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# Working Paper The Diana project: a legacy for research on gender in entrepreneurship

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# **Working Paper**

# The Diana project: a legacy for research on gender in entrepreneurship

Candida Brush, Patricia Greene and Friederike Welter

Working Paper 02/20



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#### THE DIANA PROJECT: A LEGACY FOR RESEARCH ON GENDER IN ENTREPRENEURSHIP

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#### THE DIANA PROJECT: A LEGACY FOR RESEARCH ON GENDER IN ENTREPRENEURSHIP

#### ABSTRACT

Purpose: The purpose of this article is to provide a brief history of the evolution of the Diana Project and the Diana International Research Conference. We examine the impact of the publications, conferences and research contributions; and consider key factors in the success of this collaborative research organization. We discuss the ongoing legacy, suggesting ways to extend this into the future.

Design/Methodology/Approach: Historical narrative and citation analysis

Findings: The Diana Project was founded by five women professors in 1999 to with the purpose of investigating women's access to growth capital. Following a series of academic articles, and numerous presentations, the first Diana International Conference was held in Stockholm, Sweden. At this convening, 20 scholars from 13 countries shared their knowledge of women's entrepreneurship, venture creation and growth, culminating in the first volume of the Diana Book Series. Since then, 14 international conferences have been held, resulting in 10 special issues of top academic journals, and 11 books. More than 600 scholars have attended or participate in Diana conferences or publications.

Research limitations/implications: Contributions from the Diana International Conferences special issues of journals and books have advanced theory across topics, levels, geographies and methods. Articles emerging from Diana scholars are some of the top contributions about women's entrepreneurship and gender to the field of entrepreneurship. Future research directions are included.

Practical implications: This analysis demonstrates the success of a unique woman-focused collaborative research initiative and identifies key success factors, suggesting how these might be expanded in the future.

Social implications: To date, more than 600 scholars have participated in the Diana International Conferences or publications. Diana is the only community dedicated to rigorous and relevant research about gender and women's entrepreneurship. Going forward, efforts to expand work on education for women's entrepreneurship, women entrepreneurship faculty and careers, and women entrepreneurs, gender and policy will take place to extend this legacy.

Originality/Value: The paper is unique in that it is the first to show the substantial legacy and impact of the Diana project since its inception in 1999. Further, it demonstrates how a feminist approach to entrepreneurial principles can yield insights about this unique research initiative and collaborative organization.

Keywords: gender, women's entrepreneurship, Diana Project, venture capital, collaborative research

Article classification: Viewpoint

#### THE DIANA PROJECT: A LEGACY FOR RESEARCH ON GENDER IN ENTREPRENEURSHIP

#### **INTRODUCTION**

It started with a conversation on the beach at the Entrepreneurship Division Social at the Annual Academy of Management Meetings, in August 1998. Nancy Carter, Elizabeth Gatewood, Patti Greene, Myra Hart and Candida Brush were talking about research on women's entrepreneurship. A statistic was offered: more than 7 million women owners businesses in the US, but they received only 2% of the \$33 billion of institutional venture capital. Of the 1,200 firms that received venture capital in 1996, 30 were run by women (Pratt, 1998). This caught our attention, and we wondered, why women entrepreneurs were receiving such a small amount of venture capital, especially during these boom years?

In October 1998 we met for a retreat in Santa Fe, New Mexico and we decided to write a grant proposal to study growth-oriented women entrepreneurs and their access to capital. While we did not know each other well, we were all committed to creating a collaborative research project to study women entrepreneurs. Each of us was at a different school and had a different area of expertise; Nancy (St. Thomas University) was a great statistician, trained in strategy and had worked on the Panel Study of Entrepreneurial Dynamics (PSED) research project . Betsy (Indiana University) formerly ran the University of Houston Small Business Development Center and had a degree in Psychology. Patti (University of Missouri- Kansas City) was a trained sociologist who had studied minority entrepreneurs. Myra (Harvard Business School) was a woman entrepreneur and case study researcher. Candida (Boston University) was also trained in strategy but had studied women's entrepreneurship for more than 16 years, having conducted the first and largest academic US study.

We began by exploring research questions and methodologies, and discussed why a research project focused on growth-oriented women entrepreneurs might be important. Statistics showed that in 1990, women-owned 32% of all non-farm sole proprietorships (5,348,000), a number that grew to 37% (6,833,000) in 1998 (*Women in Business*, 1998). Similarly, a Dun and Bradstreet sample of over 9 million firms estimated that 24.6% of the 1.4 million women-owned business had revenues greater than 1 million in 1997, this number increasing to 25.5% of 1.5 million in 2000 (*Center for Women's Business Research*, 2001). It was also estimated that women entrepreneurs constituted between one fourth to one third of the entire global population (Coughlin & Thomas, 2002). We determined that there was a significant constituency of women entrepreneurs in the US and world-wide who aspired to grow their businesses, and, there was strong public policy interest in the start-up and growth of women entrepreneurs (Brush, 1999).

But, surprisingly, fewer than 6% of all research studies in entrepreneurship studied women or included women in their samples (Brush & Edelman, 2000). In addition, only a tiny percentage of studies examined how women entrepreneurs acquired resources and grew their businesses. This suggested that research about women entrepreneurs, especially those aspiring to grow their businesses, would add to current entrepreneurship scholarship. At the end of four days, we had a vision for a multi-level research program designed to investigate the supply of and demand for equity capital, including a plan to compare growth models for male and female led ventures (Gatewood, Brush, Carter, Greene, & Hart, 2009). Our aim was to raise awareness and expectations of women business owners for the growth of their firms, and educate equity capital providers about opportunities for enhancing portfolio diversification and returns, and therefore economic growth, by including more women-owned ventures. In the spring of 1999, the research proposal received funding from the Entrepreneurship and Small Business Research Institute in Stockholm, Sweden (ESBRI), the Kauffman Center for Entrepreneurial Leadership, the U.S. Small Business Administration, and the National Women's Business Council. We created a five phase research project, including: 1) charting the landscape of research on women's entrepreneurship through an exhaustive annotated literature review, 2) producing findings from primary research on the demand side of the equation – women's experiences seeking growth financing, 3) developing findings from primary research on the supply side – the characteristics and practices of the venture capital industry, 4) generating theoretical models to connect the supply and demand sides, and 5) scaling the Diana Project by establishing Diana International to engage researchers from around the world in this mission. The remainder of this article provides a brief history of the Diana Project, an overview of scholarly contributions, an analysis of the impact of these contributions, and suggests ideas for the future of Diana and research in this area.

#### THE DIANA PROJECT: A BRIEF HISTORY

One of the questions we are frequently asked has to do with the name - "Why Diana?" The explanation is fairly simple - because we were from five different schools and had four different initial funders, we needed a way to identify our research. In other disciplines, research projects were often named (e.g. SAPPHO project for technology innovations, Framingham Heart Study), so we brainstormed on possibilities. We finally landed on the idea of Diana, the mythological Roman goddess of the hunt, the moon and nature. Diana was appealing because she was a "hunter", not a "gatherer", and when women are looking for growth capital, they are on the money hunt. It turns out that this was an important part of launching Diana's research and other activities going forward, because it provided a brand, and clear identity for the collaborative research project going forward. Following is a brief overview of the work completed over the past 20 years<sup>1</sup>.

Phase 1: In the first phase of the Diana Project, we conducted a comprehensive literature review and created an annotated bibliography. We physically searched every issue of primary entrepreneurship journals from their founding date to 2001, identifying every article about women's entrepreneurship, financing growth and venture capital. We reviewed and abstracted 298 articles.<sup>2</sup> Our purpose was to investigate both the supply of and demand for equity capital, and to compare growth models of male and female led ventures. The decision to examine both supply and demand was based on the fact that equity funding involves a "deal" consummated by investors and entrepreneurs. Considering only the demand side of the equation would be only half the story. Our review readily established that there was a lack of research on women entrepreneurs, particularly regarding their growth and financing in comparison to men (Gatewood, Carter, Brush, Greene & Hart, 2003). Notably absent from the general entrepreneurship literature was an understanding of factors affecting the growth of women-owned businesses, even though their success was starting to be recognized as vital for wealth creation, innovation and economic advancement throughout the world.

Our review also showed that women entrepreneurs seldom acquire sufficient funds to grow their businesses aggressively, raising the question "Do women face unique challenges in

<sup>&</sup>lt;sup>1</sup> As part of the collaborative project organization, we decided that authors would be listed alphabetically unless one author took substantial responsibility for writing and publishing the article or other work. This approach was not always accepted or appreciated by publishers or provosts.

<sup>&</sup>lt;sup>2</sup> Journals included: Entrepreneurship Theory and Practice, Journal of Business Venturing, Journal of Small Business Management, Entrepreneurship and Regional Development, Journal of Developmental Entrepreneurship, International Small Business Journal, and Small Business Economics, as well the Published Proceedings from the Babson College Entrepreneurship Research Conference, Frontiers of Entrepreneurship. We also included other journals known to publish articles on women's entrepreneurship. Gatewood, et al, 2003.

acquiring growth capital?" This catalyzed a focus on growth strategies, funding expectations, experiences and characteristics of women entrepreneurs and their teams seeking high growth. Unfortunately, there were only a tiny number of articles studying women and access to financing. In considering why there were so few articles, we concluded that it was not an intentional avoidance, rather a combination of underlying assumptions and general lack of awareness. The first assumption was that there is no sex or gender in entrepreneurship, the model is the model, and the prescriptions for success apply equally to everyone. Second, it was assumed that too few of the women-owned or led businesses were of a size (revenues or employees) or growth orientation to be useful for study. In addition, it had not dawned on researchers that they were missing a part of the population, and therefore samples and data collection did not include the sex of the founder/owner.

Phase 2: For the second phase of the project, we decided to focus on those businesses that were high growth, requiring significant resources and creating great wealth, venture capital funded businesses. These businesses were attracting attention at this time, which was the beginning of the "dot.com" boom, and rise of venture capital funding. We acquired a data base of all investments by venture capitalists in the US. Over a six-month period, we cleaned, coded and analyzed data on the population of women business owners seeking venture capital to support their company's growth (Brush, Carter, Gatewood, Greene & Hart, 2001; Greene, Brush, Hart & Saparito, 2001). With support and funding from the Kauffman Center for Entrepreneurial Leadership we published two reports, the first, a demand side analysis, reported VC funding of women entrepreneurs, "Women Business Owners and Equity Capital: The Myths Dispelled" (Brush, Carter, Gatewood, Greene & Hart, 2003). The second report, focused on the supply side, venture capital, and mapped the entire venture capital industry, identifying the percentage of

women partners and examining the career trajectory of women investors over a five-year period and summarized in the "Gatekeepers of Venture Capital" (Brush, Carter, Gatewood, Greene & Hart, 2004).

In addition to these two efforts, another study tracked more than 100 high-tech women ventures involved with a path-breaking initiative linking women business with the equity capital community during the Springboard 2000 Venture Forums (Brush, Carter, Greene, Hart & Gatewood, 2002). Other research surveyed three groups of growth-oriented women entrepreneurs; those seeking capital and receiving it, those seeking capital and not receiving it, and those not seeking capital. The findings of these studies were published in two articles (Brush, Carter, Greene, Gatewood & Hart, 2006; Carter, Brush, Greene, Gatewood & Hart, 2003).

Phase 3: Research in the third phase of the project showed that although there was considerable demand by women entrepreneurs for equity capital (Greene et al 2001), there was a mismatch between the women, their ventures and sources of growth funding (Brush et al 2006). By examining employment strategies and characteristics of venture capital firms and the career paths of women employed in these firms, we showed that women in the industry were severely under-represented and without sufficient power to influence funding decisions that would bring more women ventures into the funding portfolios. We can't help but note that our latest study showed that the number of women in funding decision making positions in the venture capital industry has actually decreased from 10% to 8% over the past two decades. (Brush et al, 2014).

Our research findings prompted great interest among policy makers, practitioners and educators interested in ways to increase women entrepreneurs' receipt of growth capital through better infrastructure of programs and curricula for women who wished to grow larger business (Gatewood et al, 2009). We also authored a trade book that summarized our research for practitioners and offered strategies for growth-oriented women entrepreneurs seeking capital, *Clearing the Hurdles: Women Building High Growth Businesses* (Brush et al, 2004).

Overall, the first three phases of the project showed convincingly that women-led growth ventures in the United States faced unique challenges in acquiring resources for growth, received significantly little venture capital, and that women were underrepresented in decision-making positions in the venture capital industry. This raised an interesting question as to whether the Diana Project results were unique to the United States or generalized to other parts of the world. Diana International was established to answer this question.

<u>Phase 4</u>: This phase of the Diana Project is marked by the international forums and efforts to move scholarship on gender and women entrepreneurs forward. In 2003, in partnership with ESBRI (Entrepreneurship and Small Business Research Institute, Sweden), we convened two international gatherings of scholars to develop a shared research agenda. The goal of this research collaboration was twofold:

- To provide a platform from which to develop, conduct and share a global research agenda
- To create an international community of scholars dedicated to answering the questions about women entrepreneurs and growth-oriented businesses.

To date we have held 13 Diana International Research Conferences, each with a different theme, and hosted in 8 different countries.<sup>3</sup> (See Table 1). The first gathering in 2003 brought together 20 scholars from 13 countries.<sup>4</sup> Nearly every person participating in that first event has

<sup>&</sup>lt;sup>3</sup> The 14<sup>th</sup> annual conference will be held at Babson College, Wellesley, Mass. in June 2019.

<sup>&</sup>lt;sup>4</sup> Attendees at the 2003 Diana International initial conferences included Claire Leitch, Eva Pinter, Isabel Welpe, Cristina Diaz Garcia, Friederike Welter, John Watson, Kate Johnston, Anne de Bruin, Pia Arenius, Mary Barrett,

been active in Diana International Conferences since then. As of 2018, more than 600 scholars from 47 countries have attended and presented scholarly work at these conferences.

By design, every Diana International Conference resulted in an edited book (See Table 2) and special issue of a scholarly journal (See Table 3). For the 11 published books, these were written by 160 unique authors from 28 countries and edited by 18 unique editors. There were 10 special issues of academic journals published, written by 144 unique authors from 8 and edited by 21 unique editors, from 11 countries<sup>5</sup>. There is no question the initial goals of Diana International were achieved. Diana is a global forum that engages a vibrant community of scholars. The next section presents an analysis of the impact of Diana sponsored books and articles.

#### DIANA INTERNATIONAL: CONTRIBUTIONS AND IMPACT

To assess the impact of the Diana Project and the Diana International Conferences, we conducted an extensive analysis of book sales, and citation counts for books, chapters and special issues of scholarly journals.<sup>6</sup> We began with an analysis of the book sales and for seven of the edited books<sup>7</sup>, we determined that 2,713 books were sold. An analysis of the book level citations showed that they were cited 204 times, while individual chapters were cited more than 435 times. As expected, earlier volumes were more often cited, and certain themes attracted more attention (e.g. Brush, Carter, Gatewood, Greene & Hart, 2006).

Elisabet Ljunggren, Myra Hart, Candida Brush, Bang Jee Chun, Eleanor Shaw, Colette Henry, Helle Neergaard, Patricia Greene, Magnus Aronsson and Elizabeth Gatewood.

<sup>&</sup>lt;sup>5</sup> A special issue, "Catalyzing Change and Innovation in Women's Entrepreneurship" will be forthcoming in 2021 *Strategic Entrepreneurship Journal*; co-edited by Candida Brush, Kimberly Eddleston, Linda Edelman, Tatiana Manolova, Maura McAdam and Cristina Rossi.

<sup>&</sup>lt;sup>6</sup> All data was collected as of December 2018 and the primary source was Google Scholar, along with journal websites.

<sup>&</sup>lt;sup>7</sup> Data for book sales was not available for all volumes.

Considering the edited special issues of the journals, nearly all had very good to excellent impact factors (See Table 3). When considering citation counts, edited special issues have had a total of 9,371 citations as of Dec. 2018 (See Table 4). These citations are spread out over 8 journals and 55 articles, but notably, 13 of these papers were published in 2018. Three special issues were commissioned by *Entrepreneurship Theory and Practice* (two of them, 2006 and 2007, were the first special issues on women's entrepreneurship ever published in an entrepreneurship journal) and the citation counts for these three alone tops 8,238. Another way to consider the impact is that the 14 special issue articles published in 2006 have achieved 3,251 citations, while the 9 published in 2007 have 4,040.

Naturally, special issues from earlier years are more heavily cited, and those issues released in 2018 and 2019 are only emerging in the scholarly community. However, indications of future citations are view counts and downloads.<sup>8</sup> The recent issue of *Small Business Economics* on the theme of "Women Entrepreneurs in Ecosystems" (2018) has more than 5,325 downloads, with one article by Neumeyer, Santos, Caetano and Kalbfleisch having more than 1,800 downloads.<sup>9</sup> Similarly, the 2018 issue of *Venture Capital Journal* on the theme "Women Entrepreneurs and Finance" has a total of 9,253 views, with one article by Brush, Greene, Balachandra and Davis topping 6,908 views, which is the second most of any article in this journal's system (See Table 4).

In considering citations, an analysis of the top cited articles about women entrepreneurs or gender and entrepreneurship between 2006-2019 yielded 19 articles each with more than 300 citations (See Table 5). Of the top 10 cited articles, 5 were part of Diana Special Issues (SI), 2 of

<sup>&</sup>lt;sup>8</sup> It should be noted that journals did not routinely offer statistics on downloads or views until recently.

<sup>&</sup>lt;sup>9</sup> It should be noted that with open access, it cannot be assumed that the articles downloaded or viewed will actually be cited.

these having more than 1,000 citations (Ahl, 2006; Wilson, Kickul & Marlino, 2007). Of the top 6 cited articles, all having more than 621 citations, 5 were in Diana SI 2006-2009. Some estimate that the average article within the research academy has about 15 citations (Schildt, Zahra & Silanpaa, 2007); other sources suggest that authors having an article with more than 1,000 citations are considered to be in the top 1% of all researchers.<sup>10</sup> Because the *International Journal of Gender and Entrepreneurship* (IJGE) was launched at a Diana Conference and the first volume and issue had authors who had attended the recent conferences, Brush, de Bruin and Welter (2009), might also be considered a publication from Diana. Further, some of the Diana SI articles have achieved even wider recognition, for example, Helene Ahl's 2006 paper is one of 10 papers identified by google scholar as a "classic" in entrepreneurship and innovation (https://scholar.google.co.uk/citations?view\_op=list\_classic\_articles&by=2006&vq=bus\_entrepreneurship).

Our analysis also compares the Diana SI's to the impact of other special issues published in the same year. Three Diana SI's were compared to three other SI's for *Entrepreneurship Theory and Practice* for the years 2006, 2007 and 2012 (See Table 6). While there are slight differences in the numbers of articles published in each of these special issues, the impact in terms of citations for Diana SI's is equivalent to the impact of articles on the field of entrepreneurship, entrepreneurial cognition and entrepreneurial behavior, all of which are significant topics in the field. As noted, for 2006, the total Diana SI citations was 1,240 compared to 1,258 for the SI on the Field of Entrepreneurship. In 2007, the Diana SI garnered 4,040 citations compared to 2,341 citations for the SI on Cognition, and the Diana SI in 2012

<sup>&</sup>lt;sup>10</sup> https://lucbeaulieu.com/2015/11/19/how-many-citations-are-actually-a-lot-of-citations/

accumulated 1,338 citations compared to the SI on Entrepreneurial behavior which had 1,110 citations.

Finally, another notable outcome of the Diana International Conference is the birth of this journal, *The International Journal of Gender and Entrepreneurship*, which was the vision of the Managing Editor, Colette Henry. On the editorial team two consulting editors (Lene Foss and Kate Lewis) were both early participants in Diana Conferences, while 15 of the editorial board members participated in Diana Conferences as early as 2003.

#### WHY HAS DIANA SUCCEEDED?

Since 2003, when Diana International was formed, the participation, contributions and impact of Diana Research is extensive. Notably, the impact analysis shows the significant influence on the field of women and gender in entrepreneurship. Perhaps one of the most important recognitions was in 2007 when the Diana Project founders were presented the International Award for Entrepreneurship and Small Business Research by the Swedish Development Agency and the Swedish Foundation for Small Business Research (https://www.e-award.org/). The award is the foremost global award for entrepreneurship research and recognizes scholars who produce scientific work of outstanding quality and importance, contributing to theory-building about entrepreneurship and small business development and the importance of new form formation and SMEs in economic development (Gatewood et al, 2009). But, the nature of the Diana Project as a model of collaborative research, with the goal of convening and supporting researchers around the world is unique and distinctive. Why has Diana succeeded?

We have reflected on this, and somewhat consistent with the core components of the entrepreneurial process, we identified an opportunity, built the team and acquired the resources to implement the initiative. However, we approached this process in a unique and albeit "feminine" manner, creating a collaborative organization and changing institutions over time.

1. The Opportunity- To the first point, at the time, research about women entrepreneurs was scarce (less than 6% all entrepreneurship research), yet the phenomenon of women starting, owning and growing businesses around the world was significant. In other words, there was an enormous population, but little was known about how they launched or grew their businesses. Instead, we applied and tested what was known about men entrepreneurs and explored whether these methods and/or prescriptions would work for women (de Bruin, Brush, & Welter, 2007). In addition, we found that policymakers, educators, and women entrepreneurs were interested in factors influencing the growth of women-led businesses, therefore many constituencies cared about the answers to the questions we raised. Notably, we chose to focus on venture capital, where the disparity was the greatest, the most visible, and, an area critically important to innovation and job creation. The genesis of Diana was rooted in research questions with multiple implications for several constituencies. Parallel to entrepreneurship generally, there was an opportunity, where a big problem was identified, and many people cared about it.

2. <u>Team and Resources</u>- Having identified an opportunity and research questions for study, as professors of entrepreneurship, we intentionally followed an entrepreneurial approach to building our research organization. Our team was comprised of five individuals each with different human and social capital resources. We had different disciplinary training and research capabilities, and we all had different social capital networks given our affiliations to different universities and different groups. We wrote a business plan (research proposal) to attract funding and support our research. In the first few years, we raised \$450,000 funding from the Kauffman Center for Entrepreneurial Leadership, The Coleman Foundation, U.S. Small Business Administration, United States Association for Small Business and Entrepreneurship (USASBE), and ESBRI (Sweden). We also developed a number of partnerships, the National Foundation of Women Business Owners the research affiliate of the National Association for Women Business Owners (<u>https://www.nawbo.org/</u>), and Springboard Enterprises, a forum that showcases top women entrepreneurs to venture capitalists, and provides a network of support and advice to high growth women entrepreneurs (<u>https://sb.co/</u>). In addition, we deliberately developed our brand "Diana Project", created a logo and shared our research widely to policy, practice and scholarly audiences.

3. <u>Collaborative Organization-</u> From the beginning, our collective goal was to catalyze social change, alter attitudes, opinions and practices to provide greater opportunities for women entrepreneurs to participate in economic growth through our research. We all shared this purpose and were committed to this above and beyond our individual personal research projects, which continued during our work together over 20 years. Because we worked in different institutions, our organization was virtual, but we established regular phone and electronic communication patterns, as well as regular research retreats. We organized around four key values:

1. Collaborative decision-making-our structure was flat, we discussed research, organizational and other decisions and collaboratively agreed on decisions. Within this, was equity of ownership, as we agreed that in general, the authors would be "Diana" or alphabetical.

2. Rigor- A core value was the rigor of our research. For all Diana Conferences and publications, we sought to bring the best, rigorous and professional research forward.

3. Catalyze change- We were committed to doing research that made a difference, changed the way people thought or provided new insights.

4. Celebration- At the same time, our working culture involved having fun and celebrating women entrepreneurs.

We extended these four principles Diana International. Each conference focuses on an important theme of interest to scholars, policy-makers and entrepreneurs, showcasing research opportunities of importance. Similarly, nearly 50 organizations around the world have sponsored Diana Conferences. Notably, our founding culture and principles have been diffused across all conferences. The focus on collaborative decision-making, catalyzing change, rigorous research, celebrating women entrepreneurs and having fun has continued. For instance, our conferences include a "Sip and Shop" event where local women entrepreneurs host a pop-up-store for the reception prior the beginning of the research conference. Scholars and women entrepreneurs have great conversations and learn about the research while the scholars learn about the women entrepreneurs. Another prime example is from the Diana 2016 dinner in Bodo, Norway, which was held at a trading post run by a woman entrepreneur. Access to the post for dinner required all participants to don survival gear and travel across the Norwegian Fjord by zodiacs.

A noteworthy outcome of Diana is the legitimation of research on women's entrepreneurship and the creation of a research community around women's entrepreneurship. All the original Diana founders were promoted largely as a result of their collective work on women's entrepreneurship. The same is true for most of the 23 original Diana International group as well. Prior to the Diana International, research on women's entrepreneurship might appear as a track at a conference, but there was no other forum to showcase women's entrepreneurship research. The first generation of Diana International scholars have mentored and brought along hundreds of researchers over the past several years. When a scholar is nominated for or wins a best paper award (which is triple blind reviewed) at a Diana Conference it is an important recognition and it will accelerate his or her career. In addition, a group of Diana researchers, Colette Henry and Barbara Orser, have launched an initiative which is actively pursuing ways to influence policy for women entrepreneurs through research and dissemination. Recently launched at Babson College is a group of educators who come together quarterly to share pedagogies and practices in teaching women entrepreneurs. Recently launched at Babson College is the Educator Roundtable for those who share pedagogies and practices in teaching gender and women's entrepreneurship.

We are often asked what we might have done differently in the formation of Diana. While each of the founders might have slightly different answers, we would probably say nothing. While the entrepreneurial pathway of Diana was not scripted, we did have a shared vision for what we wanted to accomplish. It might have been easier with more funding, more time, more institutional support, but we probably would not have been as persistent, collaborative and rigorous.

#### **EXTENDING THE LEGACY-FUTURE DIRECTIONS**

As this article reflects, the impact and influence of Diana collectively is remarkable. The core founding principles are continued in the annual conference, through the special issues of journals, edited volumes and, this journal. We are in the process of formalizing the organization. Going forward, instead of five founders, there are 600 scholars who are actively engaged in research about gender and women's entrepreneurship. The Diana International Research Institute will be launched in Dec. 2019. Scholars may join the organization, and participate in not only

annual research conferences, but also Diana Impact Day Conferences which bring together scholars, educators, policy-makers, ecosystem participants and funders. Regular webinars and collaborative, mini-forums for paper and career development and other topics will be part of the offerings. This professionalization of Diana will provide more opportunity to further research, education, practice and policy in gender and women's entrepreneurship. While we have achieved a great deal, much remains still to be done.

Although this article did not analyze the topics of research put forth thus far by the collective Diana publications, we do present examples of core themes that need further investigation.

- <u>Gender and entrepreneurship</u>. A substantial amount of research focused on gender as a variable, which results in a sex-based disaggregation of data. This leads to policies and programs that are supposed to benefit women, and/or reduce gender inequality. Unfortunately, this binary presentation does not allow us to understand gendered notions, emerging from cultural, political and social issues that influence our ecosystems. More specifically, this could be investigated relative to gender and the organizations they create, or how the gendering of the institutional environment plays a role in all aspects of entrepreneurship.
- <u>Contributions of gender and women's entrepreneurship to the field of</u> <u>entrepreneurship and other research domains.</u> Jennifer Jennings and Candida Brush noted this in their 2013 article, but this is still an area that is yet to be fully investigated. Predominant research still focuses on challenges faced by women entrepreneurs rather than what we can learn from them. For example, what might we learn from women's entrepreneurship that might influence entrepreneurship

generally? How do women influence entrepreneurial ecosystems? How does gender influence creation and growth of new organizations?

- Gender, women's entrepreneurship and global challenges. It is clear that women world-wide may be more challenged by poverty, climate change, migration, food, education and health. But, they may also be creating bold and disruptive solutions to these challenges through entrepreneurship. We know little of how women entrepreneurs are solving these challenges through innovations in the STEM fields, new models of financing, collaborative organizations, or disruptive business models. In other words, how are women entrepreneurs solving global problems? And what are the ways that gender influences creation and growth of organizations that can inform and redefine entrepreneurial success in a world, which increasingly lives on scarce resources and where we need to take care of our climate and natural surroundings? What does this mean for our current understanding of entrepreneurial success for women and men?
- <u>Gender, intersectionality and entrepreneurship.</u> While there are scores more studies about gender and women in entrepreneurship, we still know very little about different populations of women entrepreneurs and the intersections of race and gender. In fact, policies and programs are often based on the assumption that all women are the same and have the same needs or problems. For instance, how does race and gender influence entrepreneurial start-up and growth?
- <u>The field of women's entrepreneurship</u>. From an identity theory perspective, the Diana Project has made a notable contribution by providing the precedent and opportunities for individuals to take on the role of women's entrepreneurship

scholar with legitimacy, which supported the establishment at the organizational/institutional level of the academic area of women's entrepreneurship.

Besides research initiatives, it is time for Diana to expand work in policy. The group, Global Women Entrepreneurs and Policy (Global WEP), has held a couple of meetings with representatives of more than 15 countries. The first steps are to identify the 'state of the art', in terms of data, unit of analysis and policy research questions, then to identify categories of policies and how these are working. A key objective is to use research on women's entrepreneurship to inform policy and how it is created (Henry, Orser, Coleman, Foss & the Global WEP Research Team, 2017; Coleman, Henry, Orser, Foss & Welter, 2018). This effort should be expanded because it reinforces the link between research, policy and practice.

We would argue that the model of Diana could be extended to other areas. For example, research and teaching collaborations could be launched with groups of like-minded educators committed to improving and developing pedagogies and teaching for gender and women's entrepreneurship. Teaching materials featuring female protagonists are scarce. Entrepreneurship education is for the most part, generic, content focused, and based on the assumption all entrepreneurs need to learn the same basic set of skills to succeed. While this may be true to some extent, our pedagogies also remain the same. For example, a recent survey of cases in the Case Center revealed less than 12% of the cases have a female protagonist suggesting the role models and stories of success remain male-focused. Role models and examples are very important for encouraging women as entrepreneurs. Further, there is evidence that the content and approach is gendered, which results in women believing they do not fit the role of being a successful entrepreneur (Cochran, 2018). In addition, we have few studies that examine how

pedagogy matters in the classroom. How does pedagogy matter in motivating women's entrepreneurship? What works and what does not? This is clearly is a future direction and a Diana model research collaborative to study the effectiveness of teaching pedagogies and courses processes on women's entrepreneurship would be of interest.

It is possible that the collaborative model created for Diana might also work in other contexts. The while there are two core ingredients that apply to all types of entrepreneurs and ventures- identifying an opportunity with a big gap that people cared about, and building the team and acquiring the resources-acquiring resources- we believe that the collaborative nature of our research organization was key. But, our four organizing principles for collaboration could apply to other organizations such as new ventures, film or art projects, non-profits or new initiatives in companies.

As two founders of the Diana Project and one of the early participants of Diana International, the authors of this article speak for the initial group, as well as for the 23 original Diana International group. We are extremely grateful to all those who have joined in this effort through research, writing, conferences and other activities during this past two decades. We are very proud of the feminist organization and research community we have created. We are excited to see what the next two decades will bring from all of you who are part of the Diana International collaboration or who will join us.

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#### TABLE 1

#### **Diana International Conferences, Conference Themes, Organizers and Location**

2003 Diana International Organizing Conference, Stockholm, Sweden. *Diana Founders & Magnus Aronsson* 

2003 Diana International Organizing Conference, Stockholm, Sweden. *Diana Founders & Magnus Aronsson* 

2004 Diana International Conference, Stockholm, Sweden. *Diana Founders & Magnus Aronsson* 

2006 Diana International Conference, Stockholm, Sweden. Magnus Aronsson

2007 Diana International Conference, Madrid, Spain. Candida Brush & Anne de Bruin,

2008 "Advancing Women's Entrepreneurship and Supporting the Growth of Women Owned Businesses" Belfast, Ireland. *Colette Henry & Pauric McGowan* 

2010 "Extending Women's Entrepreneurship Scholarship in New Directions", Banff, Canada. *Karen Hughes & Jennifer Jennings* 

2012 "Women Entrepreneurs in the 21<sup>st</sup> Century", Perth, Western Australia. *Alicia Castillo & John Watson.* 

2014 "Women's Entrepreneurship and Innovation in the Global Economy" Stockholm, Sweden. *Magnus Aronsson, Friederike Welter & Colette Henry* 

2015 "Entrepreneurial Ecosystems and Women's Entrepreneurship", Wellesley, Massachusetts, U.S.A. *Candida Brush* 

2016 "Women Entrepreneurs and Technology; Women in Family Business", Bodo, Norway. Gry Asos & Elisabet Ljunggren

2017 "Women Entrepreneurs in High Growth Businesses: Programs, Practices and Policies", Diana International Conference, (Oct) Kansas City, Missouri. *Candida Brush, Patti Greene, Amanda Bullough & Diana Hechavarria* 

2018 "Women's Entrepreneurship and Culture", Bangkok, Thailand. *Uli Guelich, Amanda Bullough & Friederike Welter* 

2019 "Women's Entrepreneurship: Catalyzing Change and Innovation", Wellesley, Massachusetts, U.S.A., *Candida Brush, Lakshmi Balachandra, Angela Randolph & Amanda Elam* 

### TABLE 2

#### **Diana International Edited Volumes**

Bullough, A., Hechavarria, D., Brush, C. & Edelman, 2019. Women Entrepreneurs and High Growth Businesses. London: Edward Elgar Publishing.

Manolova, T., Edelman, L., Brush, C., Welter, F. & Robb, A. 2017. *Entrepreneurial Ecosystems and the Growth of Women's Entrepreneurship: A Comparative Analysis*, London: Edward Elgar Publishing. (Book sales: 160)

Diaz-Garcia, C.; Brush, C.; Gatewood, E.; & Welter, F. 2016. *Women's Entrepreneurship in Local and Global Contexts*. London: Edward Elgar Publishing. (Book sales: 169)

Lewis, Kate V., Colette Henry, Elizabeth Gatewood and John Watson (Editors). 2014. *Women's Entrepreneurship in the 21st Century: An International Multi-level Research Analysis*. London: Edward Elgar Publishing. (Book sales: 308)

Hughes, Karen and Jennifer Jennings (Editors). 2012. *Global Women's Entrepreneurship Research: Diverse Settings, Questions and Approaches*. London: Edward Elgar Publishing (Book sales: 354)

Brush, Candida G., Anne de Bruin, Elizabeth Gatewood and Colette Henry (Editors). 2010. **Women Entrepreneurs and the Global Environment for Growth: A Research Perspective**. London: Edward Elgar Publishing (Book sales: 381)

Brush, Candida G., Nancy M. Carter, Elizabeth Gatewood, Patricia G. Greene and Myra M. Hart (Editors). 2006. *Growth Oriented Women Entrepreneurs and Their Businesses: A Global Research Perspective*. London: Edward Elgar Publishing (Book sales: 662)

Brush, Candida, Nancy M. Carter, Elizabeth Gatewood, Patricia G. Greene and Myra M. Hart (Editors). 2006. *Women Entrepreneurs: Contemporary Classics*. Edward Elgar Publishing. International Library of Entrepreneurship 2 (ISBN 1-84542-259-7)

Carter, Nancy M., Colette Henry, Barra O'Cinneide, and Kate Johnson (Editors) 2006. *Female Entrepreneurship: Implications for Education, Training & Policy*. London: Routledge (ISBN 0-41536-317-9). (Book sales: 679)

Brush, C. G., Carter, N. M., Gatewood, E. Greene, P. G., & Hart, M. M. 2004. *Clearing the Hurdles: Women Building High-Growth Businesses*. Saddle Creek River, New Jersey: Prentice Hall Financial Times (ISBN 0-13-111201-5).

Brush, C. G., Carter, N. M., Gatewood, E. Greene, P. G., & Hart, M. M. 2002. *Women Entrepreneurs, Their Ventures, and the Venture Capital Industry: An Annotated Bibliography.* Stockholm: ESBRI (ISBN 91-973286-3-4). (Reprinted in Chinese, 2004).

#### TABLE 3

#### **Diana International Edited Special Issues of Academic Journals**

Kuschel, Katherina, Ettl, Kerstin; Diaz Garcia, Cristina; Alsos, Gry 2020 (Editors) Women Entrepreneurship within Science, Technology, Engineering, and Mathematics (STEM) fields. *International Entrepreneurship and Management Journal*. Volume TBD. Issue TBD. Impact Factor: 2.406

Edelman, Linda; Brush, Candida; Manolova, Tatiana and Welter, Friederike (Editors) 2019. Women Entrepreneurs Ecosystems, Special Issue of *Small Business Economics*, Volume TBD. Issue TBD. Impact Factor: 2.852

Hechavarria, Diana; Bullough, Amanda, Brush, Candida. & Edelman, Linda. 2019. (Editors) Women Entrepreneurs and High Growth Businesses. *Journal of Small Business Management*, Volume 57. Issue 1. Impact Factor: 3.248

Leitch, Claire; Welter, Friederike; Henry, Colette (Editors), 2018. New Perspectives on Women Entrepreneurs and Finance. *Venture Capital: An International Journal of Entrepreneurial Finance*. Volume 20. Issue 2. Impact Factor: 2.66

Brush, Candida and Sarah Y. Cooper (Editors). 2012. Female Entrepreneurship and Economic Development. An International Perspective, *Entrepreneurship and Regional Development*, Volume 24, Issues 1 and 2, 1-93. Impact Factor: 2.791

Hughes, Karen D., Jennifer E. Jennings, Candida G. Brush, Sara Carter and Friederike Welter (Editors). 2012. Extending Women's Entrepreneurship Research in New Directions, *Entrepreneurship Theory and Practice*, Volume 36, Issue 3, 429-442. Impact Factor: 5.321

Henry, Colette (Editor), *International Journal of Gender and Entrepreneurship*. 2009 – present. Impact Factor: 2.0

Kyrö, Paula, Iiris Aaltio and Elisabeth Sundin (Editors). 2009. Women Entrepreneurship in 'The Border Zone'. *Journal of Enterprising Culture*, Volume 17, No. 4, 383-525. Impact Factor: .52

de Bruin, Anne, Candida G. Brush, and Friederike Welter (Editors). 2007. Advancing a Framework for Research on Women Entrepreneurs, *Entrepreneurship Theory and Practice*, Volume 31, Issue 3, 323-339. Impact Factor: 5.321

de Bruin, Anne, Candida G. Brush, and Friederike Welter (Editors). 2006. Toward Building Cumulative Knowledge on Women's Entrepreneurship, *Entrepreneurship Theory and Practice*. Volume 30, Issue 5, 583-595. Impact Factor: 5.321

Leitch, Claire and Frances Hill (Editors). 2006. Women and the Financing of Entrepreneurial Ventures: More Pieces of the Jigsaw. *Venture Capital: An International Journal of Entrepreneurial Finance*, Volume 8, Issue 1, 2. Impact Factor: 2.66

## **TABLE 4- Journal Special Issue Citation Statistics**

Year	SI Title	No. Articles	Total SI Citations	Total Downloads	Views	Top Cited/Downloaded/Viewed Articles	
2006	ET&P	8	2860	1240	N/A	<u>Top Cited Article:</u> Ahl, H.; Why Research on Women Entrepreneurs Needs new Directions (1286 citations) <u>Top Downloaded Article</u> : Ahl, H.; Why Research on Women Entrepreneurs Needs new Directions (524 downloads) <u>Top Viewed Article:</u> N/A	
2006	VCJ	6	391	N/A	1677	Top Cited Article: Constantinidis, C.; Cornet, A., & Asandei, S.; Financing Women Entrepreneurs: The Impact of Gender and Other Owner and Firm Related Variables (123 citations) <u>Top Downloaded Article:</u> N/A <u>Top Viewed Article:</u> Constantinidis, C.; Cornet, A., & Asandei, S.; Financing Women Entrepreneurs: The Impact of Gender and Other Owner and Firm Related Variables (501 views)	
2007	ET&P	9	4040	835	N/A	Top Cited Article: Wilson, F.; Kickul, J.; & Marlino, D.; Gender, Entrepreneurial Self-Efficacy and Entrepreneurial Career Intentions: Implications for Entrepreneurship Education (1341 citations) <u>Top Downloaded Article:</u> Wilson, F.; Kickul, J.; & Marlino, D.; Gender, Entrepreneurial Self-Efficacy and Entrepreneurial Career Intentions: Implications for Entrepreneurship Education (411 downloads) <u>Top Viewed Article:</u> N/A	
2009	JEC	6	120	200	N/A		
2012	ERD	5	565	N/A	7830		
2012	ET&P	8	1338	1390	N/A	Top Cited Article: Shinnar, R., Giacomin, O. & Janssen, F.; Entrepreneurial Perceptions and Intentions: The Role of Gender and Culture (466 citations) <u>Top Downloaded Article:</u> Shinnar, R., Giacomin, O. & Janssen, F.; Entrepreneurial Perceptions and Intentions: The Role of Gender and Culture (390 downloads) <u>Top Viewed Article:</u> N/A	

2018	VCI	6	2	N/A	9253	
						<u>Top Cited Article:</u> Brush, C., Greene, P., Balachandra, L. & Davis, A.; The Gender Gap in Venture Capital: Progress, Problems and Perspectives (8 citations) <u>Top Downloaded Article</u> : N/A <u>Top Viewed Article:</u> Brush, C., Greene, P., Balachandra, L. & Davis, A.; The Gender Gap in Venture Capital: Progress, Problems and Perspectives (6908)
2018	SBE	7	28	5325	N/A	<u>Top Cited Article</u> : Neumeyer, X; Santos, S., Caetano, A; & Kalbfleisch, P.; Entrepreneurial Ecosystems and Women Entrepreneurs: A Social Capital and Network Approach (9 citations) <u>Top Downloaded Article</u> : Neumeyer, X; Santos, S., Caetano, A; & Kalbfleisch, P.; Entrepreneurial Ecosystems and Women Entrepreneurs: A Social Capital and Network Approach (1800 downloads) <u>Top Viewed Article</u> : N/A
2019	JSBM	7	N/A	N/A	N/A	<u>N/A</u>
2020	IEMJ	TBD				

## TABLE 5- Top 10 Cited Articles on Women's Entrepreneurship, Gender and Women Business Owners

Year	Author(s)	Title	Journal	Citations
2006	Ahl	Why Research on Women Entrepreneurs Needs New Directions	ET & P- Diana SI, 30:3	1346
2007	Wilson, Kickul & Marlino Langowitz &	Gender, Entrepreneurial Self-Efficacy and Entrepreneurial Career Intentions: Implications for Entrepreneurship Education	ET & P- Diana SI, 31:3 ET & P- Diana	1378
2007	Minitti	The Entrepreneurial Propensity of Women	SI, 31:3	935
2009	Gupta, Turban, Wasti & Sikdaar	The Role of Gender Stereotypes in Perceptions of Entrepreneurs and Intentions to Become an Entrepreneur	ET & P, 33:2	696
2009	Brush, de Bruin & Welter	A Gender-Aware Framework for Women's Entrepreneurship	IJGE (inaugural issue) 1:1*	621
2007	de Bruin, Brush & Welter Morris,	Advancing a Framework for Coherent Research on Women's Entrepreneurship	ET & P- Diana SI, 31:3	601
2006	Miyasaki, Watters & Coombes	The Dilemma of Growth: Understanding Venture Size Choices of Women Entrepreneurs	JSBM, 44:2	562
2012	Shinnar, Giacomin & Janssen	Entrepreneurial Perceptions and Intentions: The Role of Gender and Culture	ET & P- Diana SI, 36:3	499
2009	Calas, Smircich & Bourne	Extending Boundaries: Reframing "Entrepreneurship as Social Change" through Feminist Perspectives	AMR, 34:3	486
2009	Fairlie & Robb	Gender Differences in Business performance: Evidence from the Characteristics of Business Owners Survey	SBE, 33	473

Search terms for this list included: woman entrepreneur, women entrepreneur, women entrepreneurs, female entrepreneur, female entrepreneurship, women's entrepreneurship, women business owners, women owner, gender and entrepreneur, gender and entrepreneurship. Data was collected Feb. 28, 2019.

			number	Intro article	total citations
volume	<b>topic</b> Are you Talking to me? The	editors	articles	citations	for SI
ET & P 2006 <i>,</i> 30:3	Nature of Community in Entrepreneurship Scholarship	William Gartner, Per Davidsson & Shaker Zahra	5 articles; 1 case study	178	1258
DIANA SI ET	Toward Building Cumulative		study	1,0	1230
&P 2006, 30:5	Knowledge on Women's Entrepreneurship	Anne de Bruin Candida Brush, Friederike Welter	8 articles	419	1240
ET & P, 2007, 31:1	The Central Question in Entrepreneurial Cognition Research 2007	Ronald Mitchell, Lowell Busenitz, Barbara Bird, Connie Marie Gaglio, Jeffrey McMullen, Eric Morse & Brock Smith	6 articles	755	2341
DIANA SI ET &P, 2007, 31:3	Advancing a Framework for Research on Women Entrepreneurs	Anne de Bruin, Candida Brush, Friederike Welter	9 articles	601	4040
ET &P, 2012, 36:5	Entrepreneurs' Behavior: Elucidation and Measurement	Barbara Bird, Leon Schjoedt, Robert Baum	7 articles, 1 case study	65	1110
DIANA SI ET & P, 2012, 36:3	Extending Women's Entrepreneurship Research in New Directions	Karen Hughes, Jennifer Jennings, Candida Brush, Sara Carter & Friederike Welter	8 articles	305	1338

## TABLE 6- Comparison of Diana Special Issues to those published in the same year-Entrepreneurship Theory and Practice