BUILDING BLOCKS OF A NEW ECONOMY: EMERGING ROLES FOR FEMALE ENTREPRENEURS IN MALAYSIA

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Abstract

The Malaysian government seeks to create an entrepreneurial nation. Against this backdrop, one of the main questions confronting the nation and its leader is how women will make their daily lives congruent with their religious faith, while simultaneously moving in and with the world, especially given the increased pace of change in Southeast Asia.

This field-based study highlights the role of women as entrepreneurs who spur micro-level reform, with the potential to affect larger institutional change in Malaysia, one of Asia's largest Muslim democracies. In a context where women make up 49 percent of the current population, government is increasingly concerned with gender inclusion as a way to catalyze its new innovation-driven economy. However, the provision of opportunity—infrastructure, grants, quotas, short-term programs—alone is not enough to motivate entrepreneurial behavior. By making certain adjustments to the public education and legal systems, institutional entrepreneurs are beginning to challenge cultural conventions.

The reflections of 30 local entrepreneurs featured in a documentary film—explained below—offer an opportunity to discuss possible alternative outcomes that may unfold when a nation seeks to promote innovation, particularly among women. The initial documentary effort also seeks to examine ways in which longitudinal studies captured on film may contribute to a new way of influencing data-driven policy-making and campaigning.

Evidence

Unlike the circumstances of a traditional thesis, this project did not begin with a particular set of goals that the researcher sought to accomplish. Rather, I began with a desire to record what I saw, and cull

ideas from the footage I captured for an exhibition featuring women leaders in Malaysia. In the winter and summer of 2014, I visited Malaysia to interview female intra- and entrepreneurs and inquire about their experiences as leaders. I wanted to hear what they had to say about coming to terms with their sense of themselves in a rapidly changing Asian, predominantly Muslim, economy. I spoke with a wide range of women from different racial, socioeconomic, age, and religious backgrounds. Despite the ethno-religious tensions in the country and contentious economic development plans, these women displayed an inspiring optimism and sense of pride at being able to effect micro-level change in their communities—in part because their successes were not dependent, for the most part, on whether or note the government had facilitated entrepreneurship opportunities for women.

By presenting their stories, I seek to contrast actual cases with the policies (and the theories behind them) that are used to justify the government's commitment to sustainable growth through innovation. Ironically, the contributions of many entrepreneurs in Malaysia do not take the form of knowledge or technology transfer—which their counterparts in the West typically think of as essential to innovation. Rather, innovation in these cases hinges on participation in a process of domestic institutional reform at the grassroots and community level. I argue that Malaysia' s obsession with building an "innovative," "high-income nation" has obscured important processes of micro-level reform that are needed to produce larger structural change.

My own personal interest in entrepreneurship emerged in part from my past experiences working with both failed and successful start-ups in Asia. Thus, this thesis emphasizes the changing roles of female leaders at a time when national economic demands shape individual conceptions of agency—which, in turn, influence the decisions of various women to create links springing from shared adversity, toward the end of transforming largely patriarchal institutions.

Over the course of six months, I interviewed more than 30 institutional entrepreneurs focused on tech-based or social innovations pertaining to transforming urban and civic development. Of these respondents, 20 were women. The questions that I asked fell into two categories. First, I was interested in understanding how women ascended into positions of leadership—for example, whether government's policies or programs helped, or whether other motivations propelled them to break out of stereotypes—and what they perceived to be the primarily factors for their success. Second, I sought to understand the different types of urban and civic innovations that were presumably of interest to government, and as a result, garnered support (either through policy change or instituting new guidelines in various blueprints), and the cultural and political barriers to implementation that entrepreneurs faced on the ground.

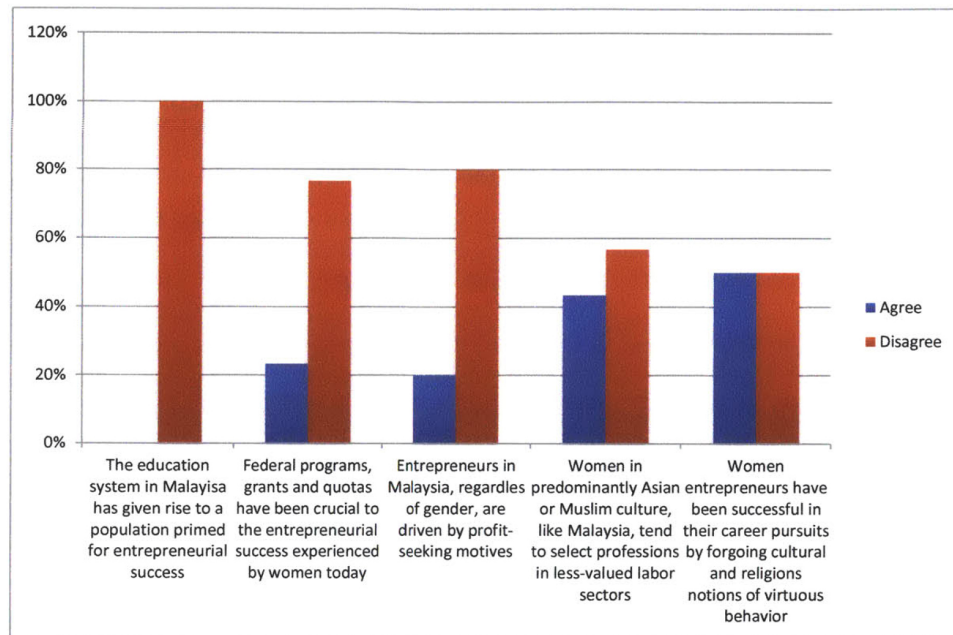*Synopsis of the primary research presented in my documentary film*

Figure 1. The challenges faced by Malaysia's entrepreneurial economy

According to my interviewees, the most significant challenges faced by Malaysian entrepreneurs include the following:

- The current education system is not preparing the population for the longer- term goals of achieving an innovation-based economy.
- Federal grants and short-term programs aimed at helping women become more effective labor-force participants and entrepreneurs are not actually addressing institutional problems of gender equality.
- Entrepreneurs in the new economy, regardless of gender and sector, are not driven primarily by profit-seeking motives (hence the smaller-than-expected impact of federal grants).

Another conclusion that may shed light on women's success in Malaysia's entrepreneurship-driven economy has to do with the ability of women (and men) to reconcile their distinctly cultural and religious identities with the growing demands of national economic competition:

- Half of the women attributed the reconciliation of work-family balance to the built-in "infrastructural support" within Malaysian families (i.e. spouses, grandparents, and other kinship

networks) that may be more prevalent in Asian or Muslim cultures than in the West.

By examining the gap between government's efforts to promote entrepreneurship for women and the motivations of actual women entrepreneurs, I have tried to document the experience of female entrepreneurs seeking to reconcile Malaysian cultural norms with the espoused government support for economic growth through entrepreneurial efforts.

The documentary offers evidence of how government policy aimed at supporting female entrepreneurship is presumed to work. More important, it contrasts the objectives of government policy with what successful female entrepreneurs say are the most important contributors to their success.

Entrepreneur	Opportunity (provision)	Motivation (factors via experiential hardship)	Role
Mangaleswary Kumarasamv	N/A	Land rights, Jaw, religion, education	Indian political activist
Mei Phng & Li-Kheng Phng	family	Religion, environmental sustainability, family	Intergenerational Chinese entrepreneurs
Adelene Foo (& Cheryl Goh)	Education	Improving public transport, changing taxi culture	Chinese corporate turned entrepreneur
Cheryl Yeoh	Government	Tech entrepreneurship	Govt entrepreneur
Gabby Goh	N/A	Education	Chinese journalist
YB Chong E02	Education/ government	Gender equality	Chinese politician
June Low	N/A	Education, women's rights, public health	Chinese activist
Yasmin Mahmood	Education	Education, tech entrepreneurship	Malay corporate leader
Zuraidah Atan	Government	Disaster relief, youth employment	Malay corporate & nonprofit founder
Marina Mahatir	Education	Women's rights, AIDs awareness	Malaysian activist

Zainah Anwar	Education	Religion, Women's rights	Malay feminist
Asma	Education	biotech, solutions for bottom of the pyramid	Malay politician, prof & businesswoman
Kevin Low	Education	Sustainable development, education	Sin2aPorean architect
Cristabel Tan	Education	Education Blueprint consultant	Indo Chinese teacher
Xinci Chin	Cradle fund (gov)	Crime & safety	Chinese entrepreneur
Shirmein	Cradle fund (gov)	Transportation and delivery (food)	Chinese entrepreneur
Sabariah	Government	Women's rights, education	Malay politician
Nisha Faizal	N/A	environmental sustainability & education	Indian nonprofit founder
Khairu1Juan Mazwan	Education	Tech entrepreneurship, education	Ministry intrapreneur
Maimunah Jaffar	Government	Sustainable development	Malay corporate leader
Noraini Mohd. Tamin	Government	Sustainable development	Malay politician
Irina Safitri Zen	Education	Sustainability, education	Malay professor
Shuhana Shamsuddin	Education	Spatial identity, sustainable development	Malay professor
Ambiga Sreenavasen	Education	Human rights, education	Indian activist, lawyer
Jemilah Mahmood	Education	Disaster relief, women's health	Malay doctor, activist
Farhana Ayush	Education	Women's health, education	Malay doctor, activist
Maverick Foo	N/A	Tech entrepreneurship, education	Startup
Mike Bikesh	Education	Tech entrepreneurship, education	Indian incubator founder
Arlida Arliff	Government	Sustainable development	CEO of Investment Co
Bob Tan	Education	Community investment	Chinese VC

Ai-Chine Goh	Education	Tech entrepreneurship (Piktocbart)	Chinese entrepreneur

Table 1. Interviewees and their roles

Organization/Abbreviations	Type	Sector
Ministry of Education	Government	Education
MDec (Multimedia Development Corporation)	Government-linked company	Tech
MaGIC (Malaysia Global Innovation Center)	Government-linked company	Tech
Ministry of S&T	Government	Innovation
1337, The Nest, Tandemic	Incubators	Private
Ministry of Women, Family, Community Development	Government	Gender & community empowerment
PWDC (Penang Women Development Corporation)	Government	Gender & community empowerment
Shah Alam City Council	Government	Municipal t
IRDA (Iskandar Regional Development Authority)	Public agency	Regional development
Amanah Ikhtiar	GLC	Women's entrepreneurship
YSS (Zuraidah & MOE)	Government-linked 8're11CV	Volunteerism
Google	Private	Tech
Sunway Group	Private	Real estate
AKEPT	Government-linked	Human capital development
MyTeksi, Watch Over Me, Delivereat, Nashata, Kickstart, Mind Valley	Start-ups	Private

Table 2. Relevant businesses/institutions and their roles

Motivations of entrepreneurs

Deeply motivated by religious convictions, a personal sense of justice, and dissatisfaction with the current education system, the female entrepreneurs on whom I have focused have left the traditional paths to corporate success. Against the advice of many, they took risks, and in

numerous ways challenged authority. Very often, they served as intermediaries to spur micro-level reform at the grassroots level.

Through these cases, we see how women are ideally positioned to participate in the "'new Malaysian economy," but in different ways than the government may have intended. These cases provide evidence that women are active contributors to institutional innovation that succeeds when they can broker relationships between various communities and decision-making entities. Many have not relied on government-sponsored training programs. In fact, they depended more on their immediate social ties than on government support. Personal networks, both formal and informal, have influenced the ways in which these women entered the innovation ecosystem, navigated through the opportunities proffered by government (grants, training programs, etc.), and rallied enough support to enable change. In some cases, female entrepreneurs found ways to make it politically costly to those maintaining the status quo. As a result, what began as individual efforts often became broader community efforts that were sustained by the innovation ecosystem.

I also wanted to explore the significance that educational networks have played in entrepreneurship. As the origin of some of these innovation networks, "the social system of a school is a network of relationships spreading throughout the whole community and far beyond it."[1] I use the example of the pilot entrepreneurship program in which I participated. There are certainly other examples to explore. For example, future research may be to examine networks of Kolej Tunku Kurshiah (TKC), an elite all-girls boarding school which has produced a disproportionate number of Malaysian female leaders in the past few decades. Several alumnae from TKC attribute the importance of those networks in their own mobilizing and enterprise-building endeavors, which signals the potential for competitive, school-based networks to influence women's propensity toward entrepreneurship.[2]

Methodology and limitations

By examining the government's many efforts to promote entrepreneurship, I began to map out a preliminary landscape of the innovation ecosystem in Malaysia.[3]

Of the 260 organizations included in my study, only 10 are female-focused, but the numbers are improving. Of this preliminary network of 260 organizations, I directly engaged with 14 organizations, and made contacts in numerous other ones. It was through this preliminary work that my search for female entrepreneurs who were innovating specifically in the urban and civic development sectors arose. Through my interviews with over 30 entrepreneurs, 20 of whom are female, I found that the factors that motivated them include religious faith, personal hardship, and discontent with domestic educational opportunities. Of course, these views

are not limited to Muslim women, but extend to Malaysian citizens of a wide variety of ethnic and religious backgrounds.

To supplement my interviews, I also examined data from a Ministry of Education pilot program aimed at teaching entrepreneurial skills to local undergraduates. As part of that effort, I worked with 32 students, brainstormed social issues confronting urban Malaysia, went through a process of ideation, funneling solutions, drawing up initial business plans, and partnering with local incubators and investors to help students bring their solutions to market. At the end of two months, the students presented their ideas to investors and government representatives. Most participants agreed that it was compelling to hear students speak passionately about issues confronting their cities, and learn about how they sought to transform their communities.

There are certainly limits to the external validity of this work. For example: I did not assemble a random sample of Malaysian women, and I was able to look at only a small number of cases. More generally, I encountered one of the inherent difficulties in studying entrepreneurship: "larger than life" personalities are often involved, and it is difficult to generalize and prescribe based on these stories.

Context and background

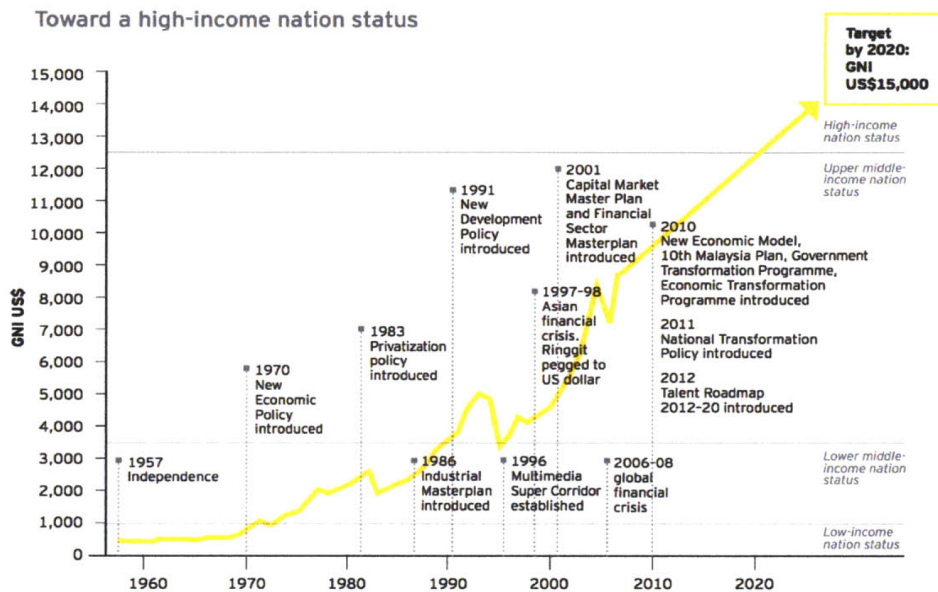*Infrastructural provision of opportunities for entrepreneurship and innovation*

Figure 2. Aiming for high-income nation status by 2020[4]

In its attempt to create a high-tech, innovation economy, the Malaysian government began to plan, design, and build a "multimedia

8

super corridor" (MSC) in 1995. Modeled after California's Silicon Valley—and described in a three-phase plan supported by the Malaysian Development Economic Corporation (MDec), Bank Negara Malaysia (BNM), and the Ministry of Education (MOE)—the MSC was a 15 x 50 square kilometer corridor intended as a pilot that would be replicated in five development zones across Malaysia.

Cyberjaya, the innovation hub, and Putrajaya, the administrative hub, were conceptualized in stage one as Malaysia's examples of smart cities that would catalyze seven other smart-city initiatives, projected to attract over 1,000 companies and create over 20,000 high-value jobs.[5] This plan was inaugurated as the beginning of Malaysia's transformation into an innovation economy to achieve Vision 2020. In less than a decade, the MSC was presumed to grow the economy by tripling the number of jobs and doubling investment, but reality fell short of expectations. After spending over RM 35.4 billion (10.2 billion USD) and eight years later, the number of jobs has dropped by 20 percent and investment has only gone up by 6 percent.[6]
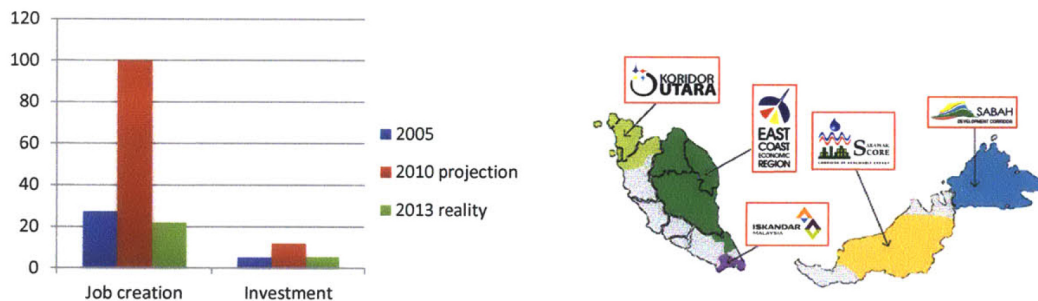

Figure 3. The MSC: vision and reality[7]

In 2012, the Malaysian treasury allocated RM 978 million[8] (289 million USD) to accelerate development of the five corridors of the nation. Iskandar Redevelopment Authority received RM 308.5 million to readapt plans for Educity in Nusajaya, the Port of Tanjung Pelapas, and the Pasir Gudang industrial zone.[9] The Northern Corridor Economic Region (NCER) was allocated RM 51.6 million to implement 20 initiatives, including Koridor Utara, Kulim High-Tech Park, Koridor Selatan and Proton City, and ecotourism development of the Kuala Sepetang mangrove forest and the Kuala Gula Bird Sanctuary. The East Coast Economic Region (ECER) received RM 349.6 million for ecotourism in Endau-Rompin National Park, Lake Chini State Park and a halal gelatin plant in Pahang. The Sabah Development Corridor was awarded RM 207 million for the Lahad Datu palm oil cluster, the Keningau Integrated Livestock Center, and the Sabah Creative Content Incubator Center. Finally, the Sarawak Corridor of

Renewable Energy (SCORE) was allocated RM 62.3 million to conduct a feasibility study for a science park in Mukah, and design road access to the port and the Samalaju water supply. While these projects have attempted to learn from the MSC, they have yet to realize the full-fledged characteristics of an innovation economy.

While the infrastructural "hardware" for a successful knowledge hub has been established—that is, universities, government agencies, research centers, incubators, and tech companies—the MSC has faced its share of adversity over the past two decades. The general opinion of civil society is that the money invested into the MSC was a waste, because the cities created are inconveniently located and unlivable. One resident entrepreneur shared that when President Obama and Prime Minister Najib Razak visited Cybetjaya to inaugurate MaGIC (Malaysian Global Innovation Center), just down the street and one block over, residents did not even have water connections to their homes. When I spoke to a high-level ministry official who was provided the option of subsidized housing in Putrajaya, the new administrative capital, even she admitted that she would rather pay more to live in KL. Nearly a decade after its development, scholars still bemoan the fact that the "software"—the creative element and entrepreneurial energy required to sustain such a physical creation—is completely lacking:[10]

"...the Malaysian technopole has made progress in these [physical] factors albeit at various degrees. However, the MSC falters on the entrepreneurial aspect. The impediments to continued success include the attitude towards risk-taking and the general lack in innovative spirit ..."

In effort to infuse the high-tech shell with the necessary "innovative spirit," the Malaysian government has taken steps to support entrepreneurial efforts. On paper, the government has proposed many macroeconomic policies and blueprints. Different government departments—for example, the Ministry of Education (MOE), the Multimedia Development Corporation (MDec), Agensi Innovasi Malaysia (AIM), the Prime Minister's Office (PEMANDU), and the Malaysian Global Innovation Center (MaGIC)—have experimented with ways of finding and grooming local talent. These programs and reforms are aimed at modifying the educational system and boosting female participation in the workforce. In particular, the Education Blueprint of 2013[11]—which was conceived over a course of two years, costing the Ministry of Education roughly RM 20 million in consulting fees to McKinsey & Co.—had the intention of boosting entrepreneurship education in an effort to combat high youth unemployment rates, and encourage the growth of small businesses to catalyze job creation.[12]

The Malaysian government is increasingly pinning its hopes for economic growth on the creation of small and medium enterprises (SMEs) and entrepreneurial, venture-backed companies. But the same statistics that include encouraging signs—a steady economic growth rate of 4 percent per year, rising private investment at 11.8 percent (according to

Bank Negara), an 11.3 percent growth in the number of tech companies in the Multimedia Super Corridor,[13] numerous mandates to create entrepreneurship centers within universities, and sustained growth in GNI per capita to 10,060 USO in 2013—also report the discouraging fact that although women comprise 55.4 percent of the total workforce, only 32 percent occupy leadership positions.[14] According to a World Bank study in 2012, Malaysia ranks as Southeast Asia's lowest employer of females. Some scholars attribute this low employment rate to the effects of religion on women's employment choices.[15]
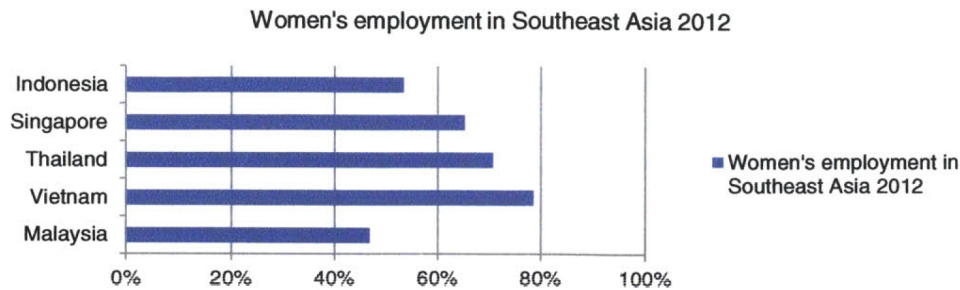

Figure 4. Malaysia and female employment[16]

One year after the creation of the Education Blueprint of 2013, the results have left much to be desired. In theory, Malaysia seems to be "on track" to meet the broad national goals outlined in its Economic Transformation Program, but simply meeting key performance indicators (KPIs) doesn't mean that the Malaysian economy is growing as effectively as it could. Though the Blueprint has spurred the development of education programs and entrepreneurship grants, many of which target women in efforts to boost GDP growth by 2 percent,[17] there has been little effort to evaluate "what works and what does not."[18]

In fact, the abundance of opportunities and support in Malaysia for budding entrepreneurs can be overwhelming for people seeking to navigate, penetrate, or simply understand what might be called the "innovation ecosystem": a complex network of relationships among agents whose goal is to enable entrepreneurship development and innovation.[19] In recent years, the National Science Foundation (NSF) and Aspen Institute have created models to map entrepreneurship ecosystems,[20] which have informed my initial effort to make sense of the opportunities currently available in Malaysia.[21]

Because the turnover rate of agencies and programs is so high, many tend to overlap in their loosely defined goals. In the Malaysian Development Economic Corporation (MDec) alone, two of the seven programs in the talent division are experimenting with technology entrepreneurship programs, and one of those two is specifically aimed at

girls in the tech sector. But government-linked agencies like the Malaysian Technology Development Corporation, iM4U from the Prime Minister's office, and Amanah Ikhtiar[22] from the Ministry of Women, Family & Community Development also provide similar opportunities.[23]

Malaysian Technology Development Corporation (MTDC) Technology Acquisition Fund

Grants for women entrepreneurs involved in the technology sector. Disbursed RM 24 million to 46 companies

Amanah Ikhtiar (1987)

Government-subsidized microcredit program to encourage female-run microenterprises. Disbursed RM 6.4 billion amongst 280,000 women

SMECorp

Special Assistance Scheme for Women

Access to grants & soft loans for women entrepreneurs.

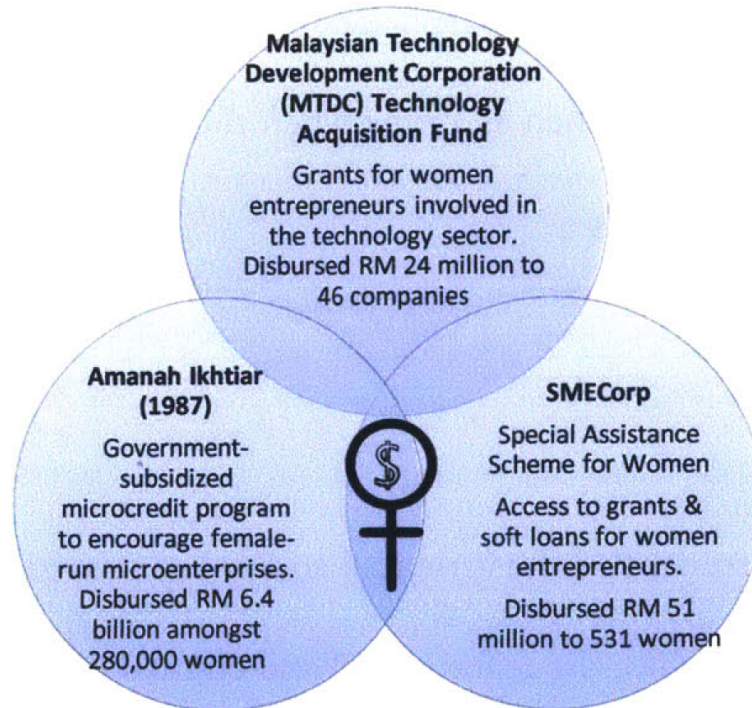Disbursed RM 51 million to 531 women

Figure 5. Overlapping administrative units addressing women in business

All these opportunities signal that Malaysia wants to shape its public image as a progressive Muslim democracy by instituting, at least on paper, policies aimed at promoting gender equality. For example, in 2001, the federal constitution amended Article 8 to prohibit gender-based discrimination. Then, at the 1995 World Conference on Women, Malaysia ratified the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), which effectively called into question the legitimacy of several constitutional amendments addressing gender bias. Two out of five articles were successfully placed under review, though CEDAW compliance has yet to be made enforceable under domestic law.[24] Because Malaysia operates under a dualistic legal system, there are clear bureaucratic and cultural obstacles in terms of implementation of laws. For women in particular, the obstacles to becoming effective change-makers are significant. Under restricted civil liberties, resources, and entitlements, Malaysian women have had particular challenges reconciling their identity as virtuous Muslim women, at a time when the national economy calls for a dynamic shift in women's roles.

Research question

12

Despite the Malaysian government's infrastructural and policy-based provision of opportunities for entrepreneurship, the institutional and cultural obstacles that remain are non-trivial. Given the context of Malaysia, what factors have led to the success of the women leading innovation-driven businesses and entrepreneurial efforts? What is the rationale that gave rise to government-sponsored efforts to promote entrepreneurship in particular ways, especially in the forms these efforts have taken in predominantly Asian and Muslim cultures amongst female entrepreneurs?

Reconciling the paradoxical identity of the entrepreneurial woman

Although the law in Malaysia makes no formal distinctions between the genders, there are Malaysian customs and traditional practices that distinguish between the role of men and the role of women in the exercise of certain social, economic, and civil liberties.[25] The government has attempted over the past few decades to re-align certain culturally informed gender perspectives in its policies regarding gender inclusiveness. This is particularly true with regard to access to education. Despite the increased opportunities for women to expand their roles in the economy, mainstream Malaysian culture still seeks to enforce many of the traditional gender stereotypes related to the dominant interpretation of women's roles in the Qoran. For example, certain states still adhere to gender-segregation policies that prohibit women's access to public amenities (supermarkets, theaters, pools, etc.),[26] and yet, women are expected to participate in decision-making processes in relation to public life.[27]

Female entrepreneurs in Malaysia are faced with an existential paradox. While development theorists have argued that nations develop more rapidly if they are "willing to break with institutional [remnants] of an earlier period and accept the social and technical innovations which are part of the new industrial order," this has not been the case in Malaysia.[28] Contrary to the expectations raised by the way that economic development has unfolded in Western nations, urbanization and public education have not led to a decline in religious observance in Malaysia.[29]

Instead, the state-influenced system of education has served to promote Islam's gender-specific notions of virtuous behavior. While Malaysia on the whole has embarked on an aggressive trajectory of economic growth, there is still a prominent cultural aversion toward risk-taking, which many of the entrepreneurs I interviewed, regardless of gender, characterized in terms of the Asian tendency to *gia-su* ("fear loss"). It is important to acknowledge that few problems in the public arena are as challenging as this: simultaneously setting and meeting development targets while managing cultural mindsets and customary beliefs.

While it appears that Malaysia' s overall women's workforce

participation rate and pursuit of higher education have increased, there are ways in which these trends mask significant problems. According to my interview with the Ministry of Women, Family & Community Development, it appears between 2004 and 2014, women's pursuit of higher education increased from 60 to 68 percent. From 2004 to 2014, women's employment in Malaysia saw an apparent increase from 47 to 52 percent; nevertheless, only 7 percent of board members are women, and less than 5 percent have taken the risk to start their own ventures.[30] It is against this backdrop that I sought to understand how women participate in the country's national commitment to expand entrepreneurship and innovation. In particular, I decided to focus on the role of public education in influencing Malaysia' s future success as an entrepreneurial nation.

Theory

The importance of studying motivation in addition to opportunity

While government can make opportunities for innovation more accessible to its citizens, it is clear that the motivation to *sustain* innovation must come from elsewhere.[31] Through my field interviews, I found that most successful female entrepreneurs are primarily motivated by issue-based, grassroots efforts, which have the potential to support domestic institutional reform in Malaysia. I am interested in how these women have tried to redefine their roles in a changing economy, despite customary and political practices that make such changes very difficult.

Inspired by Schumpeter[32] in the 1900s, and extending through recent decades, the theory of creative entrepreneurship has evolved. Schumpeter, in championing the "agent of innovation," was attempting to understand the evolution of developing economies and the political volatility of these markets. Fast forward to the 1990s, when Hirschman observed: "When economists build models of growth, they typically do not give explicit independent roles to the ability or motivation to solve problems..."[33]

Past research on entrepreneurial motivation has been limited to two primary factors: profit seeking, and the desire to increase greater production efficiency. While those motivating factors are important on an aggregate scale, there is a gap in studying entrepreneurial motivations driven by personal factors, particularly for women in predominantly Muslim Asian nations. Given that women historically have faced institutional barriers and carried extra cultural, religious and economic burdens, how have they managed to create their own sense of agency?

In Malaysia, we see a rush toward modernization, accompanied by haphazard urban growth, ambiguous laws, and makeshift institutions that attempt to reconcile the development of the workforce and the changing economic role of women. Certainly, the sense of urgency about moving the economy in a new direction is powerful—but at the same time, the policy efforts to facilitate gender equality and entrepreneurship are fraught with implementation challenges.

For example: Malaysia has engaged in what might fairly be called a frenzy to boost female leadership and participation in the workforce, in part by setting quotas. This is supposed to incentivize women to stay in the labor market longer. But can this issue be framed differently? Can the discussion shift beyond how individual women think about their job and career choices, and move toward addressing structural and institutional problems?

There is some published literature that explores the tensions that women have faced in the pursuit of work while managing societal perceptions of gender roles. Claudia Goldin, for example, breaks down the "quiet revolution that transformed women's employment" in the US into four phases, in which women's roles shifted from labor participation, to attachment, to identity with career, and finally, to the ability to make joint decisions with spouses.[34] In her highly referenced and popular book, *Lean In*, Sheryl Sandberg explores the roles that individual women have in claiming their presence in the workforce. This stands in marked contrast to Anne-Marie Slaughter's more institutional perspective on gender dynamics. Still other writers, such as Wendy Brown and Barbara Ehrenreich, discuss the inequality in power that underlies labor dynamics and work-family balance. Most of the insights from this research signal that certain types of work are undervalued. This naturally translates into undervalued positions, are generally held by women and minorities.[35]

Other scholars have sought to understand the contexts in which leaders and followers are defined, and wonder why women haven't made progress faster. Barbara Kellerman points to the "pipeline syndrome," in which women are told that patience and attitude will pay off—but, writes Kellerman, "this is a lie that silences women." Jane Mansbridge highlights this point by saying women tend to avoid behaviors that are criticized, alluding to the situation where women who negotiate hard are often seen as aggressive, and therefore undesirable; whereas men who exhibit similar behaviors are lauded as confident, competent, and so on.[36] These are all examples of implicit modes of discrimination that are deeply ingrained in Western cultures, although not formally institutionalized as legitimate.

In Malaysia, such implicit modes of discrimination are present, along with structural modes of discrimination. Some are contained in aspects of Shariah law, which "perpetuate stereotypes of gender-appropriate behavior."[37] There are innovative efforts to lobby for changes in such legal provisions, and to build individual awareness among women, but generational mindsets are ingrained in managerial and organizational values and will take a long time to shift.

When we examine multiple cases of women-led entrepreneurship in Malaysia, it becomes clear that it is not necessarily the desire to accumulate profits or gain access to opportunities that has motivated

women to innovate or push for social change; rather, it is their exposure to international educational opportunities that has inspired them—and helped them—to find gaps to fill in Malaysian society. For example, some young entrepreneurs observed the international trend of mobile apps catering to public services, such as transportation, food delivery, and safety, and adapted those apps to their local context. The entrepreneurial success of the women I interviewed largely depended on their ability to gain access to specific communities, understand the needs of these communities, and leverage their own existing networks to create value by linking communities to decision-making entities.

In relation to entrepreneurship theory and building upon previous work on mapping innovative networks, I interviewed these women to determine their ability to influence decisions in their innovation networks. While the power dynamics in these networks are structured differently between start-up communities, corporations, nonprofits, and ministries, the entrepreneurs provide sufficient links to mobilize communities and other entities to get behind issues they deem important.

In the Malaysian context, this is crucial. For example, when lobbying for certain amendments to Shariah law, Zainah had to identify the ministerial-level agents—as well as those in media and religious courts—whose support would be needed to create the institutional links required to enact legal change. When Mangaleswary realized that her place of worship was at risk of being demolished due to ambiguous land rights, she switched from being a corporate lawyer to a public advocacy attorney to help the Tamil population in Penang articulate their property rights. When Adelene tried to change the entrenched reputation of the taxi industry, she first had to understand the plight of taxi drivers, as well as the perspectives of passengers who use taxis; then she had to identify the links between auto companies and the transportation and health departments to find the most effective way to work within regulatory boundaries.

These stories go on and on. The women with whom I spoke are not only trying to create new enterprises; they are also trying to solve longstanding problems. While they operate in different sectors, they share a commitment to addressing serious social problems.

For these women, the ability to operate autonomously outside of the formal, institutionalized processes of economic development has been crucial. Whether it is implementing old products in new markets, or developing new processes or organizations, most of these women seek to exert pressure on existing institutions to break down barriers.

Reacting against the emphasis on technology defining an innovation-based economy
In the 20th century, theorists ranging from Schumpeter to Schumacher heralded small entrepreneurial ventures as "potential nodes for technological discovery."[38] In the Malaysian context, we see many

16

women facilitating innovation at small scales in both the public and private sectors. While some efforts may be highly technical, most innovations are not. This means that they may fly below the public radar at a time when government is overtly fascinated by technical, R&D-based innovation.

In other words, it might be a productive exercise to track the growth of less trendy innovations that may impact domestic institution-building in powerful ways. A few of the realms that women tend to rally around—and innovate within—include personal safety, health, education, and public transportation. These are all urban-oriented issues intimately linked to women's livelihoods and their children's access to opportunities.

One example of a private-turned-public response to crime and safety comes from the realm of community-based sex education workshops. Due to her experience with the lack of support for women's health in public hospitals, particularly regarding sexual crime, June Low was motivated to find a way to engage with Malaysian communities where women are more susceptible to rape and abuse. She convinced Sime Darby, one of Malaysia's largest rubber plantation owners, to adopt corporate social responsibility initiatives that would link their products (i.e. condoms) to programs that could have a small, positive social impact. By confronting prominent yet taboo topics such as teenage pregnancy abortion, family conflict, and sexual pleasure, she branched out beyond her official role as a corporate attorney. She began offering small classes on Sime Darby plantations, where she taught plantation workers and their daughters about their bodies, in the hope that this exercise in confidence-building and heightened self-awareness would empower young people to speak out against immediate problems in their communities as a first step.

By working within Sime Darby to develop this programs, June has been an effective intrapreneur—educating her own corporation about the importance of looking at their supply chain comprehensively: from rubber extraction to product development and condom use, to the social impact the corporation can have on communities. From there, she organized independent workshops on combating gender-related crime and health disparities in urban and rural areas.

June's case is emblematic of intrapreneurship turned entrepreneurship. She was able to convince Sime Darby to allocate a portion of their corporate social responsibility (CSR) budget. She did this in part by analyzing the cost of Sime Darby's annual six-day youth camp in comparison with the benefits of the program she proposed. By locking in financial support from Sime Darby, June was then able to prepare for her workshops by using American online resources such as SIECUS, and figuring out ways to localize the effort in a Malaysian context.

One example of a tech-based response to urban crime is WatchOverMe, one of Southeast Asia's most popular urban safety mobile phone apps, which provides crime- zone alerts and street-safety ratings.

As a former kidnap and assault victim, Xinci Chin took months to recover from her fear of traveling alone in urban Kuala Lumpur (KL), even in public places with heavy foot-traffic. Due to this traumatic experience, she was motivated to think about ways to address safety management in KL. She thought that using social media to create awareness of crime zones would be the most effective way to engage citizens on street safety. She partnered with mobile app developers to find a way to make use of both official and crowd-sourced data in ways that could increase public safety.

Xinci's case is emblematic of a generation of younger female entrepreneurs who were able to benefit from a foreign education, and subsequently returned home to test and implement innovations they observed in other contexts. She notes that while her personal story of experiencing an assault and kidnapping in an urban setting helped lead to her initial success in landing a prestigious Cradle fund seed grant from the Malaysian government, "a good story can only go so far."[39] Through her education and experiences meeting with other young entrepreneurs in the U.S., she was able to bring together a supportive network of international coders, designers, and social media enthusiasts, quickly build momentum, and produce a beta version of her mobile app.

In both of these cases, we see female entrepreneurs who have been privileged enough to "escape" the existing Malaysian education system, and have returned to address systemic social issues that resonate deeply with their own experiences. The simultaneous attempt to (1) make sense of their personal hardships, and (2) empower local communities gives these entrepreneurs the opportunity to create businesses that help provide citizens with tools to enable agency at both the individual and group levels.

Success/actors

Providing the missing link: Creating a trusted stakeholder network
Critical to successful innovative efforts, among the women I studied, was their ability to identify linkages and see the connections among stakeholders. In other words, the success of these female entrepreneurs derives in large part from the fact that they understand the issues facing their communities in a personal way. They are therefore able to form strategic alliances to fight against dominant institutions/mindsets (religious, educational, long-established industries) that were male dominated, to create a new understanding of what it means to be an "Islamic democracy," to reframe social movements, and to reformulate the goals of economic growth. For example, Sisters in Islam empowers women by creating a public voice on what it means to believe in an Islam that champions gender equality; MyTeksi prioritizes social key performance indicators, such as the improvement of the quality of life of drivers, in their annual business evaluation; the Penang Women's Development Corporation seeks to reform local land policies to protect minority rights and help them gain access to basic services.

Another determining factor in the success of these women was their access to a social network that (in most cases) emerged from prior experiences, and which allowed them to build relationships with those involved in national and state-level policy-making, as well as with grassroots leaders and those on the ground. Some of these networks are faith-based, while others are issue-based.

Still another contributor to success, for many of the female entrepreneurs in my study, is an underlying sense of moral purpose. Unwilling to turn their backs on an array of persistent social problems in Malaysia, some female leaders have shifted their attention to the dynamics of everyday life, where they perceive a failure of public education and lack of political leadership with regard to advocating for changes in attitudes toward the role of women in society—despite the government's stated goal of enlisting women in economic activities to regain regional competitiveness.

For the most part, the women I interviewed tended to focus on single-issue campaigns related to changing some aspect of a community living standard. Some women have employed a grassroots strategy, where they sought to listen to and empathize with hundreds of disgruntled community members. From there, they were able to leverage their connections and expertise to bring local grievances to the attention of state, regional, and federal committees or agencies. In such cases, these women not only provided the link required to enable change, but also developed innovative ways to communicate problems to political authorities and convince them that the changes they are seeking will result in mutually beneficial outcomes.

One example of creating such a link is the case of MyTeksi or GrabTaxi, Malaysia's top taxi app and Uber's main competitor in Southeast Asia. According to Adelene, the general manager of GrabTaxi, the inspiration for creating better, safer public transit for Malaysia's average citizen actually came from a passing comment made by an Indonesian friend who visited Malaysia and was overwhelmed by the transportation chaos, claiming that "even Jakarta has better, fast public transit than KL." Just two years ago, most Malaysians were afraid of taking taxis and public transportation because taxi drivers had a bad reputation for cheating and even kidnapping passengers.

The initial MyTeksi team was motivated to reduce the social stigma attached to the taxi culture, while increasing the efficiency of transportation in urban KL. The founder at the time had a grandfather who owned a large automobile business, TCM Holdings Bhd., and thus was able to assemble two necessary components: cars and large communities of Malay drivers. The team spent hours talking to drivers about the challenges they faced—and, later in those discussions, the reasons why some of those drivers overcharged their passengers. Based on that

realistic picture, they were able to craft educational campaigns for drivers advocating for honest, efficient service in exchange for a fair wage. Recently, MyTeksi has worked with local hospitals to provide free health checkups for Malaysian taxi drivers, of whom 80 percent suffer from obesity.

By gaining the trust of Malay drivers, the team was able to cultivate a base of reliable drivers, who were willing to accept their role in improving transit efficiency in part because they were confident that their livelihood concerns were being attended to. Both the general manager and marketing director of MyTeksi are women who left roles in well-established corporate organizations to help mobilize drivers on the ground and transportation policy-makers toward a vision of improving health and safety outcomes linked to transportation-related issues. They have succeeded in raising standards, changing perceptions, and creating trust amongst stakeholders to build up Malaysia's leading taxi service.

Creating a public voice: Questioning conventional behavior
One of the critical issues confronting female entrepreneurs in Malaysia is how they can remain "virtuous" in the traditional sense of the word—i.e., abiding by Malaysian customs and expectations—while also being the "type of person who thinks freely, is capable of enlightened criticism on important daily issues..." In Saba Mahmood's ethnographic work, *Politics of Piety*, she notes that, "The biggest challenge is how to transform love for God inside every citizen (*muwatin wa muwatina*) into continuous self-criticism of our daily behaviors and manners, and into an awakening of creative revolutionary thought that is against the subjugation of the human being and the destruction of his/her dignity."[40]

This issue of how women can straddle these two worlds during their ascent to leadership—that is, their desire to remain in step with a society that seeks to be economically and socially progressive, while still respecting conventional norms—has long been debated in courts and among *ulama* (Muslim scholars and leaders). There is, in fact, growing concern, especially within the government's religious department and the departments focused on family and community welfare, about the impact of a growing secular culture that is challenging traditional institutions in Malaysian society.[41]

It is against this backdrop that many women are questioning the current translation of Islamic or divine law into common law and public policy in Malaysia. When I interviewed Zaina Anwar, founder of Sisters in Islam, she focused on the dilemma of women stepping into leadership positions in Malaysia while trying to remain faithful to tradition. Anwar notes the case[42] of a female political leader who had thirty men working beneath her, and yet accepted a description of her position that names her a leader "only in cases of emergency"—because she wants to respect the common custom, which presupposes that males will take the lead.

Zaina highlights how this woman breaks the conventional norm in

personal and professional realms by being the primary provider for the family, as well as leading her department. And yet, in a context where the constitution upholds Shariah law as the basis of Muslim family law, there is an internal struggle to align culturally appropriate behavior with dominant Islamic teachings. Women in these positions tend to experience a cognitive dissonance between taking charge in their public-facing roles and living out their socially prescribed roles as virtuous Muslim women. As we saw in the case of June and Xinci, sometimes these constraints can have a positive role in catalyzing innovation and the entrepreneurial endeavors of female entrepreneurs.

In 2013, Nigerian writer Chimamanda Adichie spoke eloquently about the gender dynamics in her country: "In workplaces, women who are bosses in Nigeria are fierce. The people who work for them, men and women, respect them. But, these are women who very keenly perform gender stereotypes when they go back home. And if they give a public interview, they have to say, 'My husband supported me and allowed me to...'"

This tendency is confirmed in many of my interviews with successful female entrepreneurs in Malaysia. Yasmin Mahmood, the new CEO of MDec, notes that though she is "very fortunate to have a supportive husband," if she were having difficulty in coordinating domestic chores in addition to the demands of her job, she would still be unwilling to enlist her husband's help because she was "not brought up that way." Several women who chose not to go on record about their partners noted the importance of "[being] up front about how high you want to climb"; otherwise, many men "will not be able to handle your success."[43] One mentioned that in Shariah law, "the husband is supposed to financially provide for the wife regardless of the situation," but in her experience, once she started to earn more, her husband did not see the value of abiding by that legal precept any longer.

Aclichie adds: "By far the worst thing we do to males, by making them feel that they have to be hard, is that we leave them with very fragile egos." This, again, confirms a concern voiced by Yasmin Mahmood, current CEO of MDec, who attributes the rise of jihadist movements in Muslim nations around the world to the fact that "many young males feel the pressure to prove themselves." Yasmin notes that as women continue to rise into positions of leadership in the new innovation- based economy, Malaysia also needs to address the "leak" at the other end: that is, "men dropping out of more professional roles."

Though certain critics deem the work of Sisters in Islam (SIS) as "un-Islamic" and rather *bid'a* ("unwarranted innovations or practices," for which there was no precedent at the time of the prophet of Islam), SIS has established a collective network of women with extensive knowledge of the Qoran, as well as legal expertise they can use to challenge the way

law is promulgated based on the interpretation of religious texts. Armed with that knowledge, they have lobbied for amendments to be made in Shariah law to empower women, rather than perpetuate longstanding patriarchal norms.

In the absence of religious institutions that train women in scholarly Islamic argumentation, it is only in this unique, safe space, created by SIS, where women can confide in each other and discuss and reinterpret sacred texts. This is essential to the exercise of moral and legal authority. By generating this awareness, SIS enables women to question conventional ideas of virtuousness while remaining faithful to their religious beliefs.

Educating to change conventions: Implicit gender bias in family and institutions

Through the nationalization and centralized management of religious and educational departments, Malaysia has attempted to control the development of its modem identity, and shape its image as a progressive Muslim nation. But many women have voiced dissatisfaction with the current education system, believing that it is responsible for perpetuating certain gender-specific notions of virtuousness, lack of creativity, and tendencies toward risk-aversion.

Marina Mahatir, producer of the popular 3R talk show, believes that the problem with Malaysia's education system is that there is a lack of vision and leadership. She laments the fact that those with the power to make decisions tend to opt for preserving the status quo, rather than striving for something truly innovative:

"Does the education system embody a responsible attitude toward society as a whole? Does it teach ideals of constantly agitating for change to improve the system? I find it very disturbing to have to opt out of the public school system. Surely the point of *pendidikan* (from the Malay vernacular, meaning much more than just "school education") is to ensure that we carry out our responsibility to bring up honest, confident, just, caring citizens... To do this, I think it's important to examine the many ways in which we are not."

Furthermore, the implicit gender discrimination is prevalent amongst those in leadership positions. In my interview with the vice minister of the Ministry of Higher Education, he mentioned that the current university syllabus is designed "for women to excel." When I prodded him further about what he meant by that, he said that the system works "better for people who listen and memorize" (skills that he implicitly attributed to women) rather than those who "challenge the status quo," which he defines as a masculine characteristic. In a nation where there are progressive policies and efforts to include women as an integral part of the national economy, I was surprised to discover that some of the leaders exhibited strong implicit gender bias in their views on student performance in the current education system.

Dato Asma, director general of the Ministry, bemoaned the fact that while government provides countless opportunities for women, the mindset of many women even after they've received higher education is that they would rather become "intellectual mothers" than "go out and make something of [themselves]." In her view, it is the overabundance of government-provided safety nets for Malaysia's undergraduates that makes young Malaysians somehow less hungry and more risk-averse, when it comes to seeking and creating opportunity. She voices her concern that government mandates certain performance metrics without thinking about the long-term effects of these measures.

For example, the mandate to create entrepreneurship centers in universities springs out of the new key performance indicator (KPI) that places pressure on universities to churn out 1 percent entrepreneurs from their student population every year. Asma notes, however, that "the people who run the universities do not necessarily know what it takes to start and run companies, so you basically have the blind leading the blind." Her main concern is how large-scale institutional change can take place, given the heavily centralized nature of the educational system: "What we're talking about is the need to affect 400,000 teachers in more than 10,000 schools across the nation to embody the entrepreneurial spirit they are trying to teach students."

These concerns are shared by many of those who grew up under the current system. Single father and entrepreneur Maverick Foo, for example, expressed his deep concern with the education system: "Honestly, I would rather save money to send [my son] to [the radically participative community] Burning Man to expose him to something creative and eye-opening than put him through the higher education system in this country."

Some older interviewees, such as Dato Mei Phng, seemed nostalgic for the earlier, secular education system that existed pre-Independence, which presented a traditional, English-based, international curriculum rather than the present Islamic-based education. Born in the 1930s, Phng managed to attain her high school diploma, and then worked as a typist and secretary for a renowned businessman. She later married into a family that ran a chain of small businesses. Her father-in-law took a liking to her, and taught her the intricacies of running a family business. In less than ten years, she turned the family business into a local construction conglomerate, becoming one of the most successful female magnates of her time.

Looking back, Dato Phng mentions one of her key learning moments, "At the end of every year, my father-in-law would sit us down, and have us list everything we spent money on and all our losses ... Ultimately, I think the role of education is to provide you with logical thinking... And once you receive the skill of logical thinking, whether or not

you need higher education is up to you."

Experimenting with entrepreneurship education programs

In an effort to expose students to the dynamics of entrepreneurship, the Ministry of Education partnered with MIT and Stanford in the summer of 2014 to pilot an entrepreneurship education and exchange program. As a part of this initial trial, the Ministry of Education and MDec invested RM 500 million to reach 35 undergraduates—both male and female—in technology-related majors, representing 16 universities across 8 Malaysian states and two federal territories.

The student selection process was fairly opaque. The Ministry of Education initiated the first round by handpicking an original group of universities and students, and funneling the students through MDec, which then consulted the facilitators from MIT and Stanford. The process whereby these universities and students were originally selected by the Ministry was unclear, though external facilitators were aware that there were certain guidelines put into place as "standard selection criteria"—for example, a video pitch to assess the candidate's communication abilities, the results of a basic technical assessment, and a CV.[44] At the end of the program, MDec and the facilitators jointly developed an evaluation to assess its short-term, observable outcomes, based on qualitative metrics monitored by the facilitators throughout the program. While all of MDec's programs are associated with certain KPIs, the head of the Talent Division noted that the only metrics that really matter are "employability of graduates" and "effectiveness of the selection criteria" in ensuring that the project reaches Malaysian students who will benefit most from such a program.

In my role as one of the program's four facilitators, I witnessed a substantial transformation among many of the students during the span of eight weeks, as we exposed them to brainstorming exercises, pitching ideas, and fielding criticism in the process of idea generation.

Of course, there were also notable issues. The first, especially at the outset of the program, was a lack of self-confidence. The second was an apparent lack of motivation on the student's part to detail their ideas. Many of the teams initially developed their ideas in very broad-brush strokes and themes. Female students were generally more likely to do the detail-oriented work, and less likely to exhibit confidence in conveying their ideas. While most of the teams were able to hammer out finer details, several teams were very slow to reach that point.

Our inference was that this was the result of a lack of practical experience and relevant training. For example, one of the teams decided to promote female fitness by creating a mobile app game. The team, however, did not conduct adequate research to understand what sorts of exercises the target user tended to favor in efforts to lose weight, and thus, they had a very limited understanding of what features would be appealing to the female users they were targeting. One might hypothesize

that this aversion toward user-based participatory research reflects shortcomings of the Malaysian educational system, which gives ts students few opportunities to engage in critical dialogue and dynamic problem-solving.

In our initial survey to determine entrepreneurial propensity among the students, we found that only 15 percent of them thought that there were adequate opportunities for starting a business in Malaysia. About one in three (28 percent) said they were ready to risk everything to start a business right now, while the rest stated that they needed to graduate, gain more experience, or have a successful career before starting a new venture. Some 80 percent said that fear prevented them from venturing out to start a business.

Surprisingly, the group was split pretty evenly amongst those who thought that being an entrepreneur was a desirable and respectable career choice in Malaysia and those who didn't. By the end of the eight-week program, nearly 80 percent thought that they had the skills and the confidence required to start a company. Six months after the program ended, however, of the three prize-winning teams that emerged from the program, only one team remains in pursuit of their original idea and has used the funds toward building the enterprise that received funding.

So while the Malaysian government has provided an overwhelming number of opportunities for entrepreneurship, and made efforts to encourage women to participate in these programs, it appears that the real challenge faced by the Ministry of Education lies in motivating and encouraging students to question conventional thinking.

Conclusion

Although these stories of female entrepreneurs resist easy distillation and condensation, they nevertheless beg interesting questions. Most important: why have the successful women succeeded—especially in the difficult realm of social reform—when so many before them have failed?

At the most general level, we can say that these successful women share the ability to plug into social networks involving individuals who have shared a certain kind of adversity—and then to broaden those networks by leveraging their own personal connections to decision-making entities. They have managed to mobilize ordinary people to carry out a wide range of innovative activities at the grassroots level. Finally, they have been able to promote the shift of certain conventional perspectives and behaviors at the micro scale.

We see that the opportunities provided by the government have not been especially important to any of them. Social theories attributing successful entrepreneurship and risk-taking behavior to pure profit-seeking don't seem to apply to these women, by and large. Instead, I saw

women motivated by their personal experiences struggling to reconcile their faith and custom with their desire for agency, and dissatisfaction with the current educational system. Nine out of the twenty women I interviewed attributed their enterprising efforts to faith or religious-based motivations. Ten of them identified experiential hardship or inequality as the main motivating factor. Only one woman attributed a childhood desire to be an entrepreneur as her main motivating factor.

Education plays a complicated role, with clear generational divides. The older institutional entrepreneurs—such as Zaina Anwar and construction magnate Mei Phng—benefited from the earlier English-based, pre-Independence educational system. Most of the successful entrepreneurs between the ages of 25 and 50 had the benefit of a foreign education, and had decided to return to Malaysia to provide solutions that "could fill the gaps."

Through this research, we can see how female entrepreneurs create and perpetuate a sort of "civic nationalism," that contrasts with traditional, patriarchal notions of nationalism. MyTeksi emerged from civic pride: from the desire to compete with Indonesia based on better public transportation. We see how female social entrepreneurs—such as the case of Sisters in Islam—validate and legitimize new forms of work by creating normative standards and pressing the state to review certain laws,. We also hear from multiple stakeholders about the importance of women leaders providing the bridge between communities and decision-making entities, as in the case of Mangaleswary and the various temple associations and Tamil schools in Penang. These forms of innovation have the potential both to serve as a foundation for small-scale institutional reform and to generate larger social reform.

The efforts of the Malaysian government to promote female entrepreneurship have not been notably effective, in part because those opportunities are short-term and KPI-driven, and generally don't represent long-term solutions. At the same time, many of these initiatives are very high-level, and don't adequately address issues at the implementation level.

Policy recommendations
The findings of this research, though not comprehensive, imply several new potential avenues for national policy to help women be more effective in the new innovation- driven economy. For example:

To reconcile the implicit gender bias shared by many Malaysians—both average citizens and those in leadership roles—with the stated governmental goal of achieving a gender-inclusive, innovation economy, I underscore the importance of "equity among all students," as detailed in the Education Blueprint 2013. The equity issues are challenging and complex, and comprise a large number of gender-based, geographic, and socioeconomic divides, but change is not inconceivable. As we've seen in the work of Malaysian entrepreneurs, micro-level reform can propel

institutional change under the right circumstances.

To counter current institutional barriers, the government should consider subtle curriculum changes that implicitly champion gender equality. For instance, teachers (and new teaching materials) can provide examples in the classroom that portray women differently from the prevailing stereotype. While implementing a required course on comprehensive sex education or gender equality would go a long way toward addressing fundamental gender inequities, this seems inconceivably difficult, at this point; making small adjustments in the current curriculum is a far more promising starting point. In reference to the mandatory "ethics and spirituality" courses, I would suggest a potential revision of the curriculum based on gender-inclusive perspectives, with supporting verses from the Qoran. This might be done in collaboration with some NGOs—some of which are featured in the documentary—that have been successful in their campaign for gender equality in a rigorous re-interpretation of religious rights.

Reflecting upon some of the strategies the women entrepreneurs of Malaysia have employed, it becomes clear that creating a public voice to promote or to explain some of the ideas that require rethinking can be extremely effective in terms of popularizing controversial, but progressive, ideals. In light of that fact, longitudinal studies—such as film documentation of students and the new generation of entrepreneurs—might help to evaluate programs over time, and might be more effective in tracking changes than the standard short-term key performance metrics evaluation method. For example: longitudinal studies documenting female entrepreneurs from the inception of their business going forward can give us real-time data to observe over time.

One potential output of this type of study would be the creation of a youth-driven, public campaign to highlight the effectiveness of the Education Blueprint 2013. If it calls for a true transformation of the current education system, then its implementation would presumably impact the next generation. What better way to create awareness about what has worked, and what has not worked, than to capture initial thoughts of the affected population reflecting before, during and after the span of 2013-2025? Toward that end, I urge the Ministry of Education, MaGIC, MDec and private media companies to strongly consider conducting longitudinal interviews with a video component to study the effectiveness of entrepreneurship and gender-inclusion policies and programs, so that they can observe changes over time.[45]

For example, Michael Apted's documentary series traces the lives of 14 ordinary citizens from age 7 through to 56 in seven-year intervals to examine the realities of the British class system, at a time when Britain was experiencing immense upheaval. As a researcher on the original series, Apted reflects on the process: "The idea was to get some 7-year-

old children from different backgrounds—rich, poor, rural and urban...and have them talk about their lives...and see whether that told us anything. And of course it did...in fact, the class system was very active, and that people in certain backgrounds had a real vision of their future, and others really didn't know what day it was."

This idea to engage in participatory, field-based studies is not original, but its potential to have a longer-term role in data-driven policy making seems worth exploring in the "new" context of modernizing Malaysia. Perhaps such longitudinal studies could help alleviate some of the tension surrounding the selection of performance indicators and other easily fungible statistics, and contribute to a new way of thinking about data-driven policy making.

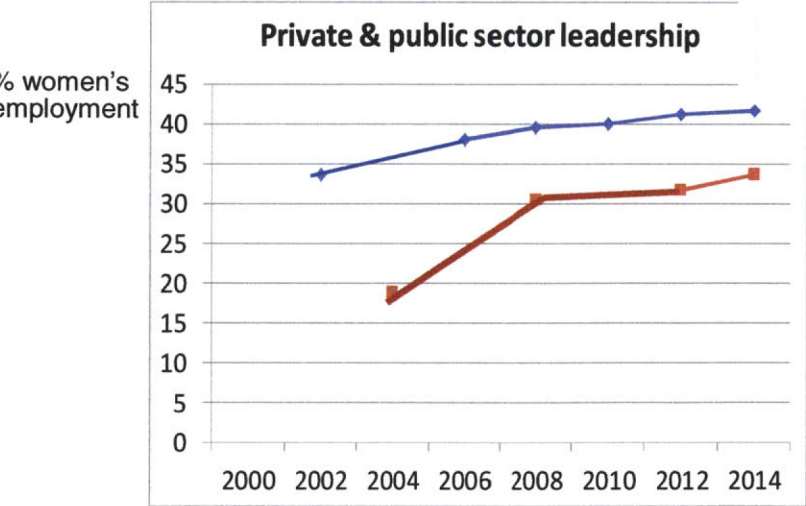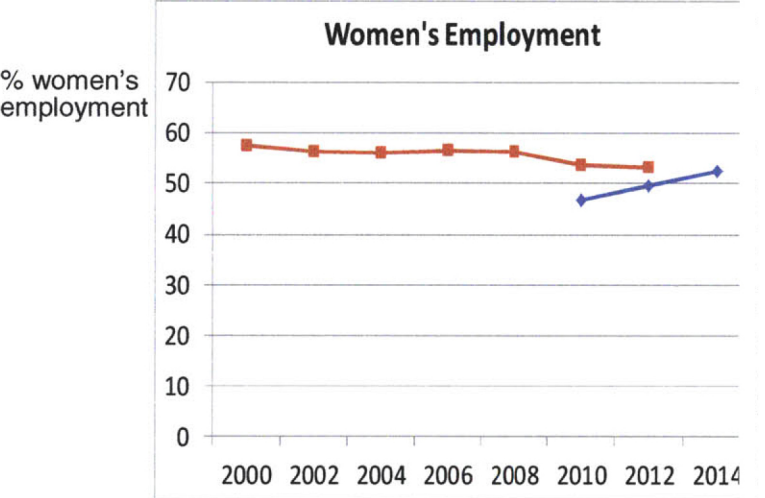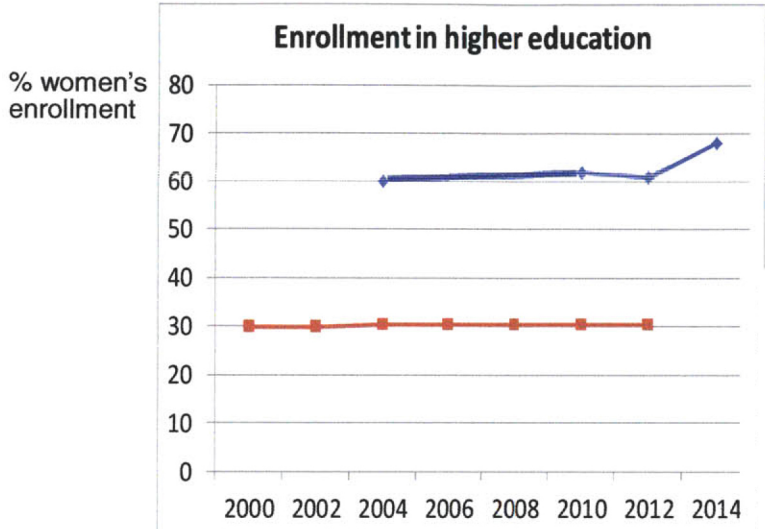### *Acknowledgements*

Appendix A: Literature review

[1] Adichie, Chimamanda. (2013). "We Should All Be Feminists." TED Talk, https:/ /www.youtube.com/watch?v=hg3umXU_qWc

[2] Babcock, Linda. 2003. Women Don t Ark: Negotiation and the Gender Divide

[3] Bank Negara Report, "Enhancing Capacity & Capability of SMEs." http:/ /www.brun.gov.my/files/publication/sme/en/2005/chap_S.pdf

[4] Bowles, Hannah Riley. (2012). Claiming authority: How women explain their ascent to top business leadership positions. HKS article in Elsevier Research in Organizational Behavior

[5] Davis, Jason P. & Kathleen M. Eisenhardt. (2011). Rotating Leadership and Collaborative Innovation: Recombination Processes in Symbiotic Relationships. *Administrative Science Quarterly*

[6] Economic Management & Prospects Report 2012-2013. http://www.treasury. gov.my/pdf/economy/ er/1213/chap1.pdf

[7] Entrepreneurial Ecosystem Diagnostic Toolkit. Aspen Institute ANDE & UK DFIF joint- publication December 2013. http://www.aspeninstitute.org/ sites/default/ files/ content/docs/pubs/FINAL%20Ecosyst em%20Toolkit%20Draft_print%20version.pdf

[8] Ernst & Young "KL Calling: The Rise of Kuala Lumpur as an investment destination." 2014 EYGM Limited

[9] Ehrenreich, Barbara. 2000. Maid to Order: The Politics of Other Women's Work. http://barbaraehrenreich.com/website/maidtoorder.htm

[10] Felker, G., & Jomo, K. (2007). Technology Policy in Malaysia. In K. Jomo, &J. Sundaram, *Malaysian Industrial Policy*. NUS Press.

[11] Frenkel, Amnon & Shlomo Maital. Mapping National Innovation Ecosystems: Foundations for Policy Consensus- September 30, 2014.

[12] Fung, Archon. (2002). *Empowered Participation: Reinventing Urban Democracy*. Princeton University Press

[13] Goldin, Claudia. 2006. The Quiet Revolution that Transformed Women's Employment, Education and Family. NBER Working Paper

[14] Gomez, E. T. (2012). State-Business Linkages in Southeast Asia: The Developmental State, Neo-liberalism, and Enterprise Development. In A. Walter, & X. Zhang, *East Asian Capitalism: Diversity, Continuity, and Change*. Oxford University Press.

[15] Greenwald, B., & Stiglitz, J. (2014). *Creating a Learning Society: A New Approach to Growth, Development, and Social Progress*. Cambridge University Press

[16] Hausmann, R., Rodrik, D., & Velasco, A. (2008). Growth diagnostics. In *The Washington Consensus Reconsidered: Towards a New Global Governance*. Oxford University Press: New York, 324-355

[17] Hirschman, Albert. 1965. *Journeys Toward Progress: Studies of Economic Policy-making in Latin America*. Anchor Books

[18] Hirschman, Albert. 1970. *Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States*. Cambridge, MA: Harvard University Press

[19] Hirschman, Albert. (1958). The Strategy of Economic Development. Yale University Press

[20] Hoffstaedter, Gerhard. 2011. *Modern Muslim Identities: Negotiating Religion and Ethnicity in Malaysia*. NIAS Press

[21] Hoffstaedter, Gerhard. (2013). Secular State, religious lives: Islam & the State in Malaysia. *Journal of Asian Ethnicity*. Vol 14, Issue 4, pages 475-489

[22] Iskandar Malaysia Development Plan http:/ /www.iskandarmalaysia.com.my /downloads/blueprint-for-iskandar-malaysia

[23] Islamic Microfinance AIM. http:/ /wief.org/wp-content/uploads/2012/04/Datuk-Hajah-Zabidah-Ismail.pdf

[24] Jala, Idris. "Getting women back to work." http:/ /etp.pemandu.gov.my/Transformation_Unplugged-@-Getting_women_back_to_work.aspx

[25] Khan, M. (2009). Learning, Technology Acquisition and Governance Challenges in Developing Countries. London: School of Oriental and African Studies.

[26] Landscape Masterplan for Cybetjaya, Malaysia. 1997. Federal Department of Town and Country Planning, Kuala Lumpur: Government Printers

[27] Malaysia Economic Monitor Boosting Trade Competitiveness June

2014. World Bank IBRD/IDA publication http:/
/www.epu.gov.my/documents/10124/bef75aba-f5a4-47d4-b572-
969851666293

[28] Malaysia Education Blueprint 2013 http:/
/www.moe.gov.my/userfiles/file/PPP /Preliminary-Blueprint-Eng.pdf

[29] Mahmood, Saba. (2005). *Politics of Piety: The Islamic Revival & the Feminist Subject*. Princeton University Press

[30] McClelland, David (1961). *The Achieving Society*. D. Van Nostrand Company Inc.

[31] McCourt, W. (2012). Can Top-Down and Bottom-Up be Reconciled? Electoral Competition and Service Delivery in Malaysia. *World Development*, 40 (11), 2329- 2341.

[32] Middlemiss, Lucie & Bradley D. Parrish. (2009). Building capacity for low-carbon communities: The role of grassroots initiatives. Energy Policy Special Section: Carbon Reduction at Community Scale. Volume 38, Issue 12, December 2010, Pages 7559-7566

[33] Moore, Rob & Michael Young. 2001. Knowledge and the Curriculum in the Sociology of Education: Towards a reconceptualization. *British Journal of Sociology of Education*, Vol. 22 Issue 4

[34] Pew Research Center April 2013. The World's Muslims: Religion, Politics & Society. http://www.pewforum.org/2013/04/3 0/the-worlds-muslims-religion-politics-society- overview/

[35] Ramasamy, B. (2004). Malaysia's leap into the future: an evaluation of the multimedia super corridor. Elsevier Science Ltd. Technovation 24 (2003) 871-883.

[36] Ranga, Marina & Henry Etzkowitz. (2010). Athena in the World of Techne: The Gender Dimension of Technology, Innovation and Entrepreneurship. *Journal of Technology Management & Innovation*, Volume 5, Issue 1

[37] Rasul, I., & Rogger, D. (2013). Management of Bureaucrats and Public Service Delivery: Evidence from the Nigerian Civil Service. The IGC. UCL.

[38] Roy, Ananya. (2014). Patriarchy: Power & Gender in the 21"t Century. TED Talk https:/ /www.youtube.com/watch?v=6oOevLDtP Jo

[39] Sabel, C., & Saxenian, A. (2008). Venture Capital in the "Periphery": The New Argonauts, Global Search, and Local Institution Building. *Economic Geography*, 84 (4), 379-394

[40] Schumacher, E.F. (1973) *Small Is Beautiful: A Study of Economics As If People Mattered*. Blonde & Briggs

[41] Schumpeter, J.A., 1934 (2008), *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and the Business Cycle*, translated from the German by Redvers Opie, New Brunswick (U.S.A) and London (U.K.): Transaction Publishers

[42] Seeley, John R et al. 1956. *Crestwood Heights: A Study of the Culture of Suburban Life*. New York: Basic Books, Inc

[43] Shadow Report Group. (2005). NGO Shadow Report on the Initial and Second Periodic Report of the Government of Malaysia Reviewing the Government's Implementation of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) Coordinated by the National Council for Women's Organisations (NCWO) with the Women's Aid Organisation (WAO)

[44] Shahina Amma, Imam Alam. Women's employment decisions in Malaysia: Does religion matter?

[45] *Journal of Socio-Economics* Volume 37, Issue 6, December 2008, Pages 2368-2379

[46] United Nations Committee on the Elimination of Discrimination against Women (CEDAW) (2004) Consideration of Reports Submitted by States Parties Under Article 18 of the Convention on the Elimination of All Forms of Discrimination against Women: Malaysia, Combined Initial and Second Periodic Reports of States Parties, CEDAW/C/MYS/1-2, CEDAW, New York

[47] Slaughter, Anne-Marie. (2012). "Why Women Still Can't Have It All." *The Atlantic*. http:/ /www.prmceton. edu/-slaughtr/articles.html

[48] Valerio, Alexandria; Parton, Brent; Robb, Alicia. 2013.Framing the global landscape of entrepreneurship education and training programs. Washington DC: World Bank. http:/ /documents.worldbank.org/curated/en/2013/06/ 18347783/frammg-global-landscape-entrepreneurship-education-trainnimg-programs

[49] Women's participation m labor force 2012. Data compiled by ILO, Bloomberg, World Bank. https://datamark.et.com/ data/set/28mx/#!ds=28mxl2rs5=7 .w.2c.4.50.5l.3z.4s.3s.1O&display=line

[50] Zarizana Abdul Aziz. July 2008. Mechanisms to Promote Gender Equality m Malaysia: The Need for Legislation. http://wccpenang.org/wp-content/uploads/201 3/06/The-Need-for-Malaysian-Gender-Equality-Legislation-by-Zarizana-Abdul-Aziz.pdf

Appendix B: Entrepreneurship ecosystem map

Appendix C: US/Malaysia comparison statistics

Enrollment in higher education

% women's enrollment

Women's Employment

% women's employment

Private & public sector leadership

% women's employment

Year

In charting female participation in higher education, employment and leadership positions, the red line indicates US progress and the blue line indicates Malaysia' s progress.

These statistics are based off of two sources: US Bureau of Labor Statistical data from 2000-2013, and the employment data from the Malaysia Ministry of Women, Family and Community Development (LPPKN). Also note that in Malaysia, new policies to effect similar changes in the private sector leadership (30 percent quota for females in leadership by 2016) have been deployed in 2011, but are not yet illustrated

Notes

[1] John R. Seeley; R. Alexander Sim; Elizabeth W. Loosley. *Crestwood Heights: A Study of the Culture of Suburban Life*. 1956. New York: Basic Books, Inc

[2] Rob Moore & Michael Young. 2001. Knowledge and the Curriculum In the Sociology of Education: Towards a reconceptualization. *British Journal of Sociology of Education*, Vol. 22 Issue 4

[3] Refer to Appendix B for a map of the current entrepreneurship ecosystem.

[4] Ernst & Young. "KL Calling: The Rise of Kuala Lumpur as an investment destination." 2014 EYGM Limited

[5] Landscape Masterplan for Cyberjaya. 1997. Federal Department of Town and Country Planning

[6] From a conversation with an interviewee who requested anonymity

[7] Malaysia Economic Monitor Boosting Trade Competitiveness June 2014. World Bank IBRD/IDA http://www.epu.gov.my/documents/10124/bef?Sa ba-f5a4-47d4-b572-969851666293

[8] Economic Management & Prospects Report 2012-2013. http://www.treasury.gov.my/pdf/economy/er/1213/chap1.pdf

[9] Iskandar Malaysia Development Plan http://www.iskandarmalaysia.com.my/downloads/blueprint-foriskandar-malaysia

[10] Ramasamy, B. (2004). Malaysia's leap into the future: an evaluation of the multimedia super corridor. Elsevier Science Ltd. *Technovation 24* (2003) 871-883.

[11] Valerio, Alexandria; Parton, Brent; Robb, Alicia. 2013. Framlng the global landscape of entrepreneurship education and training programs. Washington DC: World Bank. http://documents.worldbank.org/curated/en/2013/06/1B347783/framing-global - landscape-entrepreneurship-education-training-programs

[12] http://www.moe.gov.my/userflles/flle/PPP/Prellminary-Blueprint-Eng.pdf

[13] From 2000-2011 Annual Report

[14] Refer to Appendix C for US-Malaysia comparison statistics

[15] Shahina Amina, Imam Alam. Women's employment decisions In Malaysia: Does religion matter? *Journal of Socio-Economics* Volume 37, Issue 6,December 2008, Pages 2368-2379

[16] Women's participation in labor force 2012. Data compiled by ILO, Bloomberg, World Bank & DataMarket. https://datamarket.com/ data/set/28mx/#!ds=2Smx!2rs5=7.w .2c.4.SO.Sl .3z.4s.3s.10&display=line

[17] ldris Jala,"Getting women back to work." http://etp.pemandu.gov .my/Transformation _ Unplugged-@- Getting_women_back_ to_work.aspx

[18] Interview with lmran from MDec

[19] Amnon Frenkel & Shlomo Maital. Mapping National Innovation Ecosystems: Foundations for Policy Consensus-September 30, 2014.

[20] Entrepreneurial Econsystem Diagnostic Toolkit. Aspen Institute ANOE & UK OFIF joint-publication December 2013. http://www.aspeninstitute.org/sites/default/files/content/docs/pubs/FINAL%20 Ecosystem%20Toolkit%20Draft_print%20version. pdf

[21] Appendix B: map of Malaysia's entrepreneurship ecosystem

[22] 1slamic Microfinance AIM . http://wief.org/wp-content/uploads/201 2/04/Datuk-Hajah-Zabidah-lsmail.pdf

[23] Bank Negara Report, "Enhancing Capacity & Capability of SMEs ." http://www .bnm.gov .my/files/publication/sme/en/2005/chap_S .pdf

[24] Zarizana Abdul Aziz. July 2008. Mechanisms to Promote Gender Equality in Malaysia: The Need for Legislation. http://wccpenang. org/wp-content/uploads/2013/06/The-Need-for-Mal aysian-Gender-Equality-Legislatlon-by-Zarizana-Abdul-Aziz.pdf

[25] Interview with the Secretary General of the Ministry of Women, Family & Community Development (LPPKN)

[26] Shadow Report Group (2005). NGO Shadow Report on the Initial and Second Periodic Report of the Government of Malaysia Reviewing the Government's Implementation of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) Coordinated by the National Council for Women's Organisations (NCWO) in collaboration with the Women's Aid Organisation (WAO). Prepared by the NGO Shadow Report Group 2005

[27] United Nations Committee on the Elimination of Discrimination against Women (CEDAW) (2004) Consideration of Reports Submitted by States Parties Under Article 18 of the Convention on the Elimination of Ali Forms of Discrimination against Women: Malaysia, Combined Initial and Second Periodic Reports of States Parties, CEDAW/C/MYS/1-2,CEDAW, New York

[28] McClelland, David (1961). *The Achieving Society*. D.Van Nostrand Company Inc.

[29] Mahmood, Saba. (2005). *Politics of Piety: The Islamic Revival & the Feminist Subject*. Princeton University Press

[30] Global Entrepreneurship Monitor in Malaysia, 2010 report. http://www.gemconsortlum.org/docs/download/754

[31] Gooch, Liz. The Loss of Young Talent Thwarts Malaysia's Growth. *New York Times* Oct 1, 2010. http://www.nytlmes.com/2010/10/02/business/global/02brain.html?pagewanted=all &_r=O

[32] Schumpeter, J.A., 1934 {2008}, *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and the Business Cycle*, translated from the German by Redvers Opie, New Brunswick (U.S.A) and London (U.K.): Transaction Publishers.

[33] Hirschman, Albert. 1970. *Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States*. Cambridge, MA: Harvard University Press, page 19

[34] Goldin,Claudia. 2006. The Quiet Revolutlon that Transformed Women's Employment, Education and Family. NBER Working Paper

[35] Ehrenreich, Barbara. 2000. Maid to Order: The Politics of Other Women's Work. http://barbaraehrenrei ch.com/website/maidtoorder. htm

[36] Babcock, Linda. 2003. Women Don't Ask: Negotiation and the Gender Divide

[37] Interview with Zalna Anwar

[38] Schumacher, E.F. (1973) *Small ls Beautiful: A Study of Economics As If People Mattered*. Blonde & Briggs

[39] Interview with Xlncl, founder of WatchOverMe

[40] Mahmood, Saba. (2005). *Politics of Piety: The Islamic Revival & the Feminist Subject*. Princeton University Press, 126

[41] Hoffstaedter, Gerhard. (2013). Secular State, religious lives: Islam & the State In Malaysia. *Journal of Asian Ethnicity*. Vol 14, Issue 4

[42] Interview with Zalna Anwar, founder of Sisters In Islam

[43] Note interviews with Yasmin & Zuraidah

[44] We found that the basic CV was copied from student to student within the same university, undercutting its value as an assessment tool.

[45] Similar to the longitudinal studies documented by Michael Apted in the documentary film series "7 Up!»