

# **Women entrepreneurs' opportunity identification of digital platform start-ups: emerging evidence from South Africa**

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## **Abstract**

**Purpose:** Cognitive drivers of opportunity identification and development are important in entrepreneurship. This study examines antecedents of opportunity development among women founders of digital platform start-ups, defined as technology-mediated sites that facilitate user interactions, processing of transactions or other innovative practices. The opportunity identification and development literature framed our exploration of drivers into digital entrepreneurship among women in a middle-income economy, an area under-represented in prior research.

**Design/methodology/approach:** This research uses in-depth interview data with women founders of five digital platform start-ups in South Africa. The authors supplemented primary interviews with secondary data from a global big data site to provide context for how investors are funding women-owned start-ups in the country.

**Findings:** Entrepreneurs' heightened alertness to opportunity developed from a confluence of factors such as personal values, impatience at the slow pace of change in post-Apartheid South Africa, corporate ennui and building for-profit business models driven by social purpose. Respondents had multiple identities, including gender, culture and generation that influenced their development as entrepreneurs and their adoption of digital platform strategy for start-up ventures.

**Research limitations/implications:** Multiple factors influence women entrepreneurs during the opportunity identification and development process as they enact the creation of digital platform start-ups. The authors recommend additional research linking opportunity identification and development to gender in emerging markets.

**Practical implications:** South Africa is witnessing the emergence of women-owned digital platform start-ups that attract risk capital investment. These entrepreneurs are university educated and use prior corporate experience to create growth-oriented companies that government should support.

**Originality/value:** The study contributes to opportunity identification theory building based on context, specifically how the concepts and strategies can inform new models that include women entrepreneurs.

**Keywords:** Entrepreneurship, Opportunity identification, Women entrepreneurs, Digital platforms, Start-ups, Identity Theory, Entrepreneurial alertness, Life transitions

## Introduction

This paper investigates the emergence of South African women entrepreneurs who create digital platform start-ups, defined as technology-mediated (Internet-based) sites that facilitate user interaction and the processing of transactions or other innovative practices (Gartner, 2019; Koskinen *et al.*, 2019).

While South Africa has traditionally had low rates of formal entrepreneurial activity and high rates of unemployment (Herrington *et al.*, 2017), more recent data show changing attitudes toward entrepreneurship and more women becoming entrepreneurs (Bosma *et al.*, 2020; Herrington *et al.*, 2017). Moreover, 7 out of 10 South African entrepreneurs have a social purpose in starting their companies (Bosma *et al.*, 2020). Embracing entrepreneurship is critical as the country has to strategically build new businesses, especially those owned by women, given evidence of the association between per-capita GDP levels and the gender gap in entrepreneurship (Unnikrishnan and Hanna, 2019; Bravo and Contreras, 2004; Minniti, 2010). Simo Kengne (2016) confirms that women ownership in South African ventures are associated with a positive impact on firm financial performance.

Discussing the opportunities for women managers in South Africa, Prekel (1980, p. 68) invoked Olive Schreiner's [1] appeal for "... new paths of labour and employment for women". Forty years later, that need and gender disparities in employment remain (Stats SA, 2019) but women entrepreneurs are emerging in sectors that rely on skills and capabilities consistent with economic growth. Schreiner's "new paths" are shaped by these women who create employment and attract investment. Labor market data for the period 2008–2018 show a growth of women's employment in the formal sector (Stats SA, 2020), suggesting skills development. Indeed, in the Mastercard Index of Women Entrepreneurs (Mastercard, 2020), South African women are highly represented among professional and technical workers at 53% of that workforce [2]. Official data on business ownership suggest that 77% of women-owned businesses operate in the informal sector, 21.9% in the formal sector and 1.5% in agriculture (Stats SA, 2019), and that they are primarily micro and small businesses. However, the MIWE (Mastercard, 2020) survey suggests that in 2020 women comprised 19.4% of all business owners. While the majority are less likely to be employers (Stats SA, 2020), this research seeks to identify those companies with the potential to grow. Research suggests a link between technology-oriented firms and higher growth (Azoulay *et al.*, 2020; Hecker, 2005). Aidis and Weeks (2016) termed such company founders "high-impact female entrepreneurs" who are often college-educated women who are growth oriented and who expand markets. A paucity of data on such founders render us ignorant about how and why these entrepreneurs start and grow their companies.

We perceive a gap in the literature around how gender influences entrepreneurial opportunity identification, and our research question is: What are the antecedents of how women entrepreneurs in South Africa identify and develop entrepreneurship opportunities, specifically digital platform start-ups? To provide contextual data for the emerging digital start-ups in the country, we use secondary data from the big data company, Crunchbase.com. These contextual data enable us to gauge the potential that exists among women founders as venture capital investment indicates that investors perceive that a company has the potential to grow (Guzman and Kacperczyk, 2019). We then analyze in-depth interviews with five digital platform start-up founders and develop insights based on their choices and justifications for starting companies. Minniti (2010) has shown that local context, necessity,

time, location flexibility and family concerns circumscribe the employment choices and entrepreneurial endeavors of women.

## **Theoretical framework**

We used the entrepreneurship opportunity identification and development literature as a framework, which we link with the digital platforms literature.

### **Entrepreneurial opportunity identification and development**

Digital entrepreneurship is empowering and, in some cases, emancipatory for women entrepreneurs who had been excluded from traditional entrepreneurship based on traditional social and cultural norms (McAdam *et al.*, 2020). Opportunity and how entrepreneurs develop opportunities are fundamental concepts in entrepreneurship (Kirzner, 1997; Alvarez and Barney, 2007), and opportunities that involve digital technology offer a more level playing field for women entrepreneurs to compete (McAdam *et al.*, 2020).

The literature is largely silent on how factors influencing opportunity identification play out differently for men and women entrepreneurs. One study finds a gendered difference in the process of opportunity identification among men and women, noting that women and men tend to employ different combinations of human capital resources in the process (DeTienne and Chandler, 2007). DeTienne and Chandler (2007) note further that neither process is superior to the other, and that there was no difference in how innovative the opportunities were.

Contributions have been made on opportunity recognition, including antecedents and process (Sarasvathy, 2001), and opportunity development and exploitation (Ardichvili *et al.*, 2003; Kuckertz *et al.*, 2017; Grégoire *et al.*, 2010). Antecedents influencing opportunity identification include prior knowledge, social networks, personality traits and entrepreneurial alertness (Ardichvili *et al.*, 2003), as well as experiential and vicarious market learning (Bao *et al.*, 2020).

Opportunities arise out of market inefficiencies when entrepreneurs recognize and develop solutions, bringing markets into equilibrium (Kirzner, 1973). Grégoire *et al.* (2010, p. 118) shift the focus to the domain of actors' beliefs and the cognitive dimension of opportunity recognition; opportunity recognition rests on "... subjective perception and interpretation of objective realities...". In line with McMullen and Shepherd (2006), they contend that entrepreneurial action divides into two nested phases. First comes the formation of subjective beliefs about an opportunity and a cognition of feasibility for those actors with the relevant qualities and means to exploit the opportunity. Second there is an evaluation of whether one "has what it takes", in terms of means and motivation.

Opportunities are therefore about the possibility to act and to use market failures to birth innovations for individual, firm, and social betterment and purpose. The Global Entrepreneurship Monitor (GEM) data for South Africa clearly underscore this social purpose (Bosma *et al.*, 2020) and is consistent with Venkataraman and Sarasvathy (2001). Opportunities are uncertain *ex ante* (Grégoire *et al.*, 2010); individuals who are able to "sense-make" opportunity with respect to uncertainty and the larger context will be most likely to pursue the opportunity (Baron, 2006). George *et al.* (2016) regard key variables that define opportunity recognition, discovery and creation as prior knowledge, social capital,

cognition and personality traits, environmental factors, entrepreneurial alertness and systematic search. Prior theory development (Ardichvili *et al.*, 2003) suggests also creativity, self-efficacy, high internal locus of control, as well as risk perception and management. Finally, life transitions lead to opportunities as individuals solve extant problems (Aldrich and Cliff, 2003).

Discovering an opportunity is insufficient for building a venture (Shane and Venkataraman, 2000). Instead, entrepreneurs search for and create a “fit” between market needs and the resources of the venture (Ardichvili *et al.*, 2003). This process is active and deliberate (Kuckertz *et al.*, 2017), with opportunity recognition and opportunity exploitation manifesting distinct and shared antecedents. Opportunity recognition is “... being alert to potential business opportunities, actively searching for them, and gathering information about new ideas on products or services” (Kuckertz *et al.*, 2017, p. 92). In contrast, opportunity exploitation is actively “developing a product or service based on a perceived entrepreneurial opportunity, acquiring appropriate human resources, gathering financial resources, and setting up the organization” (Kuckertz *et al.*, 2017, p. 92). These antecedents distil the “mountain building” (Alvarez and Barney, 2007, p. 11) undertaken by entrepreneurs who iteratively construct entrepreneurial opportunities. We explore how our digital platform women entrepreneurs built these “mountains”. In particular, we explore and describe the identities and roles that these women entrepreneurs assume in order to find and create opportunities, delving into how women entrepreneurs use ICT in their businesses (Mohanty and Mishra, 2020).

### **Founder Identity Theory and women entrepreneurs**

Drawing on Baker and Powell's (2021) suggestion to regard Social Identity Theory of Tajfel and Turner (1979) and Identity Theory of Stryker (1980) as complementary, this study uses both theories to more deeply understand women entrepreneurs' identities as founders of digitally enabled businesses. Social Identity Theory (Tajfel and Turner, 1979) posits that people group themselves and others into social categories. Herein lies an important distinction between the two theories' perspectives on founders' identities: Social Identity Theory focuses on the in- or out-group categories, whereas Identity Theory is concerned with roles, meaning that individuals construct the self through taking the role of the other or understand themselves through how others evaluate them (e.g. symbolic interactionism of Stryker, 1980).

South Africa's increased rates of entrepreneurship (Bosma *et al.*, 2020) imply individuals are now starting to identify as entrepreneurs while balancing other roles. The current study on women entrepreneurs explores how gender roles intersect with and influence how women develop opportunities. Women form identities as entrepreneurs through activities undertaken to develop, maintain and exhibit their identities (Lewis, 2015). Gender is, accordingly, socially constituted and an ongoing social process (Holvino, 2010).

Identity constitutes the meanings attached to oneself by self, and others, and depends on social roles and group memberships (Ibarra, 2007). In organizing a new venture, women entrepreneurs' social environments shape their self-categorizations, which then shape their interaction with other founders and stakeholders, and in turn, influence the social identities that form in this process of establishing the new venture (Baker and Powell, 2021).

Self-identity becomes a resource for self-identification, going beyond superficial role performance (Sveningsson and Alvesson, 2003). In this regard, Identity Theory emphasizes the agentic processes through which individuals choose roles, as well as selecting which people's opinions and expectations they would allow to influence their sense of self (Stryker, 1980). Baker and Powell (2021) suggest that the different social role identities that founders choose to wear in turn shape their attention to opportunities. This avoids the danger of essentialism in conceptualizing identity (Holvino, 2010) and allows for intersections of not only race, class and gender but also sexuality and ethnicity. Thus, no one identity is salient and instead, multiple social and role identities might influence entrepreneurs to establish their businesses (Baker and Powell, 2021).

Women entrepreneurs leading social entrepreneurial organizations drive positive social impact through their values (Borquist and de Bruin, 2019); it appears that women entrepreneurs have an acute desire to do social good through their entrepreneurial ventures. Values-driven entrepreneurs are important for sustainable development of emerging markets (Vadera, 2019).

Baker and Powell (2021, p. 167) state, "Which identities are invoked or salient in the context of the practical work of entrepreneurship remains an underexplored empirical question". This study therefore endeavors to offer empirical evidence of the evolution of women entrepreneurs' identities. The identity prototype of what it means to be an entrepreneur or to self-identify as an entrepreneur could differ across contexts (Powell and Baker, 2017).

Women entrepreneurs must reconcile and integrate multiple and conflicting identities that include belonging to, for instance, a cultural group, women-hood, motherhood or other identities. The multiple roles and identities of women entrepreneurs require them to draw on entrepreneurial agility and resilience to address these challenges (Ayatakshi-Endow and Steele, 2021). The need for differentiation among these identities, on the other hand, causes strain for entrepreneurs as they construct entrepreneurial identities (Lewis, 2015) while negotiating life transitions (Aldrich and Cliff, 2003; Lewis *et al.*, 2016).

### **Technology-oriented firms**

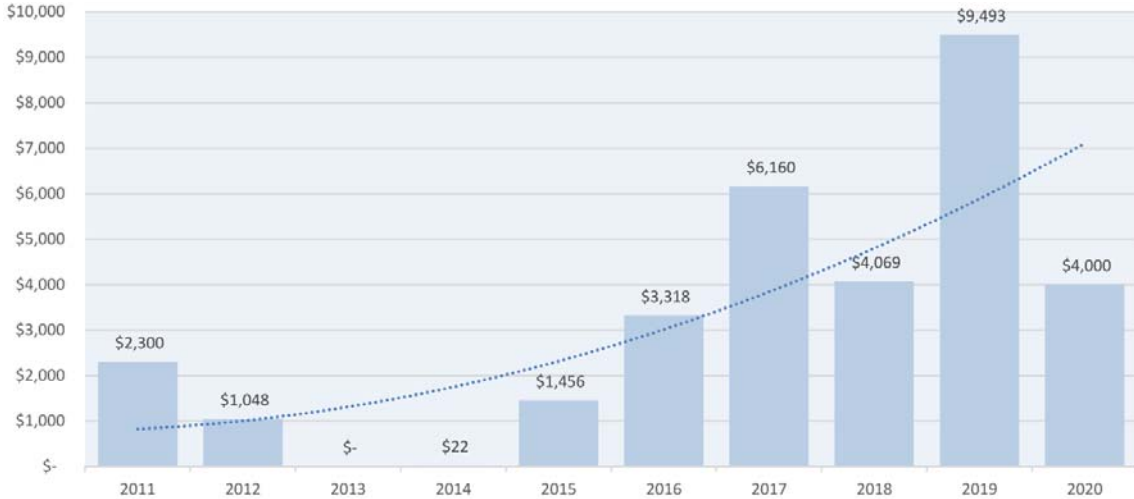
Adom and Asare-Yeboah (2016) find that well-educated women with relevant work experience are more likely to achieve success in their entrepreneurial ventures. Technology-oriented firms require knowledge in the sciences, mathematics, engineering and information technology; the South African government made this a priority in its White Paper on Science, Technology and Innovation (Department of Science and Technology, 2019). We define technology broadly as "devices, artifacts, processes, tools, methods and materials applied to industrial and commercial purposes" (Dorf and Byers, 2005). Digital platforms are firms where entrepreneurs will likely require high levels of education and prior industry experience (Barringer *et al.*, 2005). This study uses the following definition of a platform: "A platform is a product that serves or enables other products or services. Platforms (in the context of digital business) exist at many levels. They range from high-level platforms that enable a platform business model to low-level platforms that provide a collection of business and/or technology capabilities that other products or services consume to deliver their own business capabilities" (Gartner, 2019).

Digital platforms represents an ecosystem of four types of "actors", including the owners who control governance and Intellectual Property (IP); providers are companies that offer an

interface for the customer; producers create service offerings, while customers purchase those offerings (Van Alstyne *et al.*, 2016). Value creation occurs through interaction among customers, and the sharing of data and feedback. Business models are typically multi-faceted in nature and complex. Zhu and Furr (2016) argue that product quality and customer demand remain of great importance for digital platform companies. Van Alstyne *et al.* (2016) show that digital platforms benefit from network effects that secure customers, engaging them in new ways, while transforming the imperative of growth from supply-side economies of scale to demand-side economies of scale. This “inversion” is consistent with business models driven by customer discovery (Ries, 2011; Blank, 2013).

We sourced secondary data to offer information on the context of the women entrepreneurs in the study. Funding is a key constraint that women entrepreneurs face (Swartz *et al.*, 2016), and risk capital investment during early phases helps digital enterprises to grow (Cavallo *et al.*, 2019). One data source on risk capital investment in entrepreneurial start-ups is Crunchbase, which academic researchers are increasingly adopting (Ter Wal *et al.*, 2016) as a data source to augment government statistics. We constructed a data set from the Crunchbase (2019) hub on South African woman-founded companies that had received investor funding and updated the data through to July 2020 (Crunchbase, 2020).

Table 1 summarizes by year and investment amount, the number of investments specific types of companies and services. Figure 1 displays an increase in 2012, a peak in 2017 and a decline in 2020 due to the coronavirus disease 2019 (Covid-19) pandemic. Between July 2019 and July 2020 investment in female founded companies in South Africa grew from \$28M to \$39M, while between 2005 and 2020, there were 74 funding rounds into 53 unique companies. Table 1 suggests the predominance of transactions platforms (Koskinen *et al.*, 2019) such as e-commerce sites, online marketplaces, auctions and evolving over time to technologically sophisticated platforms such as financial analytics, online gaming and medical technology.



**Source(s):** Developed by authors using Crunchbase (2020) data shown in US dollar \$ amounts

**Figure 1.** Investment in South African women-owned companies, 2005–2020

**Table 1.** Women-owned companies founded in South Africa by number of deals and type of service per year

<b>Year</b>	<b>No of deals</b>	<b>Amount of investment (in 000s)</b>	<b>Type of companies and services created</b>
2020	2	\$4,000	Online games
2019	12	\$9,493	Genetic testing, mobile apps, agriculture, cleaning services, medical technology, fashion and luxury retailing, and e-commerce
2018	12	\$4,069	Financial analytics, online gaming, car sharing, analytics, e-commerce, insurance, music streaming, social venture fund and education technology
2017	15	\$6,160	Charitable giving, legal platform, footwear, accounting software, online care buying, web design, investment management, mobile health, insurance, music streaming and coding school
2016	9	\$3,318	Private primary schools, event management, fragrances, investment management, ride sharing, information technology, home cleaning and catering
2015	12	\$1,456	Marketplace for creatives, e-commerce, online auction, travel, music streaming, accounting software, home cleaning, financial technology, organic agriculture and media education
2014	4	\$22	Saas platform, music streaming, marketplace for creatives and vision training
2013	1	–	Credentialling software
2012	5	\$1,048	Online auction, social network, e-commerce beauty store and accounting software
2011	1	\$2,300	Online marketplace for creatives

**Source(s):** Developed by authors using Crunchbase (2020) data shown in US dollar \$ amounts

The data drawn from Crunchbase show that there are South African women entrepreneurs who use digital platforms for market entry and as growth strategies. While this provides useful contextual data, we wished to uncover, from the women founders themselves, their motivations for starting their companies and selecting a digital platform strategy.

## **Method**

This study uses a constructivist/interpretivist ontology, as we were interested in the participants' perceived meaning (Leavy, 2017) for making the choice to become an entrepreneur. To ensure alignment with our ontology and epistemology, our study follows a qualitative, exploratory research design (Babin and Zikmund, 2016). We conducted semi-structured interviews to collect data and used an inductive approach to analyze the interview data (Tracy, 2013). Analysis consisted of using codes developed from the semi-structured interview instrument and comparing across interviews. This allowed us to reveal the women entrepreneurs' perspectives of their identity and their entrepreneurial opportunity identification.

### **Qualitative data collection process**

Two of the authors created a semi-structured interview schedule based on an extensive literature search on entrepreneurship in South Africa. The categories that were included were company background, entrepreneur background, launching and growing the venture, financing, social influences and future plans. Table 2 provides details for each company.

The local context determined our sample selection and we used purposive sampling (Creswell *et al.*, 2007), followed by snowball sampling to reach our ideal respondents. We wished to interview women whose companies were growing and given the entrepreneurial ecosystem in the country, such individuals are located in the Gauteng and Western Cape provinces.

Our selection criteria included gender, start-ups located in South Africa, and that the company should be growing. Our criteria for growth included revenue growth and employment creation. The academic and professional networks of the researchers served to recruit a sample of thirteen entrepreneurs. Of these, five respondents emerged as individuals who had created digital platforms. Two companies did have co-founders (2SWS and 4YAL); we did not interview these co-founders, as they had not been the individual who had identified the entrepreneurial opportunity. Additionally, these co-founders were male and our focus is on understanding how women made sense of their entrepreneurial journey.

The research design has limitations as purposive and snowball sampling might have excluded entrepreneurs that could have provided different perspectives. To mitigate risks to the validity and reliability of this study's results, we ensured credibility and trustworthiness of our method by following a systematic coding structure (Gioia *et al.*, 2013). Furthermore, one researcher conducted the initial coding, with the other two researchers coding some of the transcripts to compare the themes that resulted from the initial analysis; this increased the inter-rater reliability (Leavy, 2017; Ward and Street, 2010). In terms of reliability, the researchers documented the analysis process and interpretations well to ensure the reproducibility of the results and to triangulate our findings with the secondary data (Ward and Street, 2010).



**Table 2.** Background information on case study companies

Company	Sector	Entrepreneur's cultural identity	Employees	Funding	External opportunity identified	Internal personal life stage catalyst
IOB (est. 2010) Johannesburg	Edtech	White; English speaking	3 full time outsourcing of technology solutions	UK government grant for seed funding; Internet solutions as incubator and personal savings	Experience with online tools in UK provided inspiration for a learning management system to use in SA and contributing to education in townships; pivoted to corporate to generate revenues Yearned to return to SA and make a difference	Life stage transition: Returning to South Africa and wanting to start a family
2SWS (est. 2014) Cape Town	Digital home services platform	“Coloured” <sup>1</sup> ; English speaking	40 employees	SiModisa, 500 Startups incubator and then funding from VC funds	Lack of domestic help over holiday period and realization of huge supply of domestic workers in country Realised need to become intermediate to provide digital solution for supply and demand problems with domestic services and opportunity to improve pay and conditions for women Wanted to make a difference now rather than wait until her PhD would produce a way to “give back”	Life stage transition: Wanted to leave corporate life and gain work-life balance while parenting and creating jobs for unemployed people
3EMT (est. 2017) Johannesburg	Logistics	White; Afrikaans speaking	2 full time Use of outsourced gig economy workers for technology solutions	Personal savings and private equity funding	Realised empty haulage issue could be solved by providing an independent logistics intermediary to match supply and demand in transportation Inspired by sustainability and environmental impact of such a platform	Left corporate life to be with life partner and commit to the relationship
4YAL (est. 2017) Johannesburg	Insurtech	Black African from rural Swaziland	25 full time and outsourced call center solution	PIC owns equity personal funds; Family and friends	Father died and having to pay off personal loans triggered realization that credit life insurance (CLI) is bundled with loans and that most consumers never claim because they do not understand the product. Provides cheaper CLI and educates about how to claim on insurance	Life stage transition: Loss of father and the lack of financial acumen was an eye opener to what was going on in the world Disillusioned by the lack of transparency in the finance industry and left corporate life
5POP (est. 2013) Cape Town	Cyber security and compliance	White; immigrant from Germany and English speaking	Initially 9 and grew to 23 full-time and projected to grow to 50 in one year	Use of home bond and savings; revenues from operations	Idea was “incubating” for two years and displeasure with corporate wastage of money and people’s time. Witnessed somebody having heart attack over project and decided “I would rather do my own thing”	Life stage transition: Left corporate environment to become an entrepreneur On honeymoon created the idea for the company

**Note(s):** <sup>1</sup>The term “coloured” has a complex history in South Africa and refers to individuals with mixed ancestry. See more here: <https://minorityrights.org/minorities/coloureds/>

**Source(s):** Developed by authors

We conducted interviews during the first half of 2019 in Cape Town and Johannesburg, using a semi-structured protocol for the interview. One researcher transcribed each interview. All researchers read the transcripts, identifying concepts and themes across the cases. One researcher developed a spreadsheet with first order codes of emerging constructs, with evidence from the interview transcripts, then second order themes and ultimately aggregated dimensions, according to the data structure as advised by Gioia *et al.* (2013). The other two researchers reviewed the results. In line with Garg and Eisenhardt (2017), we judged that theoretical saturation had occurred when common patterns emerged from the data and we found no new insights. We combined themes when, across cases, they seemed to refer to the same phenomenon. We captured common experiences while identifying idiosyncratic themes for individual entrepreneurs.

Interviews lasted for a minimum of one hour, with some lasting up to two hours. Respondents signed a consent form after verification of the transcription. In addition to interview data, the researchers conducted searches on the companies, scanned social media sites and obtained secondary data from Crunchbase on each of the companies to aid in triangulation of information. These were important elements in countering retrospective bias. Furthermore, all three researchers coded the interviews to evaluate veracity of claims and agree on the final codes from the interviews. This process resulted in the three salient themes we discuss in the next two sections.

## **Findings**

Our research question focuses on the antecedents for women who create digital platform start-ups in South Africa. We discuss our findings about the entrepreneurs and their companies before delving into the factors that influenced their opportunity identification process.

### **Understanding the women entrepreneurs and their companies**

Table 2 provides a summary of demographic information, funding sources, the way the entrepreneur identified the opportunity to build a company, and individual life stage transitions for each entrepreneur that became one of the catalysts for opportunity identification. Our sample is highly diverse in terms of race, ethnicity, language and political background. In terms of age, three are Millennials in terms of cohort (Van Rossem, 2019), and all were in the age window when individuals are most likely to start a company and be successful (Azoulay *et al.*, 2020). However, some common threads among the women include significant education attainment, corporate and management experience, and that they had lived outside of South Africa at some point during their lives, to work or study.

One Black African entrepreneur (4YAL) had grown up in rural Swaziland, the daughter of a diplomat who served in South Africa; she completed her university education in South Africa and worked in banking before launching an insure-tech company in Gauteng. One entrepreneur (5POP) is a German immigrant who visited South Africa as a student, found work and married into an entrepreneurial South African family. She founded a cybersecurity company in the Western Cape, after her disenchantment grew with corporate life and values. The 2SWS founder is of mixed race heritage and had lived outside South Africa when her parents went into political exile during the struggle against apartheid. Finally, two white South African women round out the group of five; 1OB is owned by an English-speaking

South African, while 3EMT was founded by an entrepreneur from an Afrikaans speaking background.

The digital platform start-ups in our research operate in the following sectors: educational technology, insure-tech, digital home services, cyber security and compliance, and logistics. The companies ranged in age from 18 months to 10 years; all are small employers with potential to grow employment. All the entrepreneurs invested personal savings to seed their companies, and then raised additional capital from grants, incubators, private equity and venture capital funding, as well as investment from South Africa's Public Investment Corporation (PIC). Of note is that one of our respondents shared that she had agreed the sale of her company to a large American cyber security conglomerate. This profitable exit occurred six years after the launch in 2013.

The intersection of different identities as women, mothers, daughters and life partners are manifest in Table 2. Four of the entrepreneurs are mothers and wives whose care-taking responsibilities were paramount considerations. For 1OB, the desire to have a family and raise her children in South Africa surrounded by her family motivated her return from London. Highly pragmatic, she knew that her digital skills could be transformative in South Africa's education sector and launched her company as a free service to schools. Similarly, 2SWS launched her company when she identified the opportunity to operate a digital intermediary to provide a supply and demand solution for domestic services that could simultaneously improve pay and conditions for thousands of women (and men) in the domestic service industry. Conscious of high levels of unemployment, this founder specifically wanted to create value at a societal level.

Table 3 provides indicative quotations for catalysts that formed a confluence that heightened entrepreneurial alertness, laying bare the complexity of how women entrepreneurs' identities transition.

These catalysts were the lure of digital solutions, family considerations, corporate ennui or disillusionment, identifying with millennial values and international experience.

For all the women, the use of digital platform as channels appeared self-evident, given their facility with technology in general, and the deep knowledge acquired from prior corporate roles. For instance, respondent 1OB shared:

I was trained in digital marketing and (had) experience of building and managing complex database tools for corporations.

The 2SWS founder shared the following insight:

The idea of these network effects and how a business can move ... and how you can use technology also to scale something very quickly.

Similarly, respondent 3EMT described herself as "... a digital-crazy person who thinks that if I can bring things together, we can open markets and keep things fair".

The women entrepreneurs mentioned that their experience of life, work-life balance and family considerations influenced opportunity identification. For example, respondent 2SWS

**Table 3.** Confluence of factors leading to decision to investigate opportunity

<b>Catalysts</b>	<b>IOB</b>	<b>2SWS</b>	<b>3EMT</b>	<b>4YAL</b>	<b>5POP</b>
Lure of digital solutions	Trained in digital marketing and experience of building and managing complex database tools for corporations	“The idea of these network effects and how a business can move and I think the technology side, I mean how you can use technology also to scale something very quickly”	“I am just this digital-crazy person who thinks that if we can bring things together we can open markets and keep things fair”	“We need to develop from using a platform to “being” a platform”	Corporations use content platform to deliver customized solutions
Family considerations	Drawn back to SA and husband joined company as he would not have found employment easily	Husband created software platform and instrumental in decision to start	Idea identified when with previous boyfriend	Husband assisted with the care of the children to support her career goals	Husband supportive – guide and use of bond (mortgage) money to start
Corporate ennui	“I learned a lot in corporate but got immensely frustrated and that was what gave rise to OB...”	“I questioned what were the things that I did not like about academia and ... the corporate environment, and the two things were the lack of my ability, personally, to create impact on the larger scale”	“Hmm, I think I am going to be an entrepreneur for a while”. I was not enjoying the project work; I was missing BCG terribly. BCG is a great firm! so, it was a lot of resentment as well. So, I was like “No, I’m going to be an entrepreneur, I am going to try something completely different”	“I can make a difference in one person’s life where they maybe get retrenched and did not have to worry about a loan. It would satisfy the need inside of me to making a true difference versus sitting and collecting bonuses”	“And then I thought I did not want to be part of this corporate rat race – I would rather do my own thing”
Identity as Millennials/Values	“It was while working in corporate there [UK] in big data, building websites that I realised I could put my skills towards something that could have an impact in SA ... that was when the idea came about and I jumped ship ... and started my own business”	“ ... ja, made a very irresponsible decision to quit our jobs! Cashed in our savings and our pension and just decided to give it a go” “We are a for-profit business that is able to show that you can have social impact at your core...”	“...a lot of the best marketers in the world are actually freelancers, they consult, they do not want to be an employee! ” “I wanted to move to Dubai because my partner was in Dubai at the time. He works in strategy for Emirates. And they said “No, we need you in the Jo’burg office”. So, then I had a little millennial moment and I quit”	“What is right for the customer? And even though the customer may not know I am fighting for them every day, some day when the story gets told 20 years from now, they will know” “ ... human beings are not made for the levels of stress in corporate jobs and starting and sustaining a business...”	“I just did not make the Millennial cut, but I think, and act like them. I am kind of in-between. I was 30/31 when I made that jump so that was ... ”
International exposure	Entrepreneur lived in London and worked for a number of big data companies before returning to SA	Spent time overseas with family as expats during SA Apartheid period	Studied in Germany and worked for multinational corporations, including in Dubai	International experience limited, but her co-founder completed an MBA at Columbia University in USA	German education and experience in Singapore

**Source(s):** Developed by authors

noted that “[her] husband created a software platform and was instrumental in her decision to start [the business]”.

Respondent 4YAL noted how “[Her] husband assisted with the care of the children to support [her] career goals”.

Disillusionment with corporate life and mismatch with their values to make a difference in the country was a theme consistent across all interviews that we categorize as “corporate ennui”. Respondent 1OB shared as follows:

...I learned a lot in corporate but got immensely frustrated and that was what gave rise to 1OB ....

Respondent 5POP in turn, described watching a colleague suffer a heart attack over a project and her displeasure with the waste of money and life in corporate:

And then I thought I did not want to be part of this corporate rat race – I would rather do my own thing.

The entrepreneurs identified a fit between social needs, their personal experiences and resources, and understanding of scalable digital solutions to enact opportunity identification and development.

Our entrepreneurs searched for purpose in their careers – each had experienced a confluence of events in their corporate or personal lives leading to an exit from a corporation and a venture launch. Respondent 1OB described:

I realised I could put my skills towards something that could have an impact in SA ...

Echoing the theme of purpose and improving life for others, the entrepreneur who started 2SWS said,

We are a for-profit business that is able to show that you can have social impact at your core ...

Most of the women entrepreneurs in this sample had either studied or worked internationally, and this exposure influenced their ability to identify entrepreneurial opportunities. They embraced calculated risks to create their ventures, with all using personal funds to seed their companies, followed by grants, personal and risk capital.

### **Consolidating our findings into themes**

*Theme 1. A Confluence of Events, including Identity Transitions, Engender Opportunity Identification.*

Our data show that, outside of the personality factors of creativity and optimism, our entrepreneurs had distinctive self-identities and experienced life events, which formed catalysts that influenced these identities and, in turn, became important antecedents to heightened entrepreneurial awareness. Table 3 presents a summary of these factors that led to

our five entrepreneurs engaging in active search, gathering information and identifying a “fit” with their competencies.

Our sample of women entrepreneurs explained their opportunity identification as follows: “... this is a feasible opportunity for me because I have the knowledge, resources, and motivation to make it work/this is a desirable opportunity for me because it addresses issues that I care about.” (1OB).

The entrepreneurs engaged in opportunity identification because they cared about solving a problem and they could see how to use their competencies to develop the company. Here, it is critical to observe how their self-identities played in their choices of how to solve these problems. For example, the logistics entrepreneur shared, “I am just this digital-crazy person”. (3EMT)

Our founders all acted to make radical changes in their careers to create fit with their personal lives. These changes then prompted an identity transition, as illustrated by this founder:

So, I was a year with HSBC. I was almost four years with them (BCG) ... which was great—it gave me a lot of knowledge which I use now. I wanted to move to Dubai because my partner was in Dubai ... And they said “No, we need you in the Johannesburg office”. So, then I had a little millennial moment and I quit. (3EMT)

This mind-set recurs with the home services entrepreneur who admits to both she and her husband making decisions to quit their jobs without having a contingency plan. The opportunity to create a company emerged serendipitously when their domestic helper went on vacation and they struggled to find suitable help. Having built software platforms for corporations, the entrepreneur’s husband solved the problem by writing an algorithm to solve this inefficiency in the market:

... a new way of thinking about domestic work – so bringing in technology into the process, try and build our platform as something that is fresh and new, and that brings in respect and accountability for homeowners who put these people into service. (2SWS)

These co-founders then, “Cashed in our savings and pension and just decided to give it a go!” (2SWS).

The women entrepreneurs expressed a need for fit between their multiple identities and their work role. Parallel to the need for fit between career and family, they describe a definite pull and urgency to create companies that could create social change beyond what was feasible through corporate employers. The founder of an education technology platform had left South Africa to work in London, married a UK citizen and returned home to do something positive about the education crisis:

It was while working in corporate there [UK] in big data, building websites that I realised I could put my skills towards something that could have an impact in South Africa ... that was when the idea came ... and I jumped ship ... and started my own business. (1OB)

This entrepreneur admitted that South Africa as a place exerted a huge “pull”: beyond family ties, she was tired of London’s dreariness and realized how privileged she had been to grow up in South Africa. She was motivated to return to enact positive change.

Each entrepreneur had also experienced a final trigger in their personal lives that converged with a frustration at the slow pace of social change to inspire them to exit corporations and start a company. Consistent with the identity literature, there was a push away from a previous identity, namely being a manager in a corporate environment, which one of the respondents called “The rat race” (4YAL).

The insure-tech entrepreneur (4YAL) identified that she lacked meaning in her corporate role; this coincided with her grief at her father’s death. While settling his personal loans, she was unaware that in South Africa most personal loans come bundled with life insurance that would have covered the debt. Her anger at the lack of transparency in financial services and her grief clarified her dissatisfaction with her corporate role and inspired a desire to:

... make a difference in one person's life where they maybe get retrenched and did not have to worry about a loan. It would satisfy the need inside of me to making a true difference versus sitting and collecting bonuses ... (4YAL)

The evolution in the identity of being an entrepreneur started with “doing my own thing” (5POP).

Based on their reflections on self, they believed they could contribute to positive change.

In sum: identifying an opportunity for all five entrepreneurs emerge from a complex web such as dissatisfaction with corporate life, yearning to return to South Africa, an impatience to create change and a knowledge of how technology platforms can create solutions to social deficits. We now turn to how values and digital expertise intersect to lure the entrepreneurs into seeking digital solutions at scale for the opportunities they had identified.

*Theme 2. Values intersecting with know-how lead to digital solutions (at scale).*

All five entrepreneurs identified that the deficits created by apartheid inspired them to create companies in education, financial education and inclusion, workforce participation and transportation.

The founder of the logistics platform, aghast at the environmental waste and the enormous opportunity inherent in the inefficiencies of road transportation and the R3 trillion logistics problem of empty trucks, identified both an environmental problem and an opportunity to be solve digitally:

I saw all these trucks on the highway, and they were all empty, and I just said ...

... what a waste of carbon emissions and the whole road damage, and all these negative things’ ... I have this great idea, I believe in this idea, it has this environmental impact that I am very passionate about, and even if I just create visibility – it might fail, and if it fails, it fails – but at least I am going to make sure people know about this big problem in the industry... (3EMT).

*Theme 3.* Experimenting to create financially sustainable digital business models and doing social good.

The entrepreneurs pragmatically used a strategy of distributed, gig economy workers, using South African contractors when feasible but sourcing workers globally when necessary:

The core team ... we were about nine. We did everything remote. We do internal stand-ups on Slack and everything over Skype or Zoom. Like, I had people working for us in Uruguay, developers ... the current developer lives in Sedgefield! (5POP)

Each company also wished, or else pivoted, to become a “for-profit” company so they could solve intractable problems through profitable ventures. For the founder of the domestic services platform, this choice was clear:

It is important that we are a for-profit business that is able to show that you can have social impact at your core and as part of your mission, but also build a very profitable business at the same time ... (2SWS)

They enact that social mission through their determination to help solve unemployment and poor working conditions for domestic workers:

[placement agencies] typically pay very badly, so the bigger agencies in SA would pay a domestic worker for a full day's work what we would pay for 2.5–3 h of work – and they have to do that because they do not use technology so their systems are inefficient (2SWS).

Others started out offering a free service and then pivoted to find a sustainable revenue model in a market where poverty renders services unaffordable and start-ups have to be agile, as the educational technology founder explains:

We started with a focus on schools ... it was free for them and we realised that we could not sustain ourselves and we had to introduce revenue models. That was when we realised ... we would allow corporations to use it, and for them to pay a fee on a licensing basis... From a B2C, I guess, to a B2B model. I think that happens quite a lot in Africa from what I can tell ... just because the market is not quite big enough (1OB).

The confluence of events that the women experience seemed to be the “cauldron” in which identity work as an entrepreneur takes root, creating tension between social identity and social roles that lead to change. Life stage transitions (Aldrich and Cliff, 2003) were present for four of the women, though the transition was coloured by many other factors and hence was not the sole trigger for an entrepreneurial journey. For instance, international experience seem to be an important factor as four of the women had careers outside of South Africa, but one had lived and worked only in SA and Lesotho.

Our data show the important role that digital solutions played as a “lure”. Ardichvili *et al.* (2003) observe that opportunities arise out of the need to exploit capabilities, resources or proprietary technologies. We have therefore also adapted the type of opportunity in the original framework to reflect that these are digital platforms.



## **Discussion**

There is a dearth of research on digital start-ups created by women in emerging markets. This paper provides data for such entrepreneurs in South Africa, a middle-income emerging market where such founders are emerging. We wish to address the factors that lead to the decision point for these entrepreneurs to engage in opportunity identification and development. We add a data point to the literature and extant models by highlighting identity processes unaccounted for at present during that process of opportunity identification.

### **Discussion of Theme 1: a confluence of events, including identity transitions, engender opportunity identification**

Ardichvili *et al.* (2003) discuss the personality factors that play a role in heightened entrepreneurial awareness, but this discussion is insufficient at the cognitive level. The women entrepreneurs in our study had distinctive self-identities (Stryker, 1980) and experienced life events (Aldrich and Cliff, 2003). The respondents gathered information (Kuckertz *et al.*, 2017) and identified a “fit” with their competencies (Ardichvili *et al.*, 2003) in identifying entrepreneurial opportunities. A confluence of factors catapulted them to a decision point, including life stage changes with resultant identity transitions, family considerations, “corporate ennui”, entrepreneurial identity and values, and their exposure to living and working internationally. Our data show “personally-relevant” perceptions (Grégoire *et al.*, 2010, p. 121) are critical in shaping opportunities. Weeks and Schaffert (2019) noted Millennials’ predilection for balance between work and personal lives. Our founders all acted to make radical changes in their careers to create fit with their personal lives. These changes then prompted an identity transition (Ibarra, 2007). The women entrepreneurs expressed a need for fit between their multiple identities and their work role (Holvino, 2010; Baker and Powell, 2021).

Their experiences concur with Ibarra's (2007) construct of liminality, where the women experienced a psychological state of being in transition, losing their self-defining connections with their previous social domains and forming a new identity as an entrepreneur.

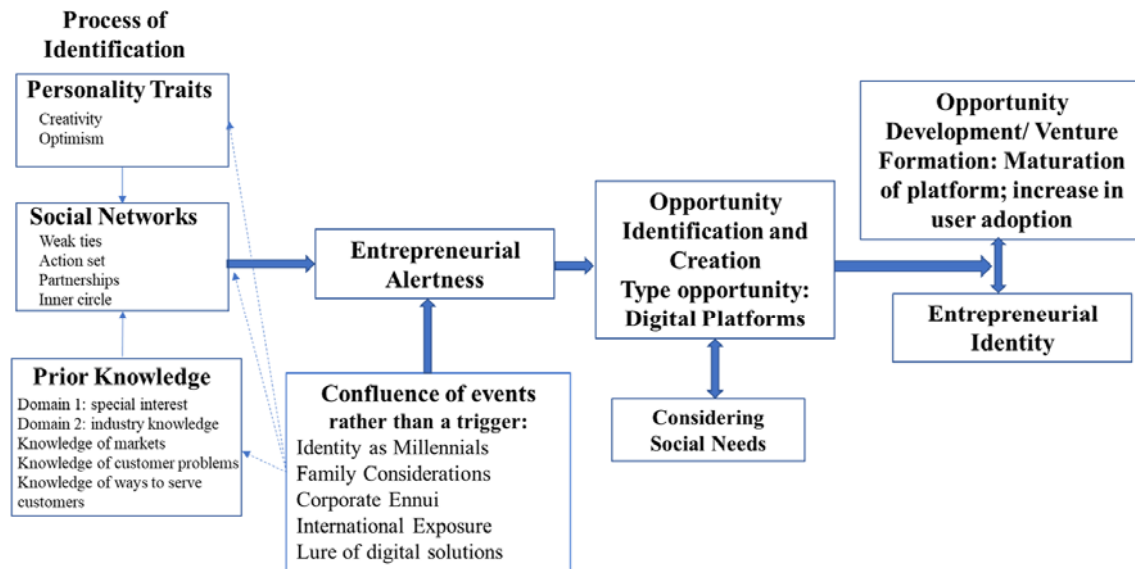
### **Discussion of Theme 2: values intersecting with Millennials’ know-how lead to digital solutions (at scale)**

The deficits identified in the current study, due to the legacy of Apartheid, concur with Ardichvili’s idea of “value sought”, and our entrepreneurs’ prior knowledge of smart digital solutions sparked their opportunity identification. The value creation capability (Ardichvili *et al.*, 2003) that the entrepreneurs bring to the deficits in the South African context consist of their knowledge and capabilities, their high levels of education and deep knowledge of their industries. This is consistent with the finding that women’s entrepreneurial alertness positively correlates to their human and psychological capital resources (González and Husted, 2011; Montiel-Campos, 2019).

### **Discussion of Theme 3: experimenting to create financially sustainable digital business models and doing social good**

This research contributes to theory development with regard to Ardichvili *et al.*'s (2003) model on opportunity identification. Our study shows that the identify transition to (becoming) an entrepreneur begins with heightened entrepreneurial alertness because of the

confluence of factors that entrepreneurs experience. In turn, as shown in Figure 2, that leads to exploration and creation of opportunities in the context of social need and search for purpose. The formation of the venture is the outcome, which in our study, took the form of digital platform start-ups. We illustrated the study's contribution in Figure 2, where we show the importance of the identity as entrepreneurs in the confluence of events leading to opportunity identification.



**Source(s):** Adapted from Ardichvili *et al.* (2003)

**Figure 2.** Amended opportunity identification model

## Conclusion

What are the antecedents for women entrepreneurs in South Africa to identify and develop opportunities in digital platform start-ups? Our research suggests that a university degree and relevant corporate experience are critical, as is a liminal state ignited by life transitions and a desire to enact social change. These start-up founders were comfortable using digital tools and used their training, and prior knowledge and experience from corporate careers to actively search for a “fit” between market needs (Bao *et al.*, 2020) and their resources (Kuckertz *et al.*, 2017; Ardichvili *et al.*, 2003), and is in line with current research (Bond, 2016; Horsaengchai and Mamedova, 2011).

We extend the extant literature by highlighting how digital platform start-up founders managed multiple social and role identities (Baker and Powell, 2021). All five entrepreneurs identified meaningful work as intrinsically related to personal fulfilment and the social purpose for starting a company. These two factors, independently or combined, loom large in their “sense-making” (Baron, 2006); social purpose correlates to identifying social needs spawned by the slow pace of change in post-Apartheid South Africa. The only entrepreneur for whom social purpose lacked salience was the cyber security platform entrepreneur who emigrated from Europe.

Opportunity identification appears to result from the dynamic process of developing an identity as an entrepreneur: this started with a rejection of the status quo, triggered by a

personal life stage transition and matching that with the external opportunity, as identified in Table 2. While these findings align with current literature on entrepreneurial identity (Lewis, 2015) and life stage transitions (Aldrich and Cliff, 2003), our study contributes the generational identity, which prompted women entrepreneurs to pursue digital platform businesses.

Our data show a confluence of influences that initially heighten entrepreneurial awareness. Furthermore, we suggest that dominant models (Ardichvili *et al.*, 2003) overlook the role of multiple identities of the entrepreneur as antecedents for entrepreneurs who create digital platforms: (1) identification of context-specific social needs in a country; (2) values and drive to create positive social change and (3) “Know-how” about digital business models.

## Implications

Important antecedents of women entrepreneurs building digital platforms include generational identity and values, balancing multiple roles while developing an entrepreneurial identity, and searching for profitable business models while solving social problems. Mentoring and coaching, specifically around identity transitions, would support emerging digital entrepreneurs while they iterate and pivot business models to generate revenues. Processes that entrepreneurs use to manage risk can augment research, and training must shift to educating entrepreneurs about risk capital funding.

Our research is exploratory in nature and our results are specific to South African women entrepreneurs who create digital platform start-ups. While the results are not generalizable, this does not detract from the importance of the research. The dearth of research on this emerging sector of the entrepreneurial community, our lack of data on millennial entrepreneurs (Bond, 2016) and how women in emerging economies are transforming their lives through the use of digital technology (McAdam *et al.*, 2020) provide fertile ground for research about the nature of opportunity in the 21st century. Our research shows the need for more qualitative research that illustrate the antecedents of how women entrepreneurs are in fact, “building mountains” (Alvarez and Barney, 2007, p. 11). Additionally, longitudinal data that track the development of entrepreneurial identity would help policy makers to support entrepreneurs who, based on our data, create employment.

Women entrepreneurs are building companies that in the future will provide employment in South Africa. From a policy perspective, we recommend data collection that differentiates among women entrepreneurs (Aidis and Weeks, 2016; Spring, 2009) so that government and private sector initiatives can provide differentiated support to such entrepreneurs. Finally, we recommend further exploration of the dual variables of gender and generational identity in entrepreneurship (Liu *et al.*, 2019), particularly in Africa where we lack contextually relevant empirical research (Kolk and Rivera-Santos, 2018; Minniti, 2010).

## Notes

<sup>1</sup>Olive Schreiner was a South African author, anti-war campaigner and feminist (<https://www.oliveschreiner.org/>).

<sup>2</sup>South Africa ranked 15th out of 58 countries on this metric (Mastercard, 2020).

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