study period. These data provided us with sustainability ratings on the MSCI USA Investable Market Index, or some 99% of the U.S. stock market, including large, mid, and small cap segments. After combining the MSCI STATS data with region and industry data from Compustat, we repeated the region-industry coding process described above.

We then measured *weak sustainability norms* as the mean number of sustainability concerns reported in MSCI STATS for a given region-industry context. The greater the number of mean concerns within a region-industry context, the weaker its sustainability norms. For instance, our measures for the North-Manufacturing region-industry were based on ratings of 202 companies headquartered in the North region, and doing business primarily in the Manufacturing industry. Examples of sustainability concerns include: toxic emissions and waste, which assesses the severity of controversies related to a business's non-greenhouse gas emissions; product quality and safety, which assesses the severity of controversies related to a business's products and services; workforce diversity, which assesses the severity of controversies related to a business's workforce diversity; and controversial investments, which assesses the severity of controversies related to the social and environmental impacts of a business's lending, underwriting, and financing activities (MSCI, 2015). We then interacted it with our *woman-owned* variable, enabling us to test Hypothesis 2.

To test Hypothesis 3, we measured *B Corp mimesis* by counting the number of Certified B Corporations in each of the 73 unique region-industry contexts. Data for this measure came from the CASE B Lab data. There were no Certified B Corporations in 14 of the

73 region-industry contexts (e.g., Central-Construction). Certification was most prevalent in West-Wholesale and Retail Trade, with 72 B Corps. More typical were Central-Information and Communication, and West-Administrative and Support Services, both with 9 B Corps.

To test *Hypothesis 4*, we measured *identity group size* as the number of woman-owned businesses in each region-industry context. Data for this measure came from the 2012 U.S. Census Bureau Survey of Business Owners, and included state-level counts of woman-owned businesses by industry. Following the same procedure described above, we aggregated these data into the relevant region-industry contexts. Identity group size varied widely, from a low of 497 woman-owned businesses in the West-Construction region-industry context to a high of 603,037 in the South-Other Services region-industry context.

### 3.4. Control variables

We controlled for differences in company size in two ways. First, we measured *employees* using the CASE B Lab data. We calculated this variable by taking the largest value reported in any of the seven “company size” fields for the 2007–2013 period. In cases where no value was reported in any of these fields, we inspected the “size for current assessment” field, which offered employee range options of 0, 1–9, 10–49, and so forth. In such cases, we took the midpoint of the reported range.<sup>6</sup> Similarly, we measured *revenue* (log) by taking the largest value reported in any of the seven “revenues” fields for the 2007–2013 period in the CASE B Lab data. In 415 cases, no revenues were reported for any year. To maximize our sample, we report models in which a lack of reported revenue is assumed to be a true 0, rather than the result of a failure to observe a company's revenues. As discussed below, we tested the robustness of this choice by excluding from our analysis any observations without reported revenue.

To control for possible differences in businesses' motivations for becoming certified, we measured *seeking funding* as a binary variable, coded 1 for any business that reported it was seeking any type of debt or equity financing, and 0 otherwise. Data for this measure came from a CASE B Lab data field labeled “types of investments sought.” Approximately 5% of businesses reported seeking some type of investment. This variable controls for the possibility that a business's motivation for taking the B Impact Assessment was financial rather than identity related. Similarly, we measured *benefit corporation*, coded 1 for any business that reported being incorporated as a Benefit Corporation or a Benefit LLC in the CASE B Lab data, and 0 otherwise.<sup>7</sup> Approximately 11% of businesses reported such a corporate structure. Using the CASE B Lab data, we measured *survey completion* as the proportion of the B Impact Assessment that had been completed by the focal business.<sup>8</sup> Finally, we sought to control for regional and industrial variations that might influence firms' decisions to pursue B Corp certification. Accordingly, using CASE B Lab data, we developed a five-category dummy variable *region*, coded as north, south, east, west, or central, and a four-category dummy variable *sector*, coded as agriculture, manufacturing, retail and wholesale, or service. To control for different levels of business activity within region-industry contexts, we used data from MSCI STATS to measure *public companies* as a count of the number of publicly traded companies, following the same region and industry coding procedures described above.

### 3.5. Model estimation

Our sample includes 1251 U.S. businesses at risk for becoming Certified B Corporations. However, only businesses scoring 80 points or higher on the B Impact Assessment are eligible to become certified. In other words, certification is conditional on qualification. Notably, 232 businesses in our sample failed to meet the 80-point threshold. Accordingly, we employed the method pioneered by Heckman (1979) to correct for potential selection bias. Because our dependent variable is binary, we could not employ the commonly used two-step Heckman model (for a review, see Certo et al., 2016), because the inverse Mills ratio does not effectively correct the selection effect in this situation (Greene, 2012: 880).<sup>9</sup> Instead, as in other recent studies (Ge et al., 2016; Zhu and Shen, 2016), we followed the preferred full information maximum likelihood (FIML) approach using the *heckprobit* command in Stata 14. FIML estimation analyzes the stage 1 and stage 2 models simultaneously to maximize the full log-likelihood function, and proceeds under the joint normality assumption. Compared to the traditional two-step procedure, the FIML approach provides greater efficiency, while also constraining rho (Greene, 2012), and yet, is far less common (Greene, 2012). As Bushway et al. (2007: 159) commented, “this is somewhat ironic because Heckman originally recommended using the two-step approach only to generate starting values for the FIML estimator.”

In our stage 1 equation, the dependent variable is *over 80*, a binary variable coded 1 if the business scored 80 points or higher on the B Impact Assessment, and 0 otherwise. To effectively correct for selection bias, stage 1 of Heckman model should include at least one variable (commonly referred to as the exclusion restriction) that is not included in stage 2 (Kennedy, 2006). We used *ordinary business* as the exclusion restriction for our models. The *ordinary business* variable was coded 1 if the business had no explicit social or environmental mission, and 0 otherwise. This variable was derived from the CASE B Lab data and coded by B Lab using a combination of self-reported data, together with B Lab's review of a company's website and other materials. According to B Lab, “ordinary” businesses may adopt practices such as recycling or employer-provided health insurance benefits,

<sup>6</sup> Where applicable, we coded the midpoint of “1000 +” as 2000.

<sup>7</sup> For interested readers, a comparison between Certified B Corporations and Benefit Corporations can be found here: <https://www.bcorporation.net/what-are-b-corps/certified-b-corps-and-benefit-corporations>.

<sup>8</sup> Following Gehman and Grimes (2017), we attempted to construct other control variables, but were unable to do so owing to data limitations. For instance, we tried to control for company age, but the necessary data were missing in 243 cases, and B Lab was unable to supply us with the missing values.

<sup>9</sup> We thank Simon Parker for his detailed advice on our modeling choices.

but do not view their businesses as vehicles for tackling social and environmental challenges (B Lab, 2016). Approximately 10% of businesses were identified as ordinary businesses. Additionally, we included all independent variables and control variables in stage 1. Finally, in stage 2, we modeled the likelihood that a business would become certified, using the dependent variable, *Certified B Corporation*.

#### 4. Results

In Table 2, we report descriptive statistics and correlation coefficients for our substantive variables (in the interest of parsimony the *region* and *sector* dummies are not reported).<sup>10</sup> The highest absolute value of any correlation coefficient is 0.54 between *public companies* and *identity group size*. Following common practice (e.g., Cobb and Stevens, 2017), we also calculated the variance inflation factors for our independent and control variables. In our fully saturated models for both dependent variables, values range from 1.01 to 1.95, all well below conventional limits (Kutner et al., 2004). Taken together, these results suggest multicollinearity is not a concern within these data.

In Table 3, we present the results of our probit regression models, including both stage 1 and stage 2. Before examining our hypotheses, we first examine the overall results. Looking across the stage 1 results, *ordinary business* is a significant negative predictor ( $p \leq 0.001$ ) of scoring 80 points or more, indicating this variable is an appropriate exclusion restriction. Additionally, the values of rho in all models are highly significant ( $p \leq 0.001$ ), confirming the necessity of using a Heckman selection model and the effectiveness of our procedure in dealing with selection bias.

In terms of the control variables, *revenue* (log) is highly significant ( $p \leq 0.001$ ) in all stage 1 and stage 2 models, indicating that firms with higher revenue are more likely to qualify for and obtain certification. Interestingly, the *employees* variable is not significant in any stage 1 or stage 2 models. *Survey completion* is highly significant ( $p \leq 0.001$ ) in all stage 1 and stage 2 models, suggesting businesses that are willing to spend the time completing the assessment are more likely to qualify for and obtain certification. *Benefit corporation* is not significant in stage 1, but is highly significant ( $p \leq 0.001$ ) in stage 2. All else being equal, a Benefit Corporation is about 1.78 times (i.e.,  $e^{0.578}$ ) as likely to obtain certification as an otherwise identical firm not legally incorporated as a Benefit Corporation. This result suggests that Benefit Corporations are of no higher “quality” than other firms in our sample, but those that qualify are more likely to obtain certification. *Public companies* is not significant in either stage 1 or stage 2, suggesting the presence of public companies (or a lack thereof) has no influence on whether other businesses qualify for or obtain certification.

Turning to our key independent variable, *woman-owned* is highly significant ( $p \leq 0.001$ ) in all stage 1 models. Although we made no predictions in this regard, the significance of this variable in stage 1 indicates that a woman-owned business is 2.12 times (i.e.,  $e^{0.752}$ ) as likely to qualify for B Corp certification as an otherwise identical non-woman-owned business. This finding is consistent with prior literature indicating that woman-owned businesses tend to be more attentive to environmental and social performance (e.g., Hechavarria et al., 2012).

We now evaluate our substantive hypotheses. Model 1 is the baseline specification. Model 2 adds the independent variable *woman-owned*. The coefficient is positive and highly significant ( $p \leq 0.001$ ), providing support for Hypothesis 1. Specifically, the results show that, conditional on qualifying, the probability of a woman-owned business obtaining B Corporation certification is 3.65 times (i.e.,  $e^{1.295}$ ) that of an otherwise identical non-woman-owned business.

Model 3 adds the variable *weak sustainability norms* and the interaction term *woman owned x weak sustainability norms*, enabling us to evaluate Hypothesis 2. Whereas in ordinary least squares (OLS) regressions it is possible to ascertain the significance of an interaction term by evaluating the sign and *p*-value of the relevant coefficient, in the case of logit and probit models, such evidence may be neither necessary nor sufficient (Ai and Norton, 2003; Greene, 2010, 2012; see also Hoetker, 2007; Berry et al., 2010; Plummer et al., 2016). “There can be a significant interaction effect for some observations even if the interaction coefficient is not significant. Conversely, even if the interaction coefficient is significant, there may not be a significant effect from some observations” (Hoetker, 2007: 336).

Accordingly, following the recommendations of Hoetker (2007) and Greene (2010), we evaluated our moderating hypotheses graphically. Specifically, we computed marginal effects at representative values (MERS) and plotted the effects by using Stata's *margins* and *marginsplot* commands (Mitchell, 2012; Williams, 2012).<sup>11</sup> The plotting of MERS is considered the current best practice and supersedes previous approaches (e.g., Stata's *mf* command), which fail to account for “the interdependencies between the interaction term itself and the variables used to compute the interaction term” (Williams, 2012: 329).<sup>12</sup> Moreover, the use of *margins* and *marginsplot* to visualize and interpret interaction effects in linear and non-linear models has been gaining momentum in management scholarship (e.g., Benton, 2017; Martinez et al., 2015).

<sup>10</sup> Because *seeking funding*, *benefit corporation*, and *ordinary business* are dummy variables, as a precaution, we also calculated the Spearman correlation coefficients. Again, we found no multicollinearity concerns.

<sup>11</sup> The marginal effect (ME) is also known as the partial effect. It “most often measures the effect on the conditional mean of *y* of a change in one of the regressors, say, *x<sub>j</sub>*. In the linear regression model, the ME equals the relevant slope coefficient, greatly simplifying analysis” (Cameron and Trivedi, 2010: 343). In non-linear models, when examining the ME related to a dummy independent variable distinguishing two groups (*woman-owned*, in our case), “the ME is the difference in the adjusted predictions for the two groups” (Williams, 2012: 323).

<sup>12</sup> Another common approach for computing interaction effects in non-linear models is the *inteff* command (Norton et al., 2004), closely based on the arguments articulated by Ai and Norton (2003). However, this command is not compatible with Stata's *heckprobit* implementation. We thank Dr. Edward Norton, one of *inteff*'s authors, for confirming this incompatibility and affirming our use of *margins* (Norton, 2017, personal communication).



**Table 2**  
Summary statistics.

Variable	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12
1 Certified B Corporation	0.48	0.5	0	1												
2 Woman-owned	0.14	0.35	0	1	0.34											
3 Weak sustainability norms	0.7	0.41	0	2	-0.01	0.00										
4 B Corp mimesis	29.5	25.05	0	72	0.11	0.03	0.01									
5 Identity group size	173,971	125,725	497	603,037	-0.01	0.01	0.01	0.49								
6 Revenue (log)	8.38	6.92	0	22.79	0.49	0.16	-0.02	0.06	-0.02	0.13						
7 Employees	62.22	518.56	0	14,160	-0.04	-0.03	0.03	-0.05	-0.07	0.06	-0.02					
8 Seeking funding	0.05	0.22	0	1	-0.04	-0.04	0.02	0.01	-0.06	-0.09	-0.02	-0.04				
9 Benefit Corporation	0.11	0.31	0	1	0.17	0.06	-0.01	0.04	0.02	0.06	-0.01	-0.04	0.05			
10 Survey completion	98.28	4.88	70	100	0.27	0.08	0.06	0.03	-0.06	0.17	0.00	0.06	0.05	0.05		
11 Public companies	47.86	65.27	1	243	0.02	0.01	-0.02	-0.10	-0.54	0.08	0.05	0.04	-0.02	0.05	-0.02	
12 Over 80	0.81	0.39	0	1	0.45	0.14	0.01	0.08	-0.01	0.24	-0.01	-0.10	0.08	0.17	-0.02	
13 Ordinary business	0.1	0.3	0	1	-0.31	-0.11	0.05	-0.03	0.04	-0.14	-0.01	0.09	-0.05	-0.04	-0.02	-0.46

**Table 3**  
Heckman probit models of B Corp certification.

	Model 1	Model 2	Model 3	Model 4	Model 5
Stage 1 DV: Over 80					
Constant	-2.373* (1.018)	-2.569* (1.019)	-2.622** (1.017)	-2.610* (1.020)	-2.551* (1.021)
Revenue (log)	0.036** (0.007)	0.037** (0.007)	0.038** (0.007)	0.038** (0.007)	0.038** (0.007)
Employees	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Seeking funding	-0.271 (0.199)	-0.295 (0.199)	-0.296 (0.199)	-0.295 (0.200)	-0.296 (0.200)
Benefit Corporation	0.263 (0.182)	0.253 (0.181)	0.253 (0.181)	0.257 (0.181)	0.255 (0.181)
Survey completion	0.031** (0.008)	0.033** (0.008)	0.033** (0.008)	0.033** (0.008)	0.033** (0.008)
Public companies	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Woman-owned	0.752** (0.172)	0.515** (0.185)	0.516** (0.185)	0.515** (0.186)	0.505** (0.186)
Weak sustainability norms	0.011 (0.121)	0.004 (0.122)	0.060 (0.127)	0.006 (0.122)	0.005 (0.122)
B Corp mimesis	0.004 (0.003)	0.003 (0.003)	0.003 (0.003)	0.001 (0.003)	0.003 (0.003)
Identity group size	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Ordinary business	-1.803** (0.138)	-1.807** (0.137)	-1.806** (0.137)	-1.809** (0.138)	-1.807** (0.138)
Region dummies	Yes	Yes	Yes	Yes	Yes
Sector dummies	Yes	Yes	Yes	Yes	Yes
Rho	-0.890** (0.056)	-0.845** (0.781)	-0.841** (0.078)	-0.841** (0.078)	-0.829** (0.083)

(continued on next page)

Table 3 (continued)

	Model 1	Model 2	Model 3	Model 4	Model 5
Stage 2 DV: Certified B Corporation					
Constant	- 8.506*** (1.905)	- 9.075*** (2.029)	- 8.885*** (2.016)	- 8.824*** (2.044)	- 9.655*** (2.106)
Revenue (log)	0.079*** (0.007)	0.077*** (0.007)	0.078*** (0.007)	0.078*** (0.007)	0.078*** (0.008)
Employees	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Seeking funding	0.113 (0.205)	0.146 (0.215)	0.135 (0.216)	0.161 (0.216)	0.144 (0.218)
Benefit Corporation	0.578*** (0.149)	0.551*** (0.156)	0.550*** (0.156)	0.560*** (0.158)	0.549*** (0.157)
Survey completion	0.080*** (0.018)	0.085*** (0.019)	0.085*** (0.019)	0.084*** (0.019)	0.090*** (0.020)
Public companies	- 0.001 (0.001)	- 0.001 (0.001)	- 0.001 (0.001)	0.000 (0.001)	- 0.001 (0.001)
H1: Woman-owned	1.295*** (0.179)	1.295*** (0.179)	1.039** (0.350)	1.518*** (0.301)	1.923*** (0.408)
Weak sustainability norms			- 0.184 (0.117)		
B Corp mimesis				0.008** (0.002)	0.000 (0.000)
Identity group size					
H2: Woman-owned × weak sustainability norms			0.371 (0.446)		
H3: Woman-owned × B Corp mimesis				- 0.007 (0.007)	
H4: Woman-owned × identity group size					0.000 (0.000)
Region dummies	Yes	Yes	Yes	Yes	Yes
Sector dummies	Yes	Yes	Yes	Yes	Yes
Wald $\chi^2$	165.52	173.69	175.30	177.05	165.31
Degrees of freedom	13	14	16	16	16
Log likelihood	- 930.131	- 893.459	- 892.098	- 888.331	- 891.492
Observations (n)	1251	1251	1251	1251	1251

Standard errors in parentheses.

\*  $p \leq 0.05$ .

\*\*  $p \leq 0.01$ .

\*\*\*  $p \leq 0.001$ .

Fig. 1a plots the predicted marginal effects for both woman-owned and non-woman-owned businesses, together with their 95% confidence intervals (CIs). Fig. 1b relies on the same data, but depicts the *differences* between woman-owned businesses and non-woman-owned businesses. In both cases, the x-axis plots the *weak sustainability norms* variable, which takes values ranging from 0 to 2 in our data. The y-axis plots the predicted probability that a business will obtain B Corporation certification (Fig. 1a), and the *differences* in predicted probabilities (Fig. 1b). The figures reveal that as sustainability norms become weaker (as reflected in larger values), the probability of obtaining *B corporation certification* increases for woman-owned businesses, whereas the probability decreases for non-woman-owned businesses. Additionally, the *differences* line is above  $y = 0$ . Thus, **Hypothesis 2** is supported. In region-industry contexts where sustainability norms are weaker, the likelihood of certification is higher, all else being equal. Stated vernacularly, “dirtier” contexts amplify the tendency for woman-owned businesses to obtain sustainability certification, whereas “cleaner” contexts attenuate this tendency.

To evaluate **Hypothesis 3**, we followed the same logic described above. In this case, the x-axis plots *B Corp mimesis* (i.e., the number of B Corps in a given region-industry context). Fig. 2a plots the predicted marginal effects of woman-owned and non-woman-owned businesses on the likelihood of obtaining certification, while Fig. 2b plots the *differences* between woman-owned and non-woman-owned businesses. Fig. 2a shows that as *B Corp mimesis* in a region-industry context increases, woman-owned businesses are more likely to obtain B Corporation certification than non-woman-owned businesses, while the differences between woman-owned and non-woman-owned businesses shrink. Fig. 2b shows that the slope of their differences is negative. Again, the *differences* line is above  $y = 0$ . Thus, **Hypothesis 3** is supported. As B Corporations become more prevalent in a given region-industry context, woman-owned businesses are less likely to obtain certification.

Finally, we evaluated **Hypothesis 4** using Fig. 3a and b. The x-axis plots the *identity group size* in a given region-industry context. Fig. 3a plots the predicted marginal effects of woman-owned and non-woman-owned businesses on the likelihood of obtaining certification. In this case, the 95% CIs of the two lines converge when *identity group size* takes larger values. “It is tempting to conclude from this overlap that the differences are not statistically significant. Do not fall into this trap,” because “the CIs are for the point estimates, not the differences” (StataCorp, 2017: 1516). Instead, we rely upon Fig. 3b, which shows the *differences* line is negative and above  $y = 0$ . However, when *identity group size* takes values  $> 400,000$ , the 95% CIs become quite wide and include  $y = 0$ . After investigating our data, we found that only 14 observations (1.1%) exceeded this threshold, suggesting these outliers are likely driving the wide CIs. Setting these extreme cases aside, we interpret the plots as supporting **Hypothesis 4**. For 99% of our sample, as woman-owned businesses become more prevalent in a region-industry context, woman-owned businesses are less likely to obtain certification.

#### 4.1. Further analysis and robustness checks

In this section, we further evaluate the models presented above, and test the robustness of our results in several ways. Although there is now broad agreement that pseudo  $R^2$  measures are not useful (for a review, see Greene, 2012: 533–534; see also Cameron and Trivedi, 2005; Wooldridge, 2002), how best to assess fit in non-linear models remains an open question. Perhaps for this reason, some recent studies do not include statistical evaluations of model fit (e.g., Benton, 2017; Plummer et al., 2016). For instance, Carlos and Lewis (2017) adopted an analytic structure that is similar to ours: they reported two-stage Heckman models with binary dependent variables in both stages. Rather than assessing model fit directly, they relied on visual evidence to interpret their interaction terms. More generally, within the management field, recent studies using *heckprobit* tend not to formally test model fit (e.g., Ge et al., 2016; Zhu and Shen, 2016).

Despite these examples, we elected to evaluate our models using log likelihood ratio (LR) tests. The LR test indicates that Model 2 fits significantly better ( $p \leq 0.001$ ) than Model 1, providing further support for **Hypothesis 1**. The  $p$ -values for the corresponding LR tests between Model 2 and Models 3, 4, and 5 are 0.256, 0.006, and 0.140, respectively, suggesting that Model 4, with *B Corp mimesis* as the moderator, is the best fitting model. Based on the LR tests, Model 3, using *weak sustainability norms* as the moderator, and Model 5, using *identity group size* as the moderator, are not better fitting than Model 2.

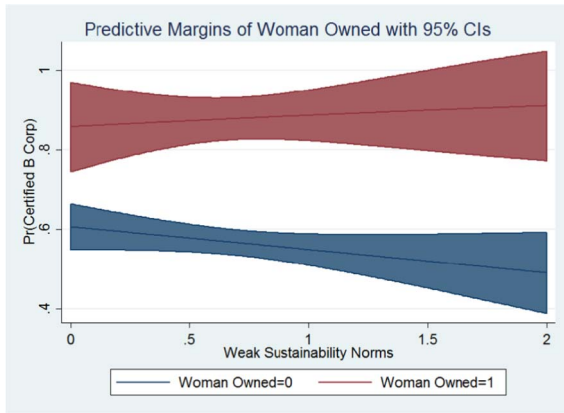
To the extent they are relevant, these LR tests suggest the need for caution in interpreting the results of Models 3 and 5. According to Greene (2010: 295, *emphasis in original*), however: “Partial effects are neither coefficients nor elements of the specification of the model. They are *implications* of the specified and estimated model.” Similarly, in his discussion of probit and logit models, Wooldridge (2002: 465) noted: “goodness of fit is not as important as statistical and economic significance of the explanatory variables.” Thus, it is unclear how much to rely upon goodness of fit tests in the case of non-linear models, especially for models that are meant to illustrate the partial effects of interaction terms. Nonetheless, it seems prudent to assess the generalizability of our results in follow-on studies.

Next, we assessed the robustness of our findings in three ways. First, we evaluated whether our results are robust to an alternative specification. Namely, rather than conditioning our data on a business's likelihood to qualify for certification, we simply dropped the 232 observations with B Impact Assessment scores below 80, reducing our sample to 1019 observations. Using this new sample, we repeated the analysis using standard probit models. In unreported results, we found support for all four of our hypotheses.

Second, we evaluated whether our results are robust to alternative selection specifications. In one procedure, we “saturated” our selection specification by adding all three interaction terms in stage 1, and then repeated our analysis. In the other procedure, we “simplified” our selection specification by removing our main effect independent variables from stage 1 (i.e., we removed *woman-owned*, *weak sustainability norms*, *B Corp mimesis*, *identity group size*), and then repeated our analysis. The results from these two procedures confirm all four hypotheses, suggesting our results are not sensitive to our selection specification.

Third, as noted above, the CASE B Lab data did not include revenue for 415 observations. In our primary analysis, we assumed these businesses had no revenue. To test the robustness of this choice, we dropped these observations and repeated our analysis. With this reduced dataset, we again find support for all four hypotheses, with one caveat. As with our main results, when *identity group size*

**a. Hypothesis 2 moderating effects comparison**



**b. Hypothesis 2 moderating effects differences**

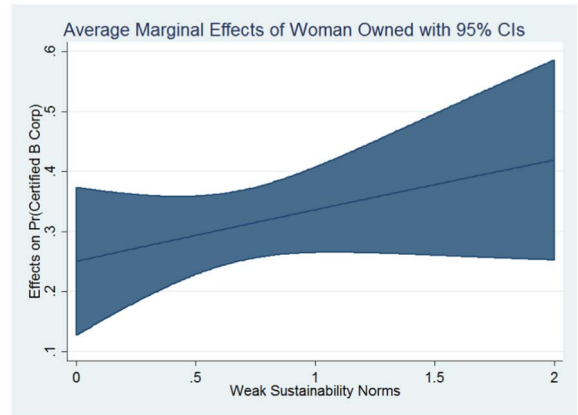
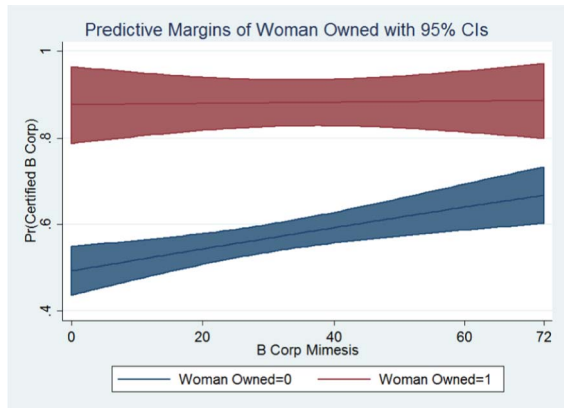


Fig. 1. Visualizing Marginal Effects for Hypothesis 2.

**a. Hypothesis 3 moderating effects comparison**



**b. Hypothesis 3 moderating effects differences**

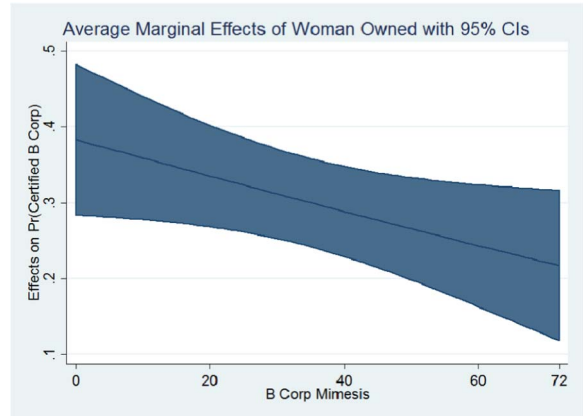
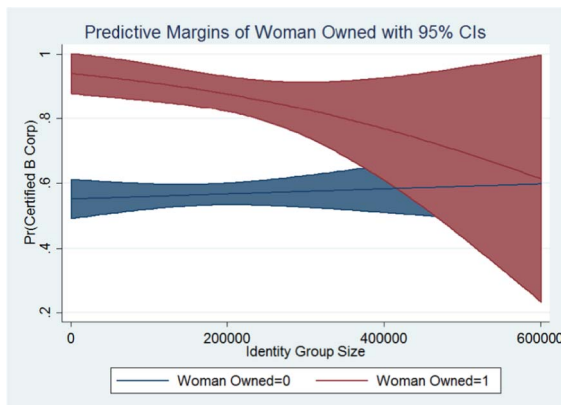


Fig. 2. Visualizing Marginal Effects for Hypothesis 3

**a. Hypothesis 4 moderating effects comparison**



**b. Hypothesis 4 moderating effects differences**

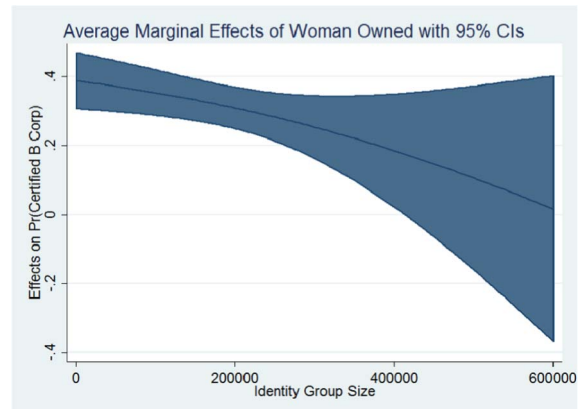


Fig. 3. Visualizing Marginal Effects for Hypothesis 4.

takes large values (in this case, approximately 380,000 or higher), the 95% CIs for the *differences* line cross  $y = 0$ , suggesting the attenuation effect is only significant for values below those points. In sum, our results are robust to different modeling choices, selection specifications, and sampling criteria.

## 5. Discussion

In this study, we explored how the B Corp certification serves as a basis for identity work. Specifically, we theorized that woman-owned businesses are more likely to obtain B Corp certification, as it offers a way to authenticate their sustainability values. Moreover, we theorized that this opportunity for identity work via certification increases in contexts where sustainability norms associated with those values are weaker, mimetic pressure to obtain B Corp certification is lower, and the woman-owned business identity group is smaller. Our results confirm these hypotheses. Taken together, these findings not only enhance our understanding of B Corporation certification adoption, but also provide insight into the importance of women in driving social change due to their willingness to engage in positive deviance. Accordingly, our study provides several important extensions to prior scholarship, which we discuss in the sections that follow.

### 5.1. How women “jumpstart” the field of social entrepreneurship

Despite efforts to celebrate and champion social entrepreneurship, a lack of consensus remains as to which organizations might qualify (or not) as social enterprises (Choi and Majumdar, 2014; Defourny and Nyssens, 2010). In response, the B Corporation certification has emerged as an important vehicle that might improve the cohesiveness (i.e., the degree to which common attributes are clearly defined and self-evident) and currency (i.e., the degree to which the shared purpose is valued by external audiences) of social entrepreneurship as a way to organize (Kennedy et al., 2010). As organizations obtain B Corp certification, they contribute to this cohesiveness and currency.

Nascent certifications like the B Corp certification, however, face a “chicken or egg” dilemma. On one hand, for a certification to attract new members, it must be perceived as valuable. On the other hand, to achieve some level of perceived value, the certification must attract new members. Further scholarly attention to what drives “early adopters” is essential to overcoming this dilemma. The findings of this study suggest a possible resolution. First, we find that early adoption of certifications often is about affirming distinction rather than conformity. Although certifications may offer legitimacy and strong communal resources in their latter stages, in the early stages of the certifications' growth, such benefits are limited (Navis and Glynn, 2011; Wry et al., 2011). Instead new certifications may be attractive precisely because their novelty offers an opportunity to engage in identity work—to externally validate that which particular individuals perceive to be unique and distinctive about themselves (Brewer, 1991; McGuire et al., 1978).

Second, the findings suggest that because individuals ascribe to different central and distinctive values, these differences manifest in different propensities to become early adopters of certifications. As such, individuals whose distinctive values correspond with the values underpinning a given certification are more likely to certify their organizations to authenticate those distinctive values. In our case, the B Corporation certification is underpinned by its focus on upholding and championing sustainability norms. Consistent with prior findings that gender roles within the United States affirm the distinctiveness of such values for women, we find evidence that women on average are more willing to “lean in” (Sandberg, 2013) and certify those values when others have yet to do so. We find this proclivity is heightened in contexts in which doing so is counter-normative, non-imitative, and the relevant identity group is smaller.

These are important findings, given the emphasis that extant economic development research has placed on the role of women in social change (Duflo, 2012; Zhao and Wry, 2016). We extend these arguments by showing that women not only serve as leaders in their local communities by advocating for and participating in positive social change, but also play an integral role in helping “jumpstart” organizational communities associated with positive social change. Viewed in terms of the chicken and egg dilemma, the answer appears to be that women come first. Because women are more likely to engage in positively deviant behavior and embrace the B Corp certification as early adopters, they help to prove the value of the certification and ultimately lend support to the emerging field of social entrepreneurship.

This is both theoretically and practically important, as it extends feminist perspectives of entrepreneurship (Calas et al., 2009). Scholars taking this perspective importantly note that although entrepreneurship has largely been positioned as a source of positive economic activity, these activities can often serve to replicate existing power relations. In the case of social entrepreneurship, however, our findings suggest that women are playing a central role in not only launching social ventures but also in structuring the associated field of activity by way of their early embrace of specific standards and certifications. In other words, while the growth associated with B Lab and social enterprise has been loosely described as a social movement, attempting to reshape market capitalism (Conger et al., 2017), women appear to play a leading role in that movement.

### 5.2. The importance of contextual distinctiveness and organizational standards for understanding owners' identity work

Our findings also contribute to social identity theory more generally. Prior studies of social identity have established that individuals consistently engage in identity work, attempting to optimize their sense of coherence and distinctiveness within different contexts. To date much of this research has focused on how identity work is prompted by perceived mismatches between one's sense of self and one's sense of the contextual demands (Pratt et al., 2006). Several studies, for instance, highlight how individuals within professions or organizations that encourage role-based conformity seek opportunities to customize their work such that they affirm their own distinctive personal values and identity (Elsbach, 2009; Kreiner et al., 2006).

Our study and findings extend these arguments to owners of organizations. Specifically, our findings suggest that for these owners and founders, it is not just organizational and professional demands which prompt identity work but also the broader regional and industrial organizational context within which their organizations are located. These organizational environments either enhance or limit the opportunity for owners to affirm their distinctive identity-based values. Greater contrast between an individual owner and her organization's environment highlights differences in a way that makes the opportunity for identity work salient. Stated more broadly, this suggests that those distinguishing features, because they stand out, become the basis for important organizational actions.

Moreover, our study and findings highlight another way in which the broader organizational context can inform owners' identity work, thereby further extending research in this area. As our literature review establishes, prior studies have highlighted the importance of speech acts (Goffman, 1981) that allow individuals to make self-referential claims, seeking to reposition their own and others' perceptions of their personal identities (Pratt et al., 2006; Snow and Anderson, 1987). In this study, however, we theorized and found evidence that the organizational context, and certifications in particular, can offer cultural resources that allow owners to engage in identity work. By providing an external standard that can be embraced by organizational owners, certifications offer a powerful social basis for clearly authenticating the distinctiveness of one's identity-based values.

### 5.3. Extending scholarly understanding of early-stage certification adoption

Third, our findings advance existing theory on certification. To date, research on certification has primarily focused on the legitimacy signaling benefits achieved by obtaining and promoting certifications (King et al., 2005; Terlaak and King, 2006). Scholars have argued that by obtaining and promoting certifications, organizations engage in impression management with audiences, thereby increasing perceived alignment between their practices and socially prescribed values. Although these arguments may explain the phenomenon of certification within contexts wherein certifications are both well-established and well-aligned with contextual values, they cannot explain early-stage adoption, wherein the certifications themselves suffer from limited legitimacy.

Our study's findings suggest that early-stage adoption of certifications is driven not by efforts to signal social approval, but by efforts to authenticate values that the owners perceive as contextually distinctive. This is theoretically significant because it suggests that identity-related factors are critical, not only for encouraging early-stage adoption of certifications, but also for ensuring that such certifications achieve greater diffusion. In this study, we focused specifically on gender role-based expectations as a particular source of identity differences that could encourage owners to pursue certification as a means of verifying that which they perceive as distinctive. However, we expect the theoretical mechanisms implied in our findings to generalize beyond gender-related differences to other role or social identities. In other words, to the extent that owners identify with particular role identities (e.g., inventor, founder) or social identities (e.g., environmentalist, libertarian, activist) and those various identities are contextually distinctive, our findings suggest that these owners are more likely to pursue certifications that authenticate such distinctiveness.

This identity work perspective on certification also surfaces an important theoretical distinction between authenticity and legitimacy, and their role in motivating organizational action. While legitimacy is derived by way of an actor's alignment with its institutional environment (Deephouse and Suchman, 2008; Dowling and Pfeffer, 1975), authenticity refers to the degree of consistency between an actor's practices and socially-based identity standards (Erickson, 1995; Roberts et al., 2009). Depending on contextual differences, the demands for authenticity and legitimacy may thus align or diverge. Many studies have suggested that legitimacy serves as an important motivator of organizational action—one that often encourages conformity with the demands of a given institutional environment. Our findings suggest that nascent certifications provide limited opportunity to demonstrate such legitimacy, yet may offer notable opportunities to affirm one's authenticity. By revealing the potential divergence between legitimacy and authenticity demands, this study opens future avenues for scholars to explore. One notable avenue might be to explore linkages to organizational performance (Conger et al., 2017). When organizational leaders engage in actions which authenticate their values yet lack legitimacy in a particular context, how do audiences perceive or respond to those actions? Conversely, when organizational leaders forego actions which might authenticate their values, because those actions might be perceived as counter-normative, how is such forbearance received? We also see an opportunity to develop a more dynamic understanding of how organizations might balance between legitimacy and authenticity as a category evolves (Munoz et al., 2017; Wry et al., 2011). For instance, Sharma et al. (2017) found a tendency for the organizational practices of Certified B Corporations to converge over time, a finding they attributed to institutional forces.

### 5.4. Limitations and additional future directions

We focused specifically on how identity work influenced the choice to adopt a sustainability certification. Since many of the organizations that have adopted the B Corp certification are small and medium sized enterprises (Cao et al., 2017), and thus subject to disproportionate influence from their owners and founders, this decision to focus on owner identity was important. In the future, scholars might, however, look to build on this research by considering how identities at the organizational level also influence and inform this process.

In this study, we were unable to directly measure some of our key theorized mechanisms, such as values and identity. Because B Lab's confidentiality agreements prevent it from making identified data available, we were unable to append additional measures. We also treated gender differences as binary, relying on individuals' self-reported indicators as a proxy for more complex gender issues. Clearly there are limitations to such an approach. Nonetheless, our theoretical framework was designed to help increase the confidence of our inferences. Namely, if the theorized mechanisms of values and identity were not at stake, then we should not have found support for the arguments we make in Hypotheses 2 through 4. These interactions help us to tease apart identity-authentication

certification vs legitimacy-seeking certification. Indeed, short of the explanation we have offered, the results reported above would not be expected. During the period of our study, the B Corp certification remained relatively nascent. As such, a key question for future research may be to assess the extent to which such identity-authentication prevails as a category matures.

Additionally, it is important to stress that the gender identity differences theorized in our research are culturally located. This suggests several follow-on possibilities. For instance, were our ideas able to be tested in a multi-country study, our theoretical framework suggests that in those countries where ESG is less mainstream *and* such ESG values are associated with female gender identities, we should find the strongest support for our arguments (see Bullough et al., 2017 for a recent study of women entrepreneurship across countries). On the other hand, as ESG values become more mainstream *and/or* such ESG values are not strongly associated with particular identities, our framework suggests that gender identity would cease to be a significant factor in sustainability certification. Future research might directly test these ideas, thereby potentially strengthening or elaborating our model.

Finally, a key question that could not be assessed in our research centers on the limits of positive deviance. Essentially, we see the potential for a tradeoff between positive deviance and (il)legitimacy. If woman-owned businesses are most likely to adopt B Corp certification in those contexts where sustainability norms are weak, adoption of the B Corp certification is low, and woman-owned businesses are less common, do those woman-owned businesses face legitimacy penalties associated with doing so? If so, at what point does positive deviance become implausible or even impossible for organizations? But it also is possible that positive deviance, because it presumes actions that depart from existing norms in *honorable* ways, is evaluated differently than less honorable forms of deviance (e.g., Graffin et al., 2013; Hudson and Okhuysen, 2009; Vergne, 2012). Better understanding the dynamics of positive versus negative deviance thus appears to be an important area for future research (Deephouse et al., 2017).

### 5.5. Strategic implications for B Lab and other sustainability certification providers

Finally, our study offers some practical implications for B Lab and other similar sustainability certification providers. Indeed, there are now hundreds of sustainability related certifications. For instance, Ecolabel Index (a website operated by a Certified B Corporation) lists > 450 labels in 199 countries and 25 sectors as of October 2017. Although some certifications such as Fairtrade, Forest Stewardship Council, USDA Organic, Leadership in Energy and Environmental Design (LEED), and Energy Star have become widely adopted, many other certifications are far less popular. We are unaware of any prior work which would provide such certification providers with a framework for thinking about the strategic problems they face in developing successful certification programs.

In this regard, we believe our findings provide the starting point for a more general strategic framework. First, our results show that woman-owned businesses were more than twice as likely to qualify for certification (stage 1), and more than three times as likely to certify (stage 2). Our moderating variables further revealed that this effect was strongest in contexts where sustainability norms were weaker, mimetic pressure to certify was lower, and the relevant identity group was smaller.

One way to read our results is quite literally: given resource constraints, sustainability certification providers would be well-advised to target woman-owned businesses directly, and to specifically seek them out in contexts where sustainability is counter-normative, sustainability certifications are not well-adopted, and this identity group is small. But our theorization—based on a logic of positive deviance—suggests a more figurative reading of our results as well. Rather than focusing on women per se, the more generalizable strategy may be to focus on identifying and targeting “positive deviants.” Viewed more abstractly, the core mechanism undergirding our results relates to authenticity rather than legitimacy. In that case, the key strategic imperative for certification providers is identifying those *identity-context* nexuses where potential certification adopters are most likely to find their values authenticated by the certification in question, and contexts in which such values are not yet mainstream—a counter-intuitive strategy to say the least.

## 6. Conclusion

There is now considerable interest in understanding social entrepreneurship (Battilana and Lee, 2014; Gamble and Moroz, 2014; Grimes et al., 2013; Shepherd, 2015). While many stakeholders are interested in catalyzing market-based solutions to grand challenges, such solutions have proved difficult to scale, in part due to issues of complexity, uncertainty, and evaluativity (Dorado and Ventresca, 2013; Ferraro et al., 2015). Our research contributes by highlighting the power of positive deviance. Namely, woman-owned businesses appear to be critical to jumpstarting organizational communities associated with positive social change, particularly in contexts where it might be most difficult to do so. Overall, this research suggests both a more nuanced and a more profound understanding of gender role identity and the sustainability context in driving variation within the area of social entrepreneurship—in this case, choices about sustainability certification. In doing so, we open new theoretical conversations at the nexus of gender, entrepreneurship, and strategy. Here we see potential in, and the necessity of, drawing on multiple perspectives to advance our understanding of prosocial organizing and to further invigorate the field of social entrepreneurship research.

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