

FEM-LED

DIGITAL ENTERPRISE

RESEARCH REPORT SUMMARY

Fem-LED: A look into female leadership for women
in digital media and tech today and tomorrow.¹

Research Conducted By:

Professor Suzanne Stein (Principal Investigator),
Dr. Emma Westecott, Dr. Lynne Heller,
Dr. Paula Gardner, Mithula Naik,
Jill Sharrock, and Prateeksha Singh

Communication support:

Cindy Ly and Rhonda Rosenheck

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Super Ordinary Laboratory
OCAD University



¹Project Identity created by Cindy Ly

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PROJECT OVERVIEW



PROJECT OVERVIEW

The Fem-LED research project at OCAD University²'s Super Ordinary Laboratory³ examines the barriers and enablers for female leadership in Interactive and Digital Media (I&DM) and, more broadly, in the Information Communications Technology (ICT) sector. In the course of this project, we realized that the issue was not that female leadership has merely been increasing at a slow rate. Alarming, we realized that female leadership, and female inclusion overall, has been declining in these environments for the last three decades.

² <http://www.ocadu.ca/>

³ <http://research.ocadu.ca/superordinary/home>

Interactive and Digital Media includes a variety of content development sectors including Film, Video Games, TV, and Web/App Development. The gender violence that we have come to associate with gaming content and game-makers' working culture is not an outlying issue; rather, it should be understood as the most notorious of everyday, ongoing outputs and conditions across ICT sectors. As Entertainment or other communication media evolve, we see the same gender difficulties across these domains. Silicon Valley, a major hub of entrepreneurialism and innovation in ICTs, is also rapidly becoming infamous for its anti-women culture. Now this culture is spreading geographically. There are counter-movements that value diversity in workplaces and are aware of gender bias as a contemporary problem that must be addressed in order to ensure growth and accountability for equitable gender access and experience in ICTs. A public discourse is growing in recognition that we must confront these barriers to women's success and, encouragingly, that there are many actions that we can take to forge an alternative future that acknowledges, supports and reaps the benefits of full integration of female innovators in the field.



Project Phases

The Fem-LED project has included five phases:

1. Context Inquiry: A literature review of extant research in this field. The major output from this has become known as the “Wall Report” (Appendix A); we also conducted a trend scanning exercise and a historical timeline that on [our site](#)⁴. These elements will continue to grow

2. In-field Research: Co-laboratory: Bodystorming event with women in the I&DM sector: practitioners, academics and activists. See the Bodystorm Report in Appendix B.

Questionnaire responses and commentary by women working in I&DM and ICT are summarized in Appendix C.

3. Analysis and Synthesis: a series of tools used along the inquiry included: literature review analysis framework, questionnaire protocol, and coding themes.

4. Interventions Identification: our insights in this report follow the life stage model developed in our synthesis phase. We have also identified possible interventions that range in ease and impact. We outline some interventions that have been taken (Positive Steps) and may be used as a model for consideration. We also outline further interventions (Next Steps) based on the insights from our findings and ideation sessions. No list of interventions can be comprehensive; these lists constitute promising starts. We expect and hope that various stakeholders continue to intervene to improve both blatant and subtle gender bias problems. The Fem-LED group has piloted and prototyped tools for this.

5. Communication and Distribution: our site hosts the outputs of our research. We are also cognizant that the issue of female leadership and inclusion in these sectors poses what can be called a wicked problem, one with undefined parameters and several sites of intervention, none of which will alone remedy the problem. As a result, we are socializing our findings and will be providing tools for others to discuss and create further points of intervention to reverse the tide of female exclusion. Our forthcoming ideation tools and other play sets are listed in Appendix D.

⁴ <http://research.ocadu.ca/research-and-innovation/project/Fem-LED-home>



Strategies for Intervention

A variety of feminist approaches designed to engender equality in the workplace have been circulating in the social, economic and political realm for many years. In her paper, “Feminist Theory and Critical Theory: Unexplored Synergies”, Stanford Graduate School of Business scholar Joanne Martin (Martin, 2002) delineates six strategies for change in an effort to encourage both feminists and critical theorists to develop plans of action rather than simply critique the status quo. In particular, Martin suggests that these two groups, feminists and critical theorists, have much in common and can foster change through their synergies and commonalities.

Though extremely broad and fluid, her six levels of strategies are ordered to reflect the amount of large-scale shifts in structure that are required. Martin comments on the efficacy of each strategy where we can see an alignment of simple, short-term and perhaps superficial (compared to larger, less tangible actions), but profound changes in gendered society.

In the first phase of the data collection and analysis, the Fem-LED team used Martin’s categories as a framework for coding the accumulated data.

The Fem-LED team has identified current strategies that straddle Martin’s categorizations and has developed further lists of intervention sites that are similarly tactical and deeply cultural.

For further socialization and uptake, the research group reworded the six strategies in order to remove *a priori* value judgments and to make them applicable, as well, to transgendered people. These Fem-LED strategies are to:

1. **Support individual women** to change (this replaces “fixing individual women”). For Fem-LED, strategies here include training and mentorship programmes. Organizations should, for example, invest in professional development of women in their workforces during work hours.

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2. **Value ‘feminine’ traits** (this replaces “valuing the feminine”). Efforts here include leveraging and appreciating traits often referenced as female, such as: supportiveness, empathy, and compassionate leadership and mentoring styles. It is crucial not to assume that all women “naturally” possess these traits, but rather, to value them as effective when they are demonstrated. Expect these traits to be present or be developed in women and men alike.
3. **Increase female inclusion** (this replaces “adding women and stirring”). Make efforts to include women in hiring practices; sometimes use quotas. We have found that organizations may hire women in marketing or administration functions as a means of inclusion; however we recommend that gender equity numbers / quotas target female inclusion at all levels of the organization and across all functions.
4. **Make small, deep cultural changes.** This may include enforcing gender neutral language in titles and communications (as we do at OCAD University) and adding grievance policies and procedure for sexual harassment. This may also include removing names from employment, funding or university applications in order to ensure a less biased assessment of these applications. Discouraging practices of “bro-culture” in the workplace, which is surging in recent times would be a significant move that make these environments more hospitable to women workers. Strategies here may be aimed at including gender diversity and other forms of diversity.
5. **Create new organizational structures and responsibilities.** For Fem-LED, this might mean that organizations offer crèches or child care services. This could also be enacted governmentally, through the instantiation of a fair-practice hiring and employment committee that regulates the industry. Organizations would be required to report on their adherence to gender equity hiring and employee promotion practices to external enforcement bodies. Organizations that are public or governmental would be forced to include reporting on gender diversity within the organization in all functions. To aid women’s transition from education into industry, organizations would be obligated to take on cooperative internships with balance in gender diversity.
6. **Transform gendered society.** Examples of this would function across organizations and into other sectors such as education, media and governance generally. Enforcing gender neutrality, equal pay, and equitable gendered hiring practices would help. Imposing fines on broadcasters and other media outlets, and

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⁵ The Domestic Abuse project can be found here: <http://domesticabuseandthelaw.ca/>

also see:

<http://bellejar.ca/2015/12/03/being-a-girl-a-brief-personal-history-of-violence/>

reporting structures and conference organizers, for using terms like “chairman” instead of “chair” or “chairperson,” or for hosting panels without gender diversity, sounds superficial but may begin embedding larger, cultural values and begin a cascade of change. Creating a national daycare programme would also trigger important changes by prioritizing, with action and resources, the importance of equality as a Canadian societal value. Women’s Entrepreneurship Day could be proposed as a decade-long celebration. Consent and personal boundaries to be taught at the first levels of education and continued across all educational levels. We need to detect and remove repercussions for women objecting or speaking out about gender abuse in work and educational environments, no matter how mild they may be perceived to be. The Fem-LED researchers saw many cross-overs with another Super Ordinary project: Domestic Abuse & the Law⁵. In particular, we note that the project’s Framework of Abuse Types, which posits that the embedded nature of abuse in society leads to the need of many men to exert power and control over women. Sexism, sex discrimination and female exclusion are elements of gender abuse that disempowers women in society, at work, in various media formats, and in the home.

These levels of intervention sites also have similarities to a Causal Layered Analysis (CLA) approach, used in Futures Studies and as articulated by Sohail Inayatullah (Inayatullah, 2004) as a means to identify interventions that may address symptoms and root causes of social and cultural phenomenon. In this case, our work focuses on gender discrimination in I&DM, ICTs and most broadly, in Canadian society. Super Ordinary Laboratory Researchers, Stein and Singh have a forthcoming conference paper on the mixed methods used in this study and further mining the Futures CLA frameworks; this will be published in 2017.

GENDER OVERALL





GENDER OVERALL

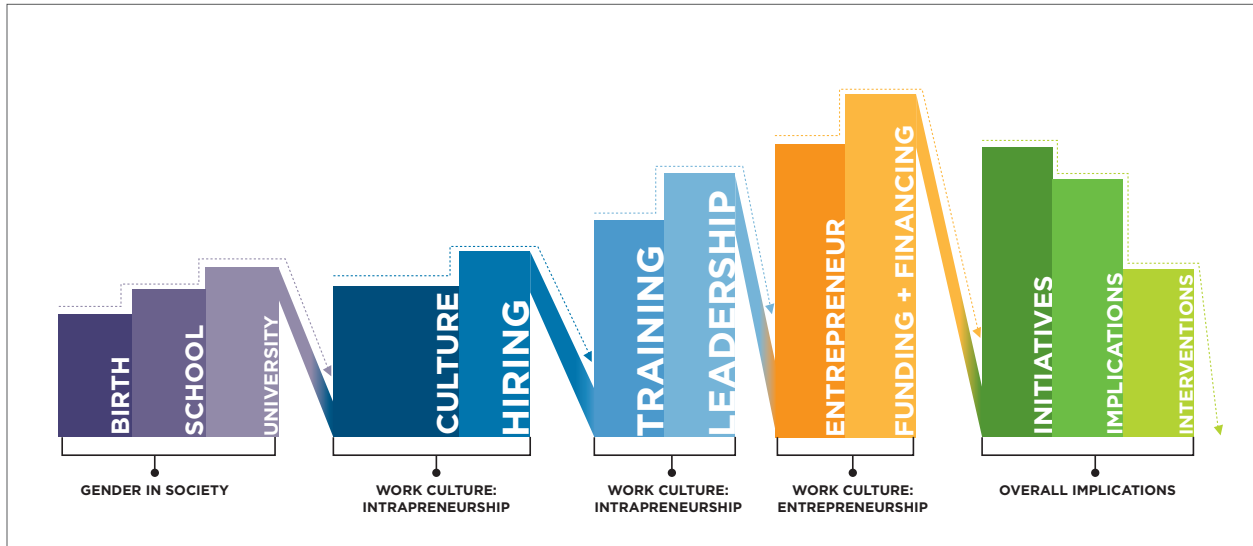


Figure 1: Lifestage Model on factors that support and inhibit female leadership in I&DM.

Figure 1: Lifestage Model on factors that support and inhibit female leadership in I&DM.

It should come as little surprise that society and culture have large roles to play in the unconscious biases instilled in girls. As per our Wall Report research (see Appendix A) and Questionnaire results (see Appendix C), it was apparent that girls receive many subtle and complex messages from a very early age, both at home and at school, suggesting that they have a lesser right to equal study support; designating what their interests ought to be; making claims about girls' actual abilities and society's expectations of them in general; and judging of their interests and desires. These biases are generated and reinforced by most of both the male and female people present in their lives in person and through the media. Girls receive these messages in subtle ways, making the problem of managing them complex — a “wicked” problem.

Social conditioning and over-glorified focus on outer appearance for women, which starts at a very young age, has a long lasting impact on many women. It is amplified by a dearth of strong, balanced social and cultural role models for women. According to respondents of our questionnaire (see Appendix C), further augmenting this complex issue is the steadfast predominance of



gender-bias, which makes normal, unbalanced expectations of child care and family obligations for working women. The multiple roles women hold in their families as caregivers (children, parents and in-laws) and the burden of household chores lead to a tremendous social pressure for women to be “on top of it all” (Eagly, 2004). This remains the common female example many girls witness (in both real life and in media) from an early age. This experience girls have — of needing to be “superwoman” — feeds their social conditioning, teaching them to be more risk averse than their male counterparts in taking on educational and work challenges (Borghans, Golsteyn, Heckman, Meijer, 2009). As our research (see Wall Report, Appendix A) emphasized, girls often come to believe that they cannot afford to “risk it all;” they have too many societal obligations and expectations to fulfill.

Both the literature review (see Wall Report, Appendix A) and respondents of our questionnaire (see Appendix C) highlighted how the predominance and unspoken acceptance of pay inequality in the workplace exacerbates the unequal salary women receive. Sadly, women’s wages are still commonly viewed as a secondary household income. This predisposes employers to justify pay inequity, as it unfairly assumes the female employees are married or otherwise supported (Cliff, 1998). The wage imbalance is supported by social values that hold women to be ‘feminine’ or ‘soft’, or in other words, “weak,” and therefore less valuable to employers. Men are quite often taken more seriously at work, and assumed to be the ones in charge. While women’s emotional quotient (EQ) often works against them in today’s workplace cultures, by suggesting they will be less effective than men, research shows that in fact, their EQ makes more empathetic and better social communicators, skills needed for good leadership (Baron-Cohen, 2003). Women workplace leaders have been recognized for having more collaborative, nurturing, participative and democratic management styles that are quite effective (Eagly, Alice H. and Johnson, B. T., 1990).

Men inhabit a much longer core period of power than women, creating an ageism message that values older men as particularly wise and authoritative. This idea is replicated and made to seem normal both in popular culture and in common office dynamics. As a respondent in our questionnaire (see Appendix C) noted, ageism is a silent, ongoing, powerful form of discrimination still at work in the office place. Both in regards to on the job and in society, other respondents (see Appendix C) spoke to the expectation that women workers exhibit a pleasing physical appearance and youthfulness, and manage their “emotional” responses. By falling very short in showcasing a strong and diverse set of female role models, media outlets play key roles in feeding these biases and perpetuating these messages.



Such pretenses are only further complicated in the ICT sector, which has seen a predominately male workforce since its inception, and where, as a result, many questionnaire (see Appendix C) respondents noted that sexism and stereotyping have become systemic realities. Male monoculture has influenced gender practices in workplaces and has had impact in other areas. It constructs males as the primary audience catered to by ICTs; informs the perspectives considered in ICT content decision-making; and largely determines the products and services created by ICTs. The video gaming industry provides innumerable excellent examples of content that reflects these pervasive focuses on the male as the central subject and consumer.

In ICT working culture, long hours, happy hours, and off-hours socializing are common norms; this reality marginalizes women, especially those who cannot regularly take part due to family, childcare and domestic obligations (see Questionnaire Summary, Appendix C). Missed opportunities to socialize on and off the job become missed opportunities to network and advance professionally, which by definition impede women's potential for networking and advancement (see Questionnaire Summary, Appendix C).

⁶ The hand that rocks the cradle. (2006, March 02). Retrieved November 05, 2015, from <http://www.economist.com/node/5577379>

We noted four biases particular to women in work. These have an effect on women working as change-makers, leaders, within established organizations (Intrapreneurs), as well as women creating their own businesses (Entrepreneurs). These are:

- The Maternal Wall, where having children prevent her advancement⁶,
- The Tug of War, where women seem to be made to compete for the slim opportunities that might be granted (Derks, Ellemers, de Groot, 2011),
- Prove it Again (confirmation bias), where women's accomplishments are neither acknowledged nor remembered (Reskin, 2002), and
- The Tight Rope, a classic "Catch-22" wherein leadership-worthy behaviour as demanded of women is contradictory: not feminine and not masculine (Carbado, Gulati, 2000).



Positive Steps: Gender Bias

Many organizations in, or connected to, the ICT sector have recognized the systemic nature of the gender imbalance that plagues these industries. They are committed to addressing the root causes in order to substantively counter the problems. Google, for example, has put in place an initiative to provide grants for at-risk population groups (girls/women) to pursue education in STEM fields. On a more macro level, several governments, including Canada's, are employing "comply or explain" policies to incentivize businesses to actively seek, hire and promote qualified women (Davies, L. 2011). While this is encouraging, this report notes that hiring alone cannot resolve and alter pervasive so-called "cultural" problems of the workplace and masculinized content that marginalizes women in these spaces. Encouragingly, some organizations have taken efforts to counter these cultures and support women's needs for life/work balance; for example, the ICT sector in Canada provides paid maternity leave, and happy hours are no longer commonplace and expected social engagements for employees. Some respected media players, such as the US-based National Public Radio (NPR), are producing some media output giving voice to women in ICT through platforms such as podcasts and talk shows.

EDUCATION





EDUCATION

The well-known gender disparity occurring in STEM work environments is even wider in STEM educational settings.

We turned to interesting research done by Hill, Corbett, and St. Rose (Hill et. al., 2010) who looked extensively at the limited number of women in the educational setting. They pointed to how the social messaging girls and boys hear from an early age about how they should play, behave, explore, and present themselves—in distinctly gendered ways—has a direct relationship to their education choices. Common social assumptions that boys are “naturally” better at math and science subjects than girls, and that boys show a greater preference than girls for studying these subjects reinforces these gender disparities as the “natural order of things.” These assumptions were noted by Hill et. al. to adversely affect girls’ learning performance and preferences. Furthermore, this research quantified, between the ages of 13 and 17 years, 74% of boys expressed an interest in a career in STEM subjects, while only 32% girls expressed similar interests.

As mentioned in greater detail in the wall report, there appears to be a difference in the ways that boys and girls approach using, exploring and learning about computers and technology. This is described as the “Tool/Toy Divide” (Upitis, R., 2001). As per this research, boys find computers inherently interesting, and are motivated to play, experiment and tinker with them; boys, in other words, view “technology as a toy.” On the other hand, while girls do play with computers, their attitudes towards technology appears to focus on the potential function of technology as a tool with which they can accomplish tasks. While each approach requires a different method of teaching, notably, the boy-favoured “Tech as Toy” approach dominates in classrooms. Further, teachers have noted that while boys prefer to work on their own, girls work better in teams in “all girl” classes (Davies, Klawe, Nyhus, Sullivan, 2002). Because a majority of STEM courses are taught by male faculty, they tend to employ boy-favoured (independent learning) approaches over the team learning style preferred by girls; this further dissuades girls from pursuing STEM careers. Hill et. al. noted that while the gender ratio of male to female faculty in higher education faculties is generally 3:2, it rises quite dramatically within STEM, to 4:1 overall, and to an astonishing 8:1 in engineering. Unsurprisingly, with a dominance of male faculty and a dominance of male students, STEM courses celebrate and transmit classic masculinist values, encouraging individual work and competition,



and driving a decline in women students' confidence, as they strive to study in a culture that dismisses their contributions and needs (Hill et. al., 2010).

As established earlier, when girls are unable to find support systems in their teachers or parents and immediate community, they seek support from external role models in society. Currently, there is very limited positive image reinforcement of, or access to, women in STEM through public outlets.

Respondents to our questionnaire (see Appendix C) noted that women's educational trajectories in post-secondary training appear to lead to them taking up HR and marketing positions when entering ICT and I&DM environments, rather than more technical roles. Due to their poor experiences in STEM educational environments, many women working in STEM second-guess their abilities and credentials for the technical work. These women often take additional STEM-related courses, on their own time and at their own expense, to achieve career advancement (see Questionnaire Summary, Appendix C). These additional steps may themselves create imbalances for the women that negatively impact their work experiences and abilities to succeed.

Positive Steps: Education

The recognition of the gender gap crisis in STEM has led many curriculum design initiatives to appeal specifically to girls at various stages in the educational system. There is a greater recognition of the need to bring female faculty into ICT and I&DM education and to increase female enrollment. Some programs have demonstrated success in these areas, such as the interdisciplinary Digital Futures program at *OCAD University*, whose cohort is normally 50% female. Some ICT and I&DM subject areas, such as engineering, incorporate creative learning components with playfulness built in, for example through "Odyssey of the mind", to encourage more diverse and fun learning experiences that are attractive to girls and young women. Outside of schools themselves, an increasing number of inclusive incubators and safe space initiatives, e.g. *Pixelles* and *XX Games*, ensure that women interested in ICT & I&DM skills have access to training in supportive and encouraging community environments. There has also been a growing move to expand educational and sectoral designations from STEM to STEAM (science, technology, engineering, ARTS, and math).

A silhouette of a person in profile, pointing their right hand towards a target with concentric circles. The background behind the person consists of several overlapping gear-like shapes. The entire scene is set against a dark blue background with white circuit-like lines and dots.

WORK: INTRA- PRENEUR



WORK: INTRAPRENEUR

Glass ceilings in the corporate workplace present a well-established limitation that many women employees learn they must accept or navigate around. While there have been positive strides in companies offering maternity leave and other incentives/strategies to accommodate motherhood, many other issues have not seen corporate action. Pay inequality remains a sobering reality, with women today earning on average 70 cents to the dollar when compared to males, as remuneration for the same work when possessing similar educational and professional background. Much work is yet to be done to counteract this ongoing double standard.

The idea of leadership, as indicated in the Wall Report (see Appendix A), is a concept that many associate with strength, and in turn, with masculinity. Yet, research findings have shown that so-called “softer skills” are also required to be a successful leader. As well, neither strength nor “soft” leadership attributes can be attributed to any gender or sex category. These gender-based assumptions and perceptions, according to “role congruity theory,” play a major role in women being judged as inferior leaders in ICT and I&DM workplaces (Minniti, 2010). Unfortunately, women themselves internalize anti-woman gender bias. Women often perceive themselves as inadequately prepared for workplace leadership, precisely because they don’t necessarily exhibit so-called male leadership qualities, and recognize they will be judged for lacking these qualities (Verheul, Uhlaner & Thurik, 2005). Workplace bias against female leadership exists despite research showing that companies that place a minimum of 5-25% women on executive teams are, on average, more successful than those without (“Women at the Wheel”, Dow Jones, 2012).

In the ICT sector, most leaders arise from developed teams; given that many teams are primarily male, women rarely rise as team leaders. It is hard to imagine how this advancement trajectory will benefit women any time soon. According to responses in our questionnaire (see Appendix C) it was pointed that in I&DM, women do tend to occupy producer roles, which offer a route onto the executive team, for example, in AAA game development and publishing roles. While different sub-sectors (such as educational software) are better at attracting women employees, notably, women’s advancement in these sectors actually increases gender-based segmentation and silos women’s expertise into discrete



I&DM industry areas (see Questionnaire Summary, Appendix C).

Women are still often expected to exhibit so-called female qualities (for example, to be nurturing, supportive, and both domestically inclined and proficient), in their professional careers. Women are encouraged to seek work in sectors prizing these so-called female traits, such as retail and service sectors, rather than in technical sectors, despite the fact that women are more technologically equipped than ever. Few women in the ICT sector deem themselves promotion-ready as compared to their male counterparts, and thus decline to nominate themselves in companies (such as Google) that encourage self-advocacy for promotions. Despite these barriers, it is encouraging to see more diversity of women entering ICT and I&DM fields.

The struggle to attain work/life balance (or the erosion of the right to a life outside of work) in the tech industry is cause for serious concern for both men and women workers. The gaming industry, for example, has a work culture reliant on crunch periods and intense workloads, which might be suitable for a younger workforce, but not necessarily for parents or caregivers. As experienced game makers struggle to balance family commitments and intense work expectations, such expectations can result both in real productivity losses and even attrition. The need for improved and more flexible working conditions as crucial to building a more diverse, satisfied and successful workforce, was voiced repeatedly by respondents to our questionnaire (see Questionnaire Summary, Appendix C). These enhancements are crucial for the day-to-day success and productivity in workplaces. As well, gender biases in production teams tend to be replicated in media and ICT content, manifesting the concern of audiences and consumers who reject gender-biased and gender-hostile content. As a respondent working in the gaming industry noted, gender representation in popular game forms is strikingly narrow, catering primarily to male audiences and tending to hypersexualize characters, often demeaning women characters as objects to provide pleasure (see Questionnaire Summary, Appendix C). According to the Entertainment Software Association, while nearly 48 percent of game players are women, only 22 percent of those creating games are female (Takahashi, D., 2016). This disparity, as well as the privileging of discrete, stereotypical masculine values by male game producers, results in the ongoing creation of game content that fails to represent diverse and respectful female characters.



Positive Steps: Intrapreneur

There is a growing spotlight on the importance of gender diversity in ICT and I&DM workplaces, due to increasing internal and external pressures, media campaigns (e.g. Wage gap awareness) and public awareness. We are at an inflection point in the industry—we note a general trend to provide enhanced professional and interpersonal training to all employees in the sector, with other, more targeted, initiatives are being undertaken by key trend setters.

Intel, for example, is spearheading efforts in the ICT sector, by requiring that 40% of hired employees be either women or visible minorities, with the goal to double the number of women and minorities in the game industry in the next decade. To that end, Intel has also launched initiatives to combat sexual harassment at work and to fund startups launched by diverse entrepreneurs. Companies such as Intel are now beginning to publically report actual numbers of diversity hires. We find, generally, that making such hiring rates visible is a key first step in the process to transform hiring in ICT and I&DM environments.

As well, it is hopeful that Google introduced an initiative to encourage both men and women to nominate themselves for promotion, in an attempt to reduce gender bias. However, given that women tend to demonstrate lower self-confidence than men, such initiatives will require Google (and others) to rethink the design of such initiatives further in order to change their deeply gender-biased culture. Other companies, such as Apple and Facebook, have taken the forward step to subsidize, as a health benefit, the costs associated with fertility treatments of female employees. Additionally, in the I&DM sectors, many companies now hire diversity managers to ensure there is more accountability on diversity-related policies. Overall, it is heartening that the industry is responding to these issues — life/work balance, pay equity, biased gender assumptions, diversified workforces, etc. — and experimenting with various approaches to address them in efforts to lower the barriers to women's contributions and successes.



WORK: ENTRE- PRENEUR



WORK: ENTREPRENEUR

A growing league of women are making their mark in Canada and abroad as entrepreneurs. While setting one's own rules might sound very liberating to entrepreneurs, women confront deeply embedded biases in entrepreneurial arenas, which are byproducts of historic male predominance. These have a strong impact on the experience of entrepreneurial women who have to work constantly to prove their abilities. While it might be obvious, it is nevertheless important to emphasize that women all over the world experience gender imbalances in industry. Despite some women having greater social capital, mostly in the West, and with it, greater opportunities to be socially visible, there is still much imbalance and bias to be tackled globally.

For starters, the fact that women entrepreneurs generally define business success across a broader array of indicators than men do, was reinforced through both numerous research points and our questionnaire (Kelley, Brush, Greene, Litvosky, 2013; Bird, Brush 2002; Welter, Brush, de Bruin, 2014), also see Questionnaire Summary, Appendix C). Thus, this is different from the purely financial values of success that have been foundational in the male-driven entrepreneurial environment, with a heavy emphasis on positive impact, mentoring, and social value creation in addition to monetary success. In addition, motherhood and family life also deeply affects the life of women entrepreneurs, as they necessitate briefer travel schedules (less international presence), more flexibility, and often, smaller business size (Orser, Spence, Riding, Carrington, 2010; Madill, Riding, Haines, 1996, Fischer and Reuber (2004). Many women entrepreneurs run smaller businesses with smaller work teams; this results in lower revenues, job creation, and idea generation (Carrington, 2006; Cliff 1998). As success is often judged by financial metrics, there is a value capture gap experienced by many women entrepreneurs. In addition, as mentioned earlier, women are, on average, more risk averse than their male counterparts, and have lower self-image, both of which certainly have implications for their leadership and the overall success of their entrepreneurial endeavours (Kelley et. al., 2013, Orser, Riding, & Manley, 2006).

Many women are not confident in their financial understanding, having little working knowledge of and experience with, finances

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and funding. To further complicate the feeling of disparity, women seeking financing must almost always petition for it from venture capitalists (VCs), who are mostly male (“Women at the Wheel” Dow Jones, 2012). The financial industry is, after all, another one of the most traditional and masculine business environments. With only a very small numbers of women seeking financing, men in the venture and financing sectors are unaccustomed to the different values and business approaches that women use when developing their businesses (Bird and Brush, 2002). The Dow Jones Report, “Women at the Wheel”, reports that only 6.5% of the privately held companies in the US that received venture capital between 1997 and 2011 had a female CEO (Dow Jones, 2012). The lack of, and limited access to, finance accounts for twice the proportion of business discontinuance among women compared to men in the US, with even more extreme disparity in less developed nations (Rosa, Kodithuwakku, Balunywa, 2006). Supporting women entrepreneurs, whose businesses have such dominant themes of social ROI in addition to financial success, requires a strong, values-aligned financial infrastructure.

⁷ Riebe (2012) This report may be downloaded here: <http://www.un.org/womenwatch/osagi/gendermainstreaming.htm>

Positive Steps: Entrepreneur

Increasingly, colleges and universities in North America are conducting post-secondary entrepreneurial training. As noted in a UN report by Riebe (2012), “‘Gender mainstreaming’ for Academic Entrepreneurship”⁷ while university-based centers for women entrepreneurs are relatively new, they need to build on the momentum for entrepreneurial education, especially for women. In the face of limited VC/private equity/institutional funding, further constraining the size of their operations, woman entrepreneurs have been helped by increased access to small business (microcredit) loans. There are a growing number of women-centered networking and entrepreneurship-focused events, as well as peer-to-peer networks among women entrepreneurs that build the necessary business-related skills and provide mentorship and training.



REPORT SUMMARY



Summary

Our results show that concerned people and organizations must take consistent action across spheres of education, industry and beyond for the culture and climates of ICT & I&DM industries to improve in regard to women. Currently, ICT & I&DM work environments and outputs are inhospitable to women, fail to properly train them, create life/work imbalances, fail to celebrate and promote women, and miss out on opportunities to make media content and ICT outputs more inclusive. For these reasons, it is imperative that the findings of this report are disseminated widely to, and supplemented by, ICT & I&DM stakeholders, including industry leaders and workers, as well as: members of community groups dedicated to girls and women's training; leaders and teachers in educational organizations at the primary, secondary and post-secondary levels; and public and private media leaders. In fact, we encourage the broadest possible dissemination of these findings to the general public.

Success will depend on broad and dispersed efforts, across all related sectors, to encourage ongoing attention to gender-related problems. Remedies are necessary in: educational curriculum and hiring practices; media reporting; industry and governmental hiring and promotion practices in ICT and I&DM sectors; and in public conversations regarding fair and compassionate treatment of women in homes, social spaces, schools, community and at work. To this end, we encourage that this report and our evolving [website](#) should be contributed to, and disseminated, widely.

This effort should be socialized with:

- Educational Institutions and Research Labs,
- Business Incubators or Accelerators,
- Large, Medium and Small Organizations,
- Formal and informal (social) media outlets and conferences, as well as
- Advocacy and Community groups.



APPENDIX



APPENDICES

A: The “Wall Report”

A review of research done to date on female inclusion factors in Digital and ICTs in Canada.

B: Bodystorm Workshop

A review of the Bodystorm (creative co-lab) with The Mission Business (TMB)⁸ and invited female leaders.

C: Questionnaire Summary

Findings from in-person and online questionnaires

D: Games to Play Descriptons

- Ceilings and Ladders
- Fem-LED Grow-A-Game
- Feminist Theorist Card Game

Full game-kits are forthcoming and will be available on our site through the SSHRC funded project: “Bridging with STEAM/M; Collaborative Approaches to Effect Women’s Participation and Success in ICT/Media Environments.”

N.B.: the Fem-LED⁹ site is evolving with Trends identification, a historical timeline of events and related papers by the core authors – and of course, game-kits.

⁸ See TMB’s company website:
<http://themission.biz/>

⁹ See the Fem-LED site: <http://research.ocadu.ca/research-and-innovation/project/Fem-LED-home>

APPENDIX A





APPENDIX A: Wall Report

Fem-Led “Wall Report”*: Understanding the Current State of Women in Tech

Authors:

Suzanne Stein, Mithula Naik, Jill Sharrock & Prateeksha Singh

A literature review, organized by life-stage, on the growing exclusion of women in the Interactive and Digital Media and broader Information Communication Sectors.

July 10, 2016

**This report has become known as the “Wall Report” and the name has become so entrenched that we didn’t rename it for dissemination. The work was done on the walls of the Super Ordinary Laboratory, allowing researchers and visitors to step through our evolving findings. The work was so compelling in its wall-form that we considered making wallpaper for boardrooms and meeting rooms in workplaces. A video tour of the Wall Report can be found here: [to insert]*

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FEM-LED SUMMARY REPORT

A look into female leadership for women in digital media and tech today and tomorrow.



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INTRODUCTION

The purpose of this research is to explore the causes of persistently low female participation and leadership in information communication technology (ICT) and the interactive and digital media (I&DM) sector within Canada. This encompasses the roles of entrepreneurship, self-employment, part-time contract work, and full-time employment within these industries. The report is a synthesis of more than 20 research papers and studies conducted in North America and Canada in the 25 years between 1990 and 2015.

The authors examined gender differences in schools as it related to levels of female students' interests and performance when studying science, technology, engineering and math subjects (STEM) in school and higher education, with a scope encompassing middle school (11-13 years of age), high school and university. The data resulting from this avenue of research provided us with broader context for understanding female engagement levels in ICT and I&DM, and a launching point to further examine women's roles and opportunities within ICT and I&DM workplaces.

Workplace research took in government statistics related to Canadian and North American female entrepreneurship and economic reports related to bank and venture capital financing of female-owned businesses. This investigative approach allowed for deep consideration of the cultural, social and educational barriers, biases and enablers that women face at every life stage when entering STEM, ICT and the I&DM sector. Synthesizing so many research studies published over 25 years resulted, predictably, in conflicting data and conclusions. These inconsistencies, themselves, were informative and may offer researchers even further avenues of investigation.

UNDERSTANDING UNCONSCIOUS BIAS

This section is a summation of the implicit and explicit biases when women are in the workplace, as revealed in the literature review. Research shows that women experience these biases throughout all life stages of their education and careers, often experiencing bias both from men and from women.



With the issue of women's equality as a right being a recent phenomenon, gender bias has long been a major barrier in female career progression. In today's workplace, though, it is broadly considered to be an insignificant element, due to various social and cultural changes and the introduction of workplace equality laws. The results of the Implicit Association test (IAT), created by Anthony Greenwald, suggests otherwise.

IAT was designed to measure the strength of automatic associations (biases) people have towards others. The IAT gender-science test has been in use since 1998. To date, more than 500,000 people across 34 countries have taken it. The results show that men more likely than women (70% vs. 60%) to associate science with male, and women more likely than men (49% vs. 41%) to associate arts with female (Nosek, BA et. al., 2009). This association is also entrenched at younger ages, and this average also appears when tested amongst high school children.

In our research, we identified four main biases that affect women in the workplace:

¹ The hand that rocks the cradle. (2006, March 02). Retrieved November 05, 2015, from <http://www.economist.com/node/5577379>

1. The Maternal Wall

Women with children are:

- 79% less likely to be hired than women without children.
- Half as likely to be promoted as women without children.
- Paid less than women with the same resume, but no children.

In 2006, The Economist wrote an article entitled; "The Hand That Rocks the Cradle,"¹ citing research confirming that income disparity between genders begins when women have children.

2. The Tug of War

Female rivalry in the workplace can be as important as sexism is in holding women back in their careers. Lack of opportunities in the workplace, and fewer positions available to women, can create unhealthy competition between women, making female rivalry a direct result of sexism. In 2011, two studies found evidence that a common strategy for women experiencing gender discrimination at work was to stereotype, distance or criticize other women in the department. (Derks, B, Ellemers, N, de Groot, K. 2011).



3. Prove It Again (Confirmation Bias)

The link between professional success and maleness has deep roots; women have only recently been considered equal in the eyes of the law and (nominally, anyway) in society. For instance, Canadian women were given the right to vote between 1916 (Ontario) and 1940 (Quebec). So it's hardly surprising that most people still equate business success with men. The key principle underlying this bias is that information that supports preexisting notions (stereotypes) tends to be noticed and remembered, while information that contradicts them is forgotten or discarded. As a result, men have to prove their competence or may be assumed to be competent at the outset. Women, conversely, must prove it again and again and again. (Reskin, 2002). This form of bias is called casuistry, a technical term for what happens when people misapply general rules to justify a specific behaviour or use specious reasoning to rationalise their choices or behaviours. Casuistic bias is particularly pernicious because people think they are using objective criteria to make their decisions when in fact they're modifying the criteria used for judgement based on their unconscious biases (Phelan, Moss-Racusin, Rudman, 2008).

4. The Tightrope

Sometimes described as the "double-bind," the tightrope describes the situation of being caught between exhibiting traits that are too masculine or too feminine. When a woman seems to be feminine at work, she is overlooked for promotion, as she doesn't demonstrate consensus-understood leadership qualities. When a woman is perceived to be too masculine, she is disliked and refused promotion on the basis that she is unable to engender loyalty and support from the workforce. This is also called the "damned if you do and damned if you don't" scenario. While "masculine" women and "feminine" women face different kinds of tightrope bias, it remains the same issue: namely that success is stereotyped as being both masculine and male (Carbado, Gulati, 2000).



Conclusion

Further research within the work environment has revealed these biases to be widely held and especially prevalent within the male-dominated domains of ICT and I&DM. In many instances, the lack of awareness of these biases being in play, encourages denial of their existence and reinforces the false perception that women are not as able as their male colleagues. The implication that women are not promoted because they are not properly qualified or ready for leadership roles creates an environment of perpetual striving to be “good enough” and exacerbates irrelevant competition between female co-workers. Added to that, the consistent promotion of men by men creates a reinforcing loop of male senior executives who favour their own gender for promotion, further reducing the number of opportunities for women to rise to executive levels. The fact that these unconscious biases are still part of our cultural norms may prove to be the most insidious and stubborn barrier in preventing women from reaching their full potential and achieving equality in business.

STEM & IT EDUCATION IN HIGH SCHOOLS

There is a persistent assumption in our society that boys are “naturally” better at math and science subjects than girls, and that boys “tend to” show a greater preference than girls for studying these subjects. These truisms neatly explain the gender disparities as the “natural order of things.” As widely held beliefs, they block more detailed examinations of the gender preferences at play. By cutting off the question before it is asked, these beliefs become self-fulfilling prophecies that funnel children along gendered paths and deepen the presumption that boys’ study preferences and learning styles are superior to girls’, and that girls are “being like the boys” when they exhibit those “male” preferences and styles.

In the 2010 report, “Why So Few? Women in Science, Technology, Engineering and Mathematics”, by Hill, Corbett and St. Rose, the following data were compiled, providing statistical details of the disparity between boys and girls studying STEM subjects, and highlighting important differences in the way boys and girls prefer to assimilate information.



Same Grades, Different Goals

Equal numbers of boys and girls study STEM subjects in high school. Girls are earning high school math and science credits at the same rate as the boys, and on average their grades are slightly higher than the boys. However, despite this, they are already turning away from the possibilities of exploring a career in these fields:

- Between the ages of 13 and 17 years, 74% of boys expressed an interest in a career in STEM subjects.
- Only 32% of girls expressed an interest in a career in STEM subjects. (Hill et. al., 2010)

Even schoolgirls with high STEM scores are more likely to express an interest in studying the humanities at university than in STEM subjects. Within STEM, girls express a preference to study living science subjects such as biology and zoology over engineering, physics, computer science and math.

Gender Differences and ICT Subjects

There may be a difference in the way boys and girls approach using, exploring and learning about computers and technology. This is described as the Tool/Toy Divide. Boys find computers inherently interesting, and are motivated to play, experiment and tinker with them; this is considered “technology as a toy”. Whilst girls do play with computers, their attitude towards technology may be slightly different: focused on the potential function or role the technology takes as a tool, e.g. to fulfill tasks (Upitis, 2001). Each approach requires a different method of teaching, although the Tech as Toys approach dominates. Research shows that boys exhibit higher self-belief in their ICT abilities than girls. At the same time, girls hold themselves to a higher standard in subjects, where boys are considered to excel. It is because of this, girls are less likely to believe they will succeed. (Hill et. al., 2010)

Gender Differences in Classes

Teachers' surveys show that girls also dislike narrow technical styles of teaching and seem to thrive in school when they receive a broader style of teaching that offers multiple approaches to ICT



subjects. Teachers have noted that girls work better in “allgirl” classes in teams, whereas boys prefer to work on their own (Davies, Klawe, Nyhus, Sullivan, 2003). Boys also show a tendency to take command if they work in a team with girls. It is unclear whether this is caused by dominant male behaviour or subservient female behaviour, or the interplay between both.

Studies have shown that girls with fathers who involve themselves in housework and cooking at home have higher career aspirations than girls whose fathers do not share in the family’s domestic work (Croft, Schmader, Block, Baron, 2014).

Ladies Learning Code

The alienation of young women from ICT subjects is a complex problem, but the “geek factor” was described as a major contributor in a 2005 report by the National Centre for Women and Information Technology. This is a reinforcing loop of masculine traits within the teaching and discussion of ICT subjects that leaves young women with the impression that ICT is a male-dominated environment of long, solitary hours staring at a screen and writing code. This plays into the gender divide of the “tool/toy” preference, discussed briefly above and first described in a report by the AAUW Educational Foundation². In the tool/toy divide, boys place value on the computer as a toy that is inherently interesting, even an extension of self with interesting inner workings, whilst girls perceive the computer more as a useful tool, a tool — apart from themselves — to promote human interaction.

Ladies Learning Code (LLC) is an initiative designed to redress the continuing decline and alienation of girls from the ICT sector. Sponsored by Mastercard, LLC is a Canada-wide non-profit aimed at delivering “beginner-friendly technical skills to girls between the ages of 7 and 18 years, in a socially collaborative learning style. Mastercard was alerted to these issues when they conducted an on-line survey in 2014 that found less than 18 percent of Canadians who considered a career in technology were women (Allen, 2014).

This push to encourage women into the ICT sector, is part of a strategy to combat an increasing ICT skills shortage. The World Forum 2014 forecasts that IT-related work will continue to be highly skilled and highly paid as the internet and use of data continues to expand. Statscan 2014, noted that professional, scientific and technological services’ earnings rank favourably amongst other occupations, with an industry unemployment rate of less than three percent. This is statistically viewed as full

² Educating Girls in the New Computer Age Report, AAUW Educational Foundation, Commission on Technology, Gender, and Teacher Education, <http://history.aauw.org/files/2013/01/TechSavvy.pdf>



employment, making it a secure and well-paid sector, and yet, despite the skills shortages, it remains an increasingly male-dominated profession.

Conclusion

Statistics show that when provided with the right learning approach, girls' STEM abilities are equal to that of boys. Girls' waning interest in STEM studies may be explained by a number of converging factors:

- 1.) Schools' failure to acknowledge and accommodate teaching styles that support girls, making it more difficult for them to learn the subject and inadvertently sending the message that it is more important for boys to have a successful and conducive study environment.
- 2.) Lack of parental equality at home, thwarting girls' career aspirations by modeling the scenario that as women, they will have greater domestic responsibilities to perform than men with whom they partner who, naturally, must be kept free to focus on their careers.

This suggests that unconscious bias is already at play for young girls, as there are many subtle and complex messages being instilled in girls, both at home and at school, related to their right to equal study support, their abilities and society's expectations of them.

HIGHER EDUCATION

Introduction

For several years now, the lack of women in ICT and I&DM businesses has been attributed to the small proportion of female students graduating with degrees in these subjects. Consequently the past ten years has seen a drive to encourage more female students into computer science, engineering and the hard science subjects. The intention was to "fill the pipeline" with female graduates, and thereby eventually increase the numbers of highly qualified women working in the sector. Therefore the transition between high school and college is a critical moment when many young women turn away from a STEM career path (Hill et. al., 2010).



The Student Experience

In the 2010 report, “Why So Few? Women in Science, Technology, Engineering, and Mathematics” by Hill et. al., also reviewed statistics dating from 1998 through to 2010, tracking the varying growths and reductions in female students in individual subjects within STEM studies. The results show a gradual increase in female students majoring in the STEM fields, but the increases are not evenly distributed across the subjects and the gender disparity remains very strong.

In 2006, 29 percent of all male freshmen planned to major in a STEM subject, compared with only 15 percent of all female freshmen. The gender disparity is even more significant when the biological sciences are excluded from the statistics. Just over 20 percent of male freshmen planned to major in engineering, computer science, or the physical sciences, compared with only 5 percent of female freshmen (National Science Foundation, 2009).

These findings highlight the fact that despite the still relatively small percentages of women majoring in some STEM fields, the overall proportion of STEM bachelor’s degrees awarded to women is increasing, although women’s representation varies by field.

In 2006, women earned the majority of bachelor’s degrees in biology, 50% of the bachelor’s degrees in chemistry, and nearly 50% in math. However, women earned a much smaller proportion of bachelor’s degrees in physics, engineering, and computer science. In fact, women’s representation in computer science is actually declining. In the mid-1980s women earned 36 percent of the degrees in computer science; and by 2014 this number had dropped to 20 percent (Hill, et. al., 2010).

Statistics show that the ratio of men to women in the total field of STEM subjects has changed for the worse: in 1992 it was 2:1 while in 2007 it was 3:1. We read nothing to suggest a more recent reversal of this trend.

Many academically capable women also choose to leave STEM majors early in their college careers, as do many of their male peers. The attrition rate for both men and women in the first year of studying STEM at university is 40% (Hill et. al., 2010), which is alarmingly high, and suggests that the teaching of STEM subjects poorly supports both genders. However, as women make up a smaller number of STEM students from the start, the loss of women from these majors is of special concern.



In 2010 almost 30% of adults were earning college degrees, with the proportion of women earning Bachelor degrees greater than men. At the same time, fewer women were in STEM subjects as Bachelor students and even fewer of them went on to take advanced degrees in STEM subjects (Hill et.al., 2010).

The Faculty Experience

In 2008 The Collaborative on Academic Careers in Higher Education at Harvard University, (COACHE) shared the following post-doctoral research data related to gender bias within ICT faculties (Trower, Chait, 2008). The data was collected from 1,890 STEM faculty members across more than 56 universities. For both female and male STEM faculty, the nature of the work, the departmental climate and a sense of personal “fit” with the climate were the most important factors predicting job satisfaction.

There is a growing body of research that now points to a male culture within the STEM and computer science university departments. With a dominance of male faculty and a dominance of male students, these courses take on a very masculine approach: based on individual work and competition. This may create an alienating culture and climate for female students and create a sense of poor personal “fit” amongst female faculty members. This could mean that the decline in women students’ confidence is partly driven by institutional culture. A study by the National Research Council, in 2006, emphasized the importance of fit, highlighting that the “most problematic kind of attrition involves faculty who leave because they feel unwelcome” (National Research Council, 2006, p.98). Hill, Corbett and St Rose noted that the gender ratio of male to female faculty in higher education faculty is 3:2, whilst in the STEM fields, this ratio becomes more dramatic, at 4:1, and in engineering it is 8:1, increasing the likelihood that the department culture will be masculine based.

As a sense of good fit is key to staff retention and this gender bias in departmental culture is a major barrier to increasing the numbers of female STEM faculty. Research has also pointed to implicit bias in peer review data and hiring processes that severely hampers the career progression of female faculty.

Research done by Wenneras and Wold (1997) found that a female postdoctoral applicant had to be significantly more productive than a male applicant to receive the same peer review score. This meant that she either had to publish at least three more papers in a prestigious science journal or an additional 20 papers in lesser-



known specialty journals to be judged as productive as a male applicant.

Other research undertaken by Schmader, Whitehead & Myscoki (2008) found systematic differences in letters of recommendation for academic faculty positions between male and female applicants. The researchers concluded that the recommenders (the majority of whom were men) rely on accepted gender concepts. Letters of recommendation written for women were more likely to refer to their compassion, teaching, and effort as opposed to their achievements, research, and ability, which are the characteristics highlighted for male applicants. Arguably the female traits are less valued than research, achieved goals and ability for success in academia. The authors concluded that recommenders unknowingly used selective categorization and perception, also known as stereotyping, in choosing what features to include in their profiles of the female applicants.

The Gender Division Within Business Studies

While women currently account for 44% of MBA graduates in Canada, their prospects for employment are relatively dim, again plausibly due to gender bias. In a recent experiment, the graduating MBA class all applied for job interviews. The female graduates sent out 20% more job applications than their male graduate colleagues, and yet received 25% fewer job offers than their male colleagues (Olson, E. 2011).

Conclusion

The “fill the pipeline” strategy supported by the Departments of Education, Employment and Trade was designed to encourage more schoolgirls to study STEM subjects and therefore eventually lead to more female STEM graduate. Ultimately this strategy failed to understand the underlying issues preventing many women from studying hard sciences (besides life science) at university. Consequently it failed to deliver the desired outcome (Hill et al, 2010). Whilst initially the high attrition rate amongst first year students suggests that the teaching style may be inappropriate for a high percentage of both genders, there are several factors that appear specifically hostile to women. It is interesting to note that the male-dominated teaching style in secondary education becomes more pronounced at the higher levels. This even carries



through to the ratio of male-female professors, with some interesting inequalities within the faculty environment. There are some indications that computer science departments, dominated by male professors and with a high proportion of male students, develop a very masculine “boys club” atmosphere and approach to studying, which alienates and excludes the smaller group of female students. This can have a detrimental effect on the female students’ learning experience and thus, their success and longevity in those majors, reinforcing yet again the cultural bias that boys are “naturally” better at these subjects than girls.

Educational environments, including universities, appear to be as prone to the biases and assumptions concerning females’ abilities in the hard and applied sciences as society in general. Sadly, they also exert workplace biases against female academics’ career development.

THE HIRING PROCESS

The ICT industry is projected to expand rapidly over the next few years. STATSCAN has highlighted the fact that there will be 100,000 new jobs in the ICT sector by 2016. This figure includes all aspects of the ICT industry.

But will this equate to jobs for women above entry-level or support positions? Will the industry see promotion of highly qualified women within the industry to senior level positions?

A 2009 published study done by professors Asaf Levanon, Paula England and Paul Allison, “Occupational Feminization and Pay: Assessing Causal Dynamics Using 1950-2000 U.S. Census data”, found that the difference between the occupations and industries in which men and women work has recently become the single largest cause of the gender pay gap, accounting for more than half of it. In fact, when women enter fields in greater numbers, the median pay levels decline — for the very same jobs that men were doing before.

Currently, the ICT industry is ranked as the third highest paying industry out of a ranking of twenty industries (Jobs Report: The state of the Canadian Labour Market, 2014), and the numbers of women currently working in the ICT workforce are actually dropping. In 1980, 38% of the ICT workforce was female; by 2013 this dropped to 20%.



Currently, females still represent a minority of employees in these leading ICT companies: Pinterest (20%), Apple (21%) and Google (30%) (Tech Women UK, 2015). At Google, employees are encouraged to nominate themselves for promotion. Gender bias has shown that women who did nominate themselves for promotion experienced hostility from their male colleagues, whereas it was expected amongst the workforce that men would nominate themselves. Google has recently announced that it has failed to increase the percentage of women in its workforce over the past 12 months, and has pledged to try harder to employ more women into senior positions (Catalan, 2014).

Currently, Alibaba has a workforce that is 47% female, with 33% of senior positions being held by women. Jack Ma, founder of Alibaba, attributes this to intentionally and actively seeking out qualified women to employ (Kokalitcheva, 2015).

The midcareer attrition rate for women in ICT is alarmingly high. After ten years within any ICT organization, 41% of women will have left their employment, as compared to 17% of men. In a 2012 CATAWIT (Canadian Advanced Technology Alliance Women in Technology) forum, women cited the following reasons for leaving their jobs:

- Feeling overwhelmed and marginalized
- Hostile macho culture
- Severe isolation
- Mysterious career paths
- System of advancement that emphasizes and encourages risktakers
- Family and life imbalance

Young companies often fail to employ women in higherlevel roles, and the majority of early stage startup companies are led and staffed only by men. It is widely known that men are far more likely to receive startup capital from venture capitalists, and so male leaders may believe that employing female executives in the company's earliest stages would jeopardize venture funding (Brush, et al., 2014).

As for pay, per Statistics Canada's data which is based on 2011 information, the standard gender pay divide still exists meaning that in every industry, when women and men working full-time, full-year are compared, women's earnings remain at about 72% of men's (Statistics Canada, 2011). According to a separate Statistics Canada issued report, "Women in Canada: A Gender-based Statistical Report" (2011), which was looking at data between 1999 and 2008, this ratio has fluctuated between 70% and 72% in that time period.



The most common positions held by female executives are within sales and marketing (Dow Jones, 2012). Here are some more statistics regarding women leaders in privately held companies in the US. (“Women at the Wheel”, Dow Jones, 2012):

- 1.3% have a female founder.
- 6.5% have a female CEO.
- 20% have one or more female C level executives.

Women’s participation in the workforce is often punctuated by transitions that break their career trajectory. Often, they are the first to be fired or laid off, and there have been instances when an excessive number of women have been fired in a time of corporate financial crisis. This was called ‘recessionary discrimination’ (Raghavan, A. 2009).

When the economy is struggling or business is otherwise precarious, men often fear that women are taking jobs that should be made available for men (Rosin, 2010), and there still remains an unspoken inference that women are married, and, thus, earning a secondary wage (Cliff, 1998), even though this is no longer the prevalent social norm.

Conclusion

Taking into consideration the various influences on it, it is hardly surprising that the ICT and I&DM sectors’ hiring processes have failed to increase the overall numbers of women in their workplaces. There is, undoubtedly, a smaller pool of qualified women than men from which to select. Traditional hiring processes often favour hiring from within a limited group of known sources, precluding searches wide enough to include the right female candidates. Couple this with the fact that most professional working engineers and scientists are not necessarily the ones who achieved the highest university grades, and it becomes apparent that the dearth of professional women being hired is necessarily due to their reduced numbers or their purported lack of required qualifications.

The rather shocking revelation that forward-looking tech companies such as Pinterest, Google and Apple have very poor records in employing and promoting women seems to reflect the presence of these cultural biases, namely that men often employ like-minded men and find women colleagues to be either too feminine or too harsh to be eligible for promotion. The fact that Google’s leadership has tried, and failed, to increase the numbers



of women in middle to senior executive roles, suggests that the workplace culture of marginalizing women may well have a stronger influence on promotions than company policies meant to remedy the imbalance. This may also go some way toward explaining on-going high, mid-career attrition rates amongst women from such ICT companies.

TRAINING & MENTORSHIP

In the light of these biases and cultural workplace barriers, would mentorship and additional management training increase the likelihood of women being perceived as “promotion-ready?”

Teams with Women

Research studies such as Walz’s (2000) indicate that mixed gender businesses are more balanced, effective and profitable. According to Woolley, Maline and Chabris (2015), “Teams with more women outperformed teams with men alone. It appears that it was not diversity that mattered for a team’s intelligence, but simply having more women”. Catalyst Studies ‘Why Diversity Matters’ (2013) reported that companies with the highest percentage of women on their boards financially outperform those with the lowest diversity (Catalyst Studies, 2013). Such data is evident when we consider reports of Fortune 500 companies that show those companies with the most female directors outperforming those with the fewest (Barta, Kleiner, and Neumann, 2012). Dezsö and Ross’s study (2012) reveals that women bring new knowledge, skills and networks to the table, take fewer unnecessary risks, and are more inclined to contribute in ways that make their teams perform better.

Women’s Management Style

Female leaders may have higher empathy, social and adaptability skills (Baron-Cohen, 2003) than men, who tend to display more dominant and competitive traits. Women are found to display more collaborative, nurturing, participative and democratic management styles (Eagly, Johnson, 1990). Further, the ‘Role Accumulation Perspective’ highlights how women often perform multiple roles (professional and caretaker) and may, by necessity, have developed enhanced professional interpersonal and multitasking abilities (Ohlott, 2002).



Conclusion

Undoubtedly, women would benefit greatly from any additional mentorship and training that improves and, perhaps even more so, highlights for them, their own abilities thus encouraging them to see themselves as promotion-ready.

It would be equally (arguably, even more) beneficial to have men and women colleagues train together to acknowledge bias and appreciate different types of management styles. It is not clear how many companies are aware of the proven advantages to having mixed gender executive boards, or how much sway this information has on their daily business decision making. It is imperative that more be done to recognize the many sides of effective leadership, and how women excel at incorporating emotional leadership into their management style.

WORK CULTURE

If work culture is a microcosm of cultural norms and biases are ultimately a reflection of a founder's beliefs, then one can conclude that the role of women in the ICT and I&DM workplaces has been shaped by the culture of the most successful players in these industries.

Over time, the work culture of ICT has become more, not less, masculine. Many who notice this convey a sense that Silicon Valley is now the poster child of the boys' club environment (Burleigh, 2015). 2012 Dow Jones report 'Women At The Wheel' (2012) emphasized the associated world of venture capital and high finance also reinforces the biases of an increasingly male defined industry by underfunding female-led. Not surprisingly, recent sexual discrimination and harassment cases (such as Ellen Pao's 2012 gender discrimination lawsuit against investment firm Kleiner Perkins Caufield & Byers) demonstrate the presence of a high tolerance for sexual harassment within this sector (Ncube and Washburn, 2010).

Whilst there are some very high profile female executives in the industry, such as Sheryl Sandberg (Facebook) and Marissa Mayer (Yahoo), this also casts a light on the rarity of executive examples, and may suggest that the lack of women is due to lack of ability. The one percent of successful women at the top cannot change an industry's culture alone.



Conclusion

Historically, high earning areas of industry are always eventually dominated by a male presence, even if the industry was at first overlooked and left to women to manage. Such is the case for the ICT and I&DM sectors. Recent successful players have been led by young men with technology backgrounds who brought with them (from the university environment) their “boys club” culture. This has been one of the most recent and extreme illustrations of gender dominance in an industry. The huge financial success of the industry may set it on a pedestal as a behaviour model for success, with the associated biases trickling down into other, less male-dominated, industry sectors.

Whilst there are a small number of women who have achieved great success in the industry, it is unclear what sacrifices and trade-offs they may have made on their personal journey to that success. It is also unclear as to why so few women have been granted the responsibilities and privileges of seats at the executive table. The fact that executive committees often include only one woman at a time suggests that the promotional decision may have been based on tokenism, despite the obvious abilities of these women to perform their job.

LEADERSHIP ROLES

Introduction

Leadership is based on action- and mind-sets that, in our culture, are perceived to be strong and masculine. Yet we now know that some soft skills, traditionally considered feminine, are also required to lead successfully (Orser, Elliott, & Leck, 2011). In truth, either of these polarities in behaviour or attitude are mutually exclusive to one or the other gender. However, perception and bias plays a huge role when judging the leadership skills of a woman. Unfortunately, women are also susceptible to the same biased thinking, and can perceive themselves as being inadequately prepared for leadership, precisely because they don't always naturally conform to the expected masculine image of good leadership (Verheul, Uhlaner & Thurik, 2005).



Successful Companies

'Women at the Wheel' (Dow Jones, 2012), reports the overall median proportion of female executives in successful US companies to be 7.1%, compared to an even lower 3.1% at unsuccessful companies. It also finds that US companies with an executive team of at least between 5% and 25% female executives were more successful than companies with fewer. These data support the hypothesis that a higher proportion of female executives at venture-backed startups improve the ultimate success of a company.

Barriers to Female Leadership

Although such evidence as that from Women at the Wheel has been continuously substantiated through statistical analysis, the corporate and entrepreneurial sectors continue to demonstrate a bias also known as the Role Congruity Theory: Prejudice against female leaders suggests inconsistency between her female gender role and her leadership role. These prejudices cause people to view women less favourably in leadership roles and do nothing to acknowledge the different means, structures and strategies used by women and men to manage enterprises. The Role Congruity Theory does not take into account that while women and men's entrepreneurial attitudes and actions may be influenced by the same variables, though not necessarily in the same way or to the same measure (Minniti, 2010).

Gender Perspective

These biases lead to problems in the workplace that hurt the business. Women are often subtly (sometimes not so subtly) punished for engaging in more forceful behaviours, and thusly are deterred from speaking out in ways that may well lead to improvements (Brescoll, 2011). They are expected to display feminine values, and not such leadership characteristics as assertiveness, ambition, dominance and strength (Eagly et. al., 2004), often synonymous with masculine values and traits. The consequence of this is noticed in the trends of women playing it safe by remaining within the retail, sales and marketing and consumer-oriented sectors while venturing less often into other, more male-dominated sectors (Carrington, 2006). Successful women in "male roles" are regularly rated as "less competent but likeable" or "more competent and less likeable."



We also notice indications of a mismatch between female education levels (formally acquired) and confidence in their business skills (passively learned). This is seen when women acquire high professional and educational qualifications they continue to be affected by biases during job hunting and entrepreneurial pursuits. For instance, in 2010 the Graduate Management Admissions Council (GMAC) reported that despite sending out 20% more applications, women MBA graduates received half the job offers — one versus two, on average — of their male counterparts (Olson, 2011).

Conclusion

For a woman to achieve a role of workplace leadership, she must walk a tightrope between hard and soft skills, often described as masculine and feminine traits. Herein lies the no-win situation: Female leadership behaviour, viewed through the lens of cultural bias, will inevitably define her as either “overly-feminine,” lacking the strength to be a leader, or “overly-masculine,” lacking the empathetic and communication skills to engender loyalty and understanding. She fails on both counts. This may well be an unconscious bias, but it is a strong and highly pervasive one. It shows its head even more obviously when there are economic constraints or unemployment issues. In these circumstances, women are openly described as “taking men’s jobs” and are often the majority of people chosen in a first wave of lay-offs.

FUNDING & FINANCE

The reasons for finance-related barriers to women entrepreneurs are more complex than they seem. Some studies suggest that fewer women entrepreneurs approach venture capital companies and banks for business loans, compared to the number of male entrepreneurs (Madill, Riding, Haines, 2006). More women entrepreneurs seem to prefer growing their businesses slowly or remaining small (Brush et. al., 2004). Those women entrepreneurs who do seek financial investment must present their business plans to a sector strongly dominated by men. Whilst this sector has a very young demographic, it is also one of the most traditionally behaved and masculine business environments (Burleigh, N. 2015). Due to the small numbers of women seeking finance, men in the venture and financing sectors are unaccustomed to valuing the different business approaches and objectives that women use in developing their businesses (Bird and Brush, 2002). This is an



extremely important consideration for women when the venture capitalists are evaluating her ability to succeed in business with their money (Aldrich and Cliff, 2003).

Women at the Wheel (Dow Jones, 2012) reports only 6.5% of the privately held US companies that received venture capital between 1997 and 2011 had a female CEO. Access to finance accounts for twice the proportion of business discontinuance among women as compared to men in the U.S., and this ratio gets higher in less developed nations. Nearly one fourth of all women cite problems with finance, a much higher number than men (Rosa, Kodithuwakku, Balunywa, 2006).

New Venture Creation

The Venture Creation Theory posits that even today, entrepreneurial ventures are largely built on a traditional, masculine framework (Brush et. al., 2014). Women's aspirations and growth projections are reported consistently lower than men's (Kelley, Brush, Greene, & Litvosky, 2013). Women exhibit lower risk tolerance for lower debt, resulting in smaller businesses overall (Orser, Riding and Manley, 2006). This indicates a need for more female role models and calls for the field of entrepreneurship to develop an approach to venture creation that integrates, in balance with masculine norms, feminine perspectives and managerial strategies.

Researchers Barbara Bird and Candida Brush discuss gender and organizational creation through five lenses (Bird, Brush 2002):

- Concept of reality: describing the feminine entrepreneurial vision as reflective, vague and ambivalent in contrast to a traditional masculine as control-seeking, analytical and futuristic.
- Orientation of time: the feminine process of the evolution of startup ideas is nonlinear and lacks direction in contrast to masculine processes that are linear and fast-paced.
- Actions: female founders are described as emotional, cooperative and empathetic in contrast to masculine founders, who are described as rational, strategic, competitive and distant.
- Power: is often described as a differentiating motive in launching a startup. Feminine motivated by the desire to seek



self-mastery and social good and masculine motives reflect behaviour that seeks mastery over others, as power is centralized and used for personal gain.

- A feminine ethic: described as being responsive to others. Founders are open to negotiation with aggressors. Management of masculine ventures is characterized as controlling through rights and laws. This conceptual model is to help stimulate thinking about how gender is embedded within opportunity identification. We notice a distinctive causal loop in the venture capital system consisting of a dominant male-geek culture that receives funding and channels it back to more male dominated ventures.

Conclusion

Women business owners often define the success of their business differently than do men. Whilst their venture must be self-sustaining and profitable, their values and view of power and success often involve building social, as well as financial capital and increasing others' quality of life and secure employment. This is a fundamental mismatch with what venture capital companies define as the values behind a successful and flourishing business. This is an example of the reinforcing loop of familiarity and security, "I fund people like me, who speak my language." Here in the world of venture capital funding, more starkly than anywhere else, we see the effects of the gender differences in style and approach to business. This may be the biggest barrier to women entrepreneurs today. In such a male-dominated and self-confirming environment, women's approaches to business do not resonate with the current young, male venture capitalists.



ENTREPRENEURSHIP

What motivates women to become entrepreneurs, and how do those motivations differ from the traditional male motivations to start a venture?

Motivations In Going At It Alone

When understanding the motivations of female entrepreneurs globally, two key reasons surface.

1. **The Necessity Motive:** She approaches entrepreneurship essentially as a need to be economically independent. This is largely evident in developing nations, such as from SubSaharan Africa and South East Asia (Rosa, Kodithuwakku and Balunywa, 2006).
2. **The Opportunity Motive:** She approaches entrepreneurship as an opportunity to capitalize on a business idea, and seeks to grow her venture for social reasons more so than for purely economic ones. This motivation is experienced largely in developed regions such as women from developed Europe (67%) (Kelley et. al., 2013).

Smaller Businesses – A Gendered Phenomenon

Regardless of women's motivations, women's businesses trend smaller, less profitable and less likely to grow, in comparison to businesses started by men within the same demographic (Orser et. al., 2006). Women more often operate as single founders and do not hire many employees (Carrington, 2006). The advantage of this lies in the flexibility of the founder's work schedule and increased income generated, over a salaried job elsewhere. Disadvantages of this trend include the lack of job creation, a key indicator of successful entrepreneurial ventures, and that the founder is unable to leverage the ideas and resources that come with larger teams (Cliff, 1998). Additionally, women more often than men decline internationalization of their businesses (Orser et. al., 2010; Fischer, Reuber, 2004), choosing not to engage in such activities as



extensive travel, gathering information and knowledge about scalability with export markets, increased service delivery efficiency and building strategic partnerships and relationships with support agencies (Hughes, 2015).

In 2012, roughly 126 million women were running or starting new businesses in 67 economies, in addition to the 98 million who were running established businesses (Kelley et al., 2013). The Canadian global economy, in particular, recognizes the increasing presence of women business owners' contributions, as evident by the 2003 setting of the Prime Minister's Task Force on Women Entrepreneurs.

There is evidence that promoting women's entrepreneurial activity levels is related to economic growth, generation of employment, market development and the prosperity of the region (Adema et al., 2014). Further, innovation levels are reported highest among women entrepreneurs in the U.S., slightly higher than that among men (Kelley et al., 2013; Huysentruyt, 2014).

Feminist Entrepreneurs

Barbara Orser and Catherine Elliott, in their book, *Feminine Capital: Unlocking the Power of Women Entrepreneurs*, discuss studies of women who explicitly define themselves as 'feminist entrepreneurs' or 'change agents who seek to improve women's quality of life and wellbeing through innovative services, products and processes (Orser, Elliott, 2015). These women see themselves and their ventures as enablers of others' successes, with the purpose of facilitating access to many types of resources.

- Interactions are practical and action oriented
- Leadership is participatory
- Structures are nonhierarchical
- Governance is relational and process focused
- Entrepreneurship and feminist values are interwoven with value creation

Feminist entrepreneurs find that these behaviours counter feminist criticism of capitalism and business ownership and further counter negative stereotypes about feminists (unhappy, bra burners, male haters, radical). Most of these women exude a win/win, collaborative attitude, focusing on team members' abilities to solve problems and getting the job done.



Conclusion

There are many reasons why women decide to become entrepreneurs, not least being that, for some, it is their only, or by far best, option for employment. However, a growing number of female entrepreneurs are openly discussing different types of standards and business values.

STEREOTYPES & IMPLICATIONS

Research supports the premise that women are more risk averse than men when evaluating new business ventures or existing business growth (Orser, 2007), This is not simply a gender preference, but a result of differing social conditions for many women (Borghans, Golsteyn, Heckman, Meijer, 2009).

Role expectations

The influence of the multiple roles women hold in their families as caregivers (children, parents and in-laws), and of the burden of household chores, leads to a tremendous social pressure to be “on top of it all.” (Eagly, 2004).

A report commissioned by the Women’s Health Bureau of Canada confirms that women take on more than 75% of the caregiving roles required within families (Morris, 2001). This is when a subtle, covert and often unrecognizable discrimination begins in her workplace life, preventing her from obtaining higher-level resources such as equity capital and corporate procurement contracts. This further manifests in a detrimental lack of self-confidence. In nearly every economy, women report having lower capability perceptions than men (Kelley et. al., 2013) and in every region, women have on average a greater level of fear of failure than men (Caliendo et. al, 2014, Walker and Brown, 2004).

Attitudes to Action

A strong connection has been established between women’s perception about entrepreneurship and their rates of entering the



industry (Dabic et al., 2012). The intent of entrepreneurship is not always accompanied by actual starts in the majority of the North American regions (Kelley et. al., 2013). Most women enter at a later stage. Evidence also suggests that many discontinue; unable to see beyond current circumstances, they do not sustain their ventures into maturity (Orser and Riding, 2003). Yet the potential to pursue entrepreneurial venture creation is high for young women. They may still have fewer family obligations and lower opportunity costs. They have time to benefit from the pursuit of outcomes such as managerial positions, repeat entrepreneurship, being a role model to others, working with investors, etc. In the US, Canada and Europe, in particular, women are often well-educated and can identify entrepreneurship as a viable career choice towards rewards and recognition (Baird, 1982).

Women face a variety of different social challenges when embarking on entrepreneurial business practices. Whilst it is arguably easier for many young women to start their own businesses, and in these cases, women show considerable self-reliance and confidence in their abilities. It is true to say that entrepreneurship is often driven later in life, due to the inability to find employment that supports family life, care giving or single families (William, Dolkas, 2012). Employment in these circumstances can often be poorly paid, short term and insecure, further driving women to consider the option of self-employment. Under these circumstances women often feel ill equipped or lack the self- confidence that is often exhibited by male entrepreneurs (Verheul et. al., 2005).

Conclusion

Whilst it remains unclear as to why women are generally more risk averse in business strategies than men, it should not necessarily be perceived as a weakness that prevents women from achieving business success. Varying levels of risk aversion are found within the spectrum of both genders and represent only one element of the sliding scale of skills needed to be a successful entrepreneur. The more important issue of role expectations and lack of self-belief compounds women's tendency to risk aversion at an early and formative age (Eagly, Karau, 2002). As research shows, young girls whose fathers engage in domestic chores have higher career expectations than those whose fathers who do not participate domestically (Croft, et al. (2014). This suggests that parental bias and early conditioning have a strong influence on women's gender expectations (Ungar, 2014).



POLITICAL INTERVENTIONS

Having recognized the huge economic improvements that would result from the more successful mixed gender decision-making at executive levels of business, several governments have taken an active interest in promoting equality in business. They have also understood that this change will not happen without intervention and that equality, at the current rate of change, could take more than a 70-100 years to achieve, if ever (Davies, 2011). Under these circumstances, several countries, including Canada, have made a concerted effort to incentivize businesses to actively seek to hire and promote qualified women. They have stopped short of penalizing companies that do not achieve this balance, but seek strong justification/explanations for failure to make these gender changes at each new board appointment.

Governments are increasingly recognizing the fact that businesses with mixed gender executives have stronger, more profitable trajectories. This is good for the economy and good for employment. Between 2011 and 2015, fifteen countries have instigated “comply or explain” employment policies to incentivize the employment of women board executives (Davies, 2011):

1. Australia has been using the “comply or explain” policy for over five years, with a resulting 8% rise in women executives. Australia now has a 25% average of women at an executive level.
2. The UK’s government estimated it would take 70 years to achieve gender balanced boardrooms without additional incentives. Since implementing the “comply or explain” policy in 2011, the percentage of women executives rose from 11% to 25% (in 2015).
3. In October 2014, Canada initiated the “comply or explain” amendment to the corporate reporting legislation.

Conclusion

Governments are notoriously slow to take on the issue of gender equality. But the global economic recovery is also slow, and evidence supporting the profitability of mixed gender board rooms is overwhelming. For several years, governments have made gender equality recommendations to the Fortune 100, 200 and 500 companies with no results. Consequently, governments are moving towards a “nudge” strategy to push the change onto



businesses. This has slowly begun to reap rewards, but must be continued until businesses begin to see and acknowledge the improved business outcomes themselves.

OVERALL CONCLUSION:

In summary, the research undertaken to create this “Wall Document” has revealed unconscious biases about and against women that pervade every aspect of society and at every life stage. They inform and condition the behaviours of both genders from an early age at home, at school, in higher education and in their chosen careers.

The reinforcing behaviour of parental bias means that, as small children, we are conditioned into our roles and accept unspoken gender boundaries at a subconscious level, long before we are even aware of them. In this way, gender bias is ingrained in both genders, and can be passed, unnoticed, from generation to generation. This may go some way to explaining why many young women no longer feel the need for feminism. They report feeling empowered and independent, believing that the gender equality battle has been won.

In one sense, this is understandable; women are no longer the property of their fathers or husbands. They can work, own property, go to school, start businesses and vote. With laws designed to protect gender equality in the workplace, it is entirely understandable that some people believe gender inequality no longer exists. However, statistics say otherwise, and gender inequality often goes unrecognized by young women until much later in their career progression, when they may experience it firsthand. It is certainly no surprise that men, too, fail to notice gender inequality and often deny its existence.

The inherent danger in believing that gender inequality no longer exists, despite overwhelming evidence to the contrary, is that the belief leads to the further assumption that women must lack the required skills or personality traits to succeed in business as equals to men. This becomes a self-fulfilling no-win situation, as described in detail within the document. The continued failure to acknowledge the biases that work against women in the workplace is damaging women entrepreneurs and causes widespread failures to utilize female skills to improve traditional male-dominated businesses. Ultimately, as some governments are coming to understand, these biases limit the profitability of a country’s economy.

FEM-LED SUMMARY REPORT

A look into female leadership for women in digital media and tech today and tomorrow.



How can members of a society address a problem that is mostly unconscious and ingrained within its culture? In the same way that all unconscious assumptions are challenged: by shedding light on the issue and addressing each element, individually and holistically, as a problem to be solved by both genders working together.



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APPENDIX B





APPENDIX B: Bodystorming Workshop

“Innovation Requires Diversity”¹

On August 21st, 2015, the OCAD University research initiative, Fem-LED, delivered a workshop, facilitated by The Mission Business Inc. (TMB), which was designed to elicit, circulate and capture stories from female entrepreneurs based throughout Ontario. The following encapsulates the results of this day-long bodystorm which is a more active version of the more familiar activity, brainstorming.

¹ All bolded and italicized pull quotes are contributions from workshop participants.

<http://research.ocadu.ca/superordinary/home> <http://research.ocadu.ca/research-and-innovation/project/fem-led-home>





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FEM-LED SUMMARY REPORT

A look into female leadership for women in digital media and tech today and tomorrow.



CREDITS

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OCAD University:

Suzanne Stein, Director, Super Ordinary Lab, with Dr. Lynne Heller, Dr. Paula Gardner and Dr. Emma Westecott and Graduate Researchers Jill Sharrock and Mithula Naik.

TMB: Trevor Haldenby, Elenna Mosoff, Byron Laviolette

Inspirational and operational support from:

Monica Contreras, Cindy Ly, Asma Khanani Caporaletti

To learn more about the Fem-LED project:

<http://research.ocadu.ca/research-and-innovation/project/fem-led-home>

To learn more about The Mission Business Inc.

(TMB): <http://www.themission.biz>





PURPOSE

1. Explore the causes of low female participation in information communications technology (ICT) and interactive and digital media (I&DM) leadership with a community of female entrepreneurs and leaders.
2. Disseminate and contextualize research from other phases of the Fem-LED project.
3. Develop innovative HR methods beyond the usual product development and/or thought leadership marketing.

The primary purpose of this workshop, shared by OCAD U researchers and TMB, was to create a sense of community within a network of female entrepreneurs and intrapreneurs working in the ICT and I&DM industries in Ontario, and to explore with that group the causes of women dropping out of leadership positions.

The group of participants who attended the workshop were brought together to engage in a speculative narrative designed by TMB, in order to give everyone in attendance a shared frame of reference for the workshop's proceedings. This narrative introduction was delivered by Dorothy "Dot" Drummond, the CEO of a fictional company called 4Corp, created by TMB for workshops and online education programs. While the 4Corp framework is set in the future, the company faces all the same challenges that ICT-/ I&DM companies in Ontario have today, as pinpointed by the research undertaken in other phases of the Fem-LED project2.

After hearing the personal story of the fictional CEO, Dot Drummond, who spoke about shifting technology business drivers, social dynamics and attitudes in the workplace— the participants in attendance were invited to share their stories in a respectful environment.

A secondary goal of the workshop was to disseminate the research done in other phases of the Fem-LED project. To this end, the content and overall themes of the workshop's introduction and activities were strongly influenced by the research undertaken by OCAD-U researchers and research assistants who explored common challenges faced by women in the workplace, and their underlying systemic causes.

Finally, for TMB, one of our goals was to explore how our services— The Time Machine, designed to help organizations develop long-term plans through immersive roleplays and simulations of future



President Trevor Haldenby's research from the Strategic Foresight and Innovation Program at OCAD University: Bringing the Future to Life: Pervasive Transmedia Scenarios, <https://www.scribd.com/doc/164913914/Bringing-the-Future-to-Life-Pervasive-Transmedia-Scenarios-and-the-World-of-Worlding>



business challenges, and Escape the Bored Room, methods used to spice up corporate meetings and retreats with playful and alternative activities, including the bodystorming methods used in the Fem-LED workshop—could be deployed effectively. The design of this workshop provided an opportunity to explore how alternative strategies might fit with new business contexts, social innovation facilitations and cultural planning.

WORKSHOP DESIGN

Fem-led invited entrepreneurs and intrapreneurs working within ICTs and Interactive Digital Media to OCAD University to participate in the day-long session. We recruited these professionals from our affiliate partners: Dames Making Games, Ladies Learning Code, and Fem-tech Net. We extended the invitation to other networks to get a balance between intrapreneurs and entrepreneurs, and to ensure that we had representatives from both ICT and IDM. Our networks also further extended the call: to CFC Media Lab and HerVolution, for example. We also looked for women who had producer backgrounds, and had also been researching in the area, to invite to participate. We capped the group at 15 participants, and invited other interested but unavailable parties to be involved in our questionnaires.

Collaboration with Fem-LED Researchers

Throughout 2015, principals from TMB participated in meetings with the Fem-LED team at OCAD University to review their process and research, in order to ensure that a cohesive workshop design plan was developed. The wall-sized panoramic summary of research findings, created by the OCAD University research assistants, was particularly useful in creating a shared point of reference between the two teams.

Creative Process

After digesting the OCAD University team's preliminary research findings in July 2015, the principals of TMB refined the design of the participatory bodystorming workshop. A draft plan emerged

³ 4Corp's products, services, and business units were developed by TMB, in collaboration with the Ontario Ministry of Training, Colleges, and Universities and St. Lawrence College's business school, to help Ontario's students attain a business education in a climate characterized by disruptive change, and to imagine, through simulation and prototyping, how they might play an equitable and valuable role in the organizations of tomorrow.

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for the workshop that incorporated existing intellectual property the TMB had previously developed for business training: a fictional conglomerate company called 4Corp. 4Corp consists of a website, marketing materials for a series of futuristic products including a self-driving electric car, an energy drink made from recycled organic waste, and even a robotic home healthcare service for the elderly³. TMB made the decision to adapt 4Corp's extant content into a new module focused on an imagined gender equality in a future workplace environment, populated by female leaders, in contrast to the gender inequality dominating the contemporary ICT/I&DM industry in Ontario.



In the past, many of TMB's workshops were facilitated by the company's president, Trevor Haldenby. For this workshop, the planning group decided that it would be more appropriate to have a woman lead the proceedings. The COO, Elenna Mosoff, was chosen to guide the session. This decision was an opportunity for TMB to "walk the walk," given that the Fem-LED research project's focus is on female leadership in Ontario businesses. Although TMB is not female-led, Elenna's role in the business is instrumental to its success. The expansion of her role as a highly engaged facilitator and face of TMB is both good business and a reflection of the company's commitment to the ideals of the Fem-LED project.



Design Fiction Artifacts

TMB created a series of physical and virtual artifacts for the workshop, in order to heighten the realism of the 4Corp story world, and to provide opportunities for personalizing the experience for participants.

ID Cards



For example, the 4Corp ID cards were included to heighten participant engagement in the story of the fictional company, and to create a bond between participants and the host, Dot Drummond. Participants were invited to personalize their ID cards at the beginning of the workshop.

“Behaviour that reinforces stereotypes is remembered; behaviour that tears them down is forgotten.”



Commemorative Plaques



In her opening presentation, 4Corp's fictional CEO, Dorothy (Dot) Drummond introduced a series of plaques, displayed on a wall in the 4Corp offices, that memorialized failures of gender equality in the workplace.

The plaques were integrated into the 4Corp narrative to set the stage for the personal story-sharing exercises to come. Artifacts, such as the plaques, function as a prompt to encourage participants to contemplate the implications of the current business environment

In the bodystorming workshop, the plaques provided context for the 4Corp narrative and for Dot Drummond's personal story, while eliciting both laughter and reflection.

Forum Theatre and Bodystorming

In order to explore the potential of dramatizing moments of inequality in the workplace, TMB engaged with the theories of Augusto Boal, outlined in his influential book, *Theatre of the Oppressed*, and specifically his understanding of forum theatre, a technique where a scenario is enacted twice. The second time the scene is performed, members of the audience are invited to intervene in ways that change the dynamic or outcome of the role play. TMB's roots are in theatre and live-action experience design,

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so we combined the bodystorming method with forum theatre in order to facilitate richer emotional and reflective responses from participants.

“Life is made up of many small challenges.”

The goal of the role play, utilizing the combination of bodystorming and Boal’s forum theatre, was to allow people to replicate familiar-seeming workplace and social scenarios, and then intervene in a supportive environment in order to re- envision the current status quo in the Canadian ICT/I&DM sector. The workshop method was not principally intended to communicate or test solutions to a particular problem, but rather to recognize gender inequality and its impact as it takes place.





WORKSHOP OUTPUTS

Images of the proceedings were captured with assistance by an OCAD University photographer, providing photographic and video documentation of the workshop that demonstrated the high level of engagement amongst attendees. This documentation also captured many of the bodystorm skits that participants performed in the latter half of the day.

At the beginning of the workshop, participants were offered blank notebooks and pens, and were invited to capture their thoughts in writing at the end of each module.

In the last phase of the workshop, participants were given paper cards in three colours, on which they were invited to share insights through advice, proposed actions and future scenarios that they believed would improve the workplace in the next decade. These cards were used to capture and code specific insights and stories from amongst the group, and to sort, and compare the frequency of, certain key terms found in the written documentation.



Responses to Colour-Coded Action Cards

The following sections include the raw content from the colour-coded cards filled out by participants:

Advice Card Content – Blue

Question: What piece of advice would you pass on to future leaders in your industry?

- Be empathic and supportive.
- Take Chances. Make Changes.
- Listen, always. You don't have to do what everyone says, but listen.
- Ask women for their opinions and ideas.
- Find a partner who will support you in your career and family aspirations; support on the home front can empower you at work.
- Lead from behind (inspire).
- The ability to unlearn and relearn can be more important than knowledge.
- Be persistent.
- Always centre your attention on the most vulnerable.
- Use gender-neutral language.
- Be open to change.
- Lead through encouragement, not intimidation. It's effective and the right thing to do.
- Take a hard look at the problem in front of you, then do the right thing.



- Don't let naysayers get you down.
- There is no-one like you; that is your power. Know that you have a significant amount of control in how you lead your life, whether or not you see it that way now.
- Don't be afraid to speak up and contribute your ideas.
- Never lose control of your company.

Proposed Action Card Content — Yellow

Question: How are you going to hold the door open for those after you in the workforce?

- Changes in accessibility, usability, and diversity are considered at the very beginning of a project.
- Provide help when it's requested. Support programs for marginalized groups in technology and the arts.
- Provide scope/room for team members to experiment outside of specific job descriptions, based on their interests and potential.
- Continue to mentor, guide, and use my voice when those who have no voice are not at the table.
- Be flexible.
- Beware of robots.
- Be a mentor.
- By not feeling threatened by new, younger, people with fresher skills and attitudes; but trying to embrace and learn from those coming up.
- Say "YES" and figure it out.
- Teach—mentorships.
- Mentor and peer-mentor women in their education and career paths.



- Correct gender-specific language.
- Make a bigger door!
- Commit to mentor and support young women in education and in the workplace, and to use my privilege to create possibility spaces for empowerment.

Future Scenarios Card Content — Pink

Question: What dramatic change would you like to see in the ICT / I&DM workplace in 10 years?

- More finance for women
- Adjustments to salary disparity—it's the law!
- I would to see many more women of colour in leadership roles.
- Individual, non-gender washrooms.
- Diversity is not an anomaly.
- Allow children at work.
- More diversity, facilitating new stories being told and new innovations created.
- More women in leadership and director roles.
- Better engaging workplace sensitivity training and more collaborative spaces.
- Connections amongst creative innovation communities worldwide.
- Feminist organizational and management strategies adopted across companies.
- Emphasis on interdisciplinarity (sic) and intergenerational issues.
- An expansion of the sector to include arts-based methods and culture.



- Feminine approaches to standard business operation and challenge are valued at 1.5x androcentric approaches.
- Work on creating policies that empower and support employees to stand up and reveal inequities.

Roleplay Prompts

This section contains a list of the initial prompts provided to workshop participants for the role play and bodystorm portion of the workshop. The prompts were designed to reflect four core themes and widespread challenges faced by women in the workplace, identified in earlier phases of the research project by the OCAD-U team. These prompts were first introduced as personal reflections by our fictional CEO, Dot Drummond:

The Maternal Wall

Women with children are 79% less likely to be hired, half as likely to be promoted, and are paid less than women with the same resume, but no children. Women should not be punished for having children; they should not be defined in the workplace by their status as mothers.

The Tug of War

Female rivalry in the workplace can hold women back in their careers. Lack of opportunities in the workplace can create unhealthy competition between women. While workplace competition may keep everyone from mentally stagnating, rivalry that is born from a dearth of opportunity leads to stress and anxiety, not to innovative thought.

Prove It Again (Confirmation Bias)

The principle here is that pre-existing suggestions of stereotypical behaviour tends to be noticed and remembered, while behaviour that contradicts a stereotype is quickly forgotten. As a result, while men may have to prove their competence once, or may be assumed to be competent at the outset, women have to prove it again and again and again. Dot Drummond articulated this



experience, “Who here has been in a meeting and been interrupted or questioned in a condescending manner or just outright ignored? I definitely have and I am the CEO.”

The Tightrope

Sometimes the Tightrope syndrome is described as the “double-bind.” It is the situation of being seen as exhibiting traits that are too masculine or too feminine. When a woman seems to be too feminine at work, she is overlooked for promotion, as she doesn’t show what are recognized as leadership qualities. When a woman is perceived to be too masculine, she is often disliked and refused promotion on the basis that she is unable to engender loyalty and support from the workforce. This is also called the “damned if you do, damned if you don’t” scenario. It is the elusive and ever-wavering not-too-far-this-way and not-too-far-that-way.

The paragraphs above reflect the research project’s broader themes that were used as the starting points for a brainstorming process amongst the workshop designers as they imagined moments and situations of inequity in the workplace. The outline of these scenarios were then written up as prompts for workshop participants:

- A female employee, who is a single mother, asks her boss if she can work from home two days a week in an effort to reduce the need for paid childcare. Her boss refuses the request.
- A young girl is mocked by members of her family for being more interested in design software than makeup.
- A female senior ranking military engineer is being harassed by one of her subordinates and her senior officer refuses to take action.
- A mid-career female software company manager argues with her life partner about the value of taking a risk outside of her 10-year career and destabilizing the domestic unit’s financial situation.
- A woman is being interviewed by three men for a job. She is informed that she will be the only female in the division. When she asks what the company plans to do about this inequality, her question is laughed off by the interview panel.

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- At a large mobile communications company, a female VP suggests that the new customer relationship interface should be primarily a social one. Her male colleagues “mansplain” why this is the wrong idea.
- A female guidance counsellor is assisting a student to make her university applications and discourages her from applying to STEM programs. She suggests a “broader” path in social science and the humanities.
- A recent university graduate in a STEM field is interested in working for a not-for-profit organization. Her parents tell her that this choice has made her education a waste of their money.
- A female entrepreneur has trouble gaining publicity for her startup because a journalist from a reputable magazine tells her that the growth rate of her company after 5 years doesn’t make for an interesting cover story.
- A company pursuing Series B financing is rejected by the venture capital firm. In reaction, the male co-founders of the company fire the female members of the senior leadership team, believing it to be their fault.
- A junior employee in the ministry of finance believes that the MP should run on a platform of mandatory gender equality in the workplace. The minister rejects the idea as “something voters won’t care about.”



ROLEPLAY INTERVENTIONS

Role Play #1:

A recent university graduate in a STEM field is interested in working for a not-for-profit organization. Her parents tell her that this choice has made her education a waste of their money.



Intervention:

In the first version, a young woman took a defensive stance when she accepted a job at Greenpeace, while her parents tried to pressure her to take an internship at their company.

During the second iteration, the facilitator interrupted the role play after three minutes and reminded all the participants that they could intervene in the scene by shouting “stop” in order to interrupt the role play and offer an alternate outcome.

A participant quickly interrupted the scene, replacing the young woman. This new participant repeated the scene, emphasizing her passion for green technologies and social media activations, and how this would effectively utilize the skills she developed at university. She then invoked a vision of ten years further on, when her parents would be proud of her for leading a green company.

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The participants enacting the roles of parents concluded the scene with a joke about a new boyfriend — “Wait, this is all about that boy Jarod, isn’t it?” — which prompted laughter from all participants.

The facilitator noted that the new participant approached the role play and prompt with a focus on the value of applied STEM skills, and neatly defused the parents’ line of questioning, prompting them to jump to a whole new issue that obviously didn’t strengthen their argument.

In their reflections, participants noted that the moment when a child takes control of their own destiny is a powerful learning experience for determining personal vision, at any stage of personal or professional life.

Role Play #2

A company pursuing Series B financing is rejected by the venture capital firm. In reaction, the male co-founders of the company fire the female members of the senior leadership team, believing it to be their fault.



Intervention:

In the first iteration of the scenario, a manager, one of the female members of the team, is called to the office of her male superior named Paul (enacted by a woman in the role play). She is purposefully left to wait outside of the office, to reinforce the



power and status of her boss. The superior then informs the woman that a recent pitch for capital financing was not successful, and that her position is being put “on hiatus.”

The woman then took a seat on the boss’s desk and aggressively responded to the man by writing “LAWYER” on a post-it note. The boss’s secretary, who initially greeted the woman, enters the office and joins forces with the woman being blamed for the failed financing. Paul responds to the women as a “bizarre sisterhood” before dismissing both of them and threatening to replace them with “cute girls from the Kelly company.”

During the second run of the role play, a participant shouted “stop” and took the role of the boss. However, many of the workshop participants noted before the second run that they felt that the first run of the role play was actually successful.

A participant also replaced the woman who was blamed in the second run and took a more measured approach to arguing with Paul, by adopting confrontational body language and calmly suggesting that the “problem with securing the financing” wasn’t to do with the female members of the team but with the boss himself. The woman continued to explain that she and the secretary had made their own successful pitch to an alternate venture capital firm. She then slapped her buttocks on the way out, a touch that ended this scenario with laughter from participants as well.

Role Play #3

A female senior ranking military engineer is being harassed by one of her subordinates and her senior officer refuses to take action.





Intervention:

The participant who played the role of the oppressed woman in this scenario, was placed into conflict with two men — a military Sergeant accused of sexual harassment and a superior officer considering the case. Comments, such as “jokes about my behind,” “Well, that’s how it works!” and “Yes, or perhaps the way you wear your uniform?” were in question.

The senior officer insisted that comedy and teasing are necessary elements of military culture, and that perhaps the woman was wearing her uniform in a suggestive way. The woman insisted that “jokes not be made at her expense if she has to bend over in uniform.” This resulted in a lewd joke from the Sergeant.

The woman elevated the conversation to the issue of systemic discrimination against women, which prompted both men to question her integrity and request that she locate additional witnesses for her case. The facilitator complimented the participant role playing the Sergeant on her excellent portrayal of male-dominant body language.

A workshop participant decided at this point to intervene as a new character when the woman was pressed for evidence to support her claims and instructed to develop a sense of humour. Entering the scene as a Private, the new participant put her career at risk in front of a superior officer by validating the woman’s claims of harassment, even suggesting that she could take the story to the press.

The superior officer requested that both parties file official claims with HR, a slow process that could take quite a bit of time. The interjecting participant left the room with the woman, stating first that the men had “until Friday to recognize the problem, or they were going to the media.”

The facilitator noted that, whether in a corporate, educational, or military setting, entering any situation of injustice with allies, along with clear requests for action, improves your chances of success.



Role Play #4

A woman is being interviewed by three men for a job. She is informed that she will be the only female in the division. When she asks what the company plans to do about this inequality, her question is laughed off by the interview panel.



Intervention:

After clarifying that she might be the first — and only — woman at the firm at which she is seeking employment, the woman in this round expressed incredulity, and asked clarifying questions, which her interviewers responded to with the suggestion of ways that she could see her situation differently — she'd be “a trailblazer, a pioneer.”

“This is an unusual situation” the woman said. “Well, you are a unique candidate,” responded the interviewers, who insisted that their male-dominated workplace was not a result of any policy or process, but just the status quo.

At this point in the second run of the role play, a participant shouted “stop” and interjected, replacing the woman.

This new role player emphasized a lack of accommodation on behalf of the interviewers, and highlighted their lack of recognition for the added value she would be bringing to their organization. One of the interviewers suggested that perhaps a change was possible, but the other rudely rebuked this notion and attempted

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to “buy off” the woman’s concerns with an offer of more money. The woman calmly rejected the employment opportunity, stating that she would prefer to find another employer.

In her debrief, the facilitator highlighted the risk and consequence of such a move — how the woman would be back on the job market. Participants, in response, noted that job interviews are the best time in the hiring process during which to negotiate, and walking away from an interview is a way to exercise that freedom. One participant suggested that specific requests for benefits not explicitly on the table in a job interview is a useful negotiation tactic. Another suggested that the benefit of this exercise is to learn how to react quickly.

Role Play #5

A mid-career female software company manager argues with her life partner about the value of taking a risk outside of her 10-year career and destabilizing the domestic unit’s financial situation.



Intervention:

Participants played a couple who is going through a change in their relationship due to a possible job change for the female partner.

The man insisted that sacrifices have to be made in order to maintain an orderly and comfortable lifestyle, and that those sacrifices should be made when it comes to the woman’s career

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dissatisfaction. He suggested that she should stay at her job even though she was not happy. The circumstance of oppression was framed by the male “oppressor” in language suggesting that the woman was the problem in the relationship, and that her actions were the source of everyone’s uncertainty and increased risk. “But we have a mortgage, and we haven’t paid for the holiday yet!”

At this point, a participant interrupted and joined the scene by replacing the man.

She took a completely different approach than the previous actor, highlighting her male character’s empathy for the woman’s career dissatisfaction, and appreciation for the support, both financial and emotional, she had been providing to the family for years. The new man thanked the woman for supporting his choices and the whole family. He highlighted how the family’s financial concerns are real, but that they needn’t come at the expense of either partner’s sanity or engagement with their career. “Let’s take turns — there’s no need for both of us to take on the risk.”

Role Play #6

A young girl is mocked by members of her family for being more interested in design software than makeup.



Intervention:

The first role play opened with three participants playing ‘benevolent’ family members — specifically her aunts.



The aunts give the young girl three gifts—all of them stereotypical gifts of cosmetics—lip gloss, mascara for beginners, shopping spree with her friends—in spite of the fact that the young girl had asked for a digital camera so that she could express her creativity with technology.

A participant shouted “stop” and inserted herself into the scene by replacing one of the aunts. Instead of makeup and beauty products, this time she gifted her niece a series of digital photography courses.

Overall Findings from Role Playing

It’s hard to win the Tug of War by pulling harder.

During the role play exercise, we were looking for examples and interventions that shed new light on how to address the four primary challenges for women in the workplace, particularly the “Tug of War,” female rivalry in the workplace.

In nearly all of the first iterations of the scenarios, female participants sought to “win” the scene by mirroring or even amplifying the aggressive behaviour of the male characters.

Once a change, suggested by the participants, was made to allow participants to replace any of the characters in the scene, this became less prominent. More participants found ways to defuse their conflict peacefully, or level the playing field in terms of status through empathy and generosity, rather than threats or escalation.

The “Double Bind” issue appeared in numerous role plays as well. In this challenge to female progress in the workplace, the woman walks a tightrope between “acting like a man” and “acting like a woman.” In the role plays where the woman was replaced by another participant, we often saw a shift in behaviour from one gendered extreme to another.

Allowing participants to replace the stereotypical male in the role play scenes resulted in more engaging interventions. This is an innovation from the traditional Boalian forum theatre methods, but proved an interesting experiment in the workshop. By allowing participants to replace either position, new conversations and interventions emerged that were less about women changing their behaviour in order to meet the needs of a male or superior, and

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more about the whole system or situation changing in order to accommodate the needs, perspectives, and positions of both sexes.

In future workshops, we will continue to explore variations on the roles that are replaceable in these scenes. The openness seems to provide a useful methodological tweak to better reflect realistic conversations that address gender and social inequality, particularly in workplace culture.

Sourcing industry-specific scenarios from participants could lead to more useful role play exercises as well.

During the majority of the role play exercises, the group responded with laughter to the role plays. This might have reflected a lack of familiarity with some of the scenarios. More research might help us devise and source stories that more clearly reflect the workplace and entrepreneurial experience of participants. The laughter in the room could be interpreted in many ways, but it did, at least, indicate engagement in the activity.

Traditional Boalian forum theatre methods often involve sourcing the stories for the scenes from participants themselves, rather than providing a pre-written list. In future workshops, we would design more of the workshop experience to extrapolate, curate, and refine discussion from the group in order to create more true-to-experience scenarios for the role play exercise.

WORKSHOP INSIGHTS & CONCLUSION

***“We need to own our power,
voice and agency.”***

Participants started the day by sharing personal stories of the path they had traveled to their current vocation and the personal and professional challenges they faced along the way.

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TMB staff took notes as the conversation unfolded, and created a wall of written reflections:





The following are some of the quotes recorded in the personal journals of participants during the course of the workshop.

“How do we teach women persistence and tenacity?”

“Silicon valley is once more becoming more masculine.”

“Apple built its business in the 80’s on creating a female-friendly interface to counter PCs”

“Boys play with computers differently than girls. Boys ask what it does... girls ask what can I use it for?”

“Why push into the industry, when we could jump?”

“We don’t need an all-girls club.”

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The following is a data visualization of the content of the cards, which were collected and digitized by TMB at the end of the workshop. The visualization is based on frequency of certain words.



Proposed Action Cards (yellow)

“How are you going to hold the door open for those coming after you in the workforce?”

Responses to this prompt highlighted a desire amongst participants to mentor and support those coming after them, with the hope of sharing lessons learned across generations. Confidence and inspiration from mentors (male and female) was a recurring theme.

Future Scenario Cards (pink)

“What dramatic change would you like to see in the ICT/I&DM workplace in ten years?”

Responses to this prompt were focused on improvement. Many participants' cards included contributions expressing their desire to amplify and extend (more) techniques and social bonds of resilience amongst and supporting women in the workplace, including many that have already been established yet may need reinforcing, particularly across generations.

Advice Cards (blue)

“What piece of advice would you pass on to future leaders in your industry?”

Responses to this prompt were diverse, but the highlighted words include reference to interpersonal dynamics, roles, archetypes and empathy



APPENDIX C





APPENDIX C: Questionnaire summary

December 11, 2015

This report has been created by Prateeksha Singh with Suzanne Stein as part of the Fem-Led Research project at OCAD University's Super Ordinary Lab.

The Project asked: Given the slow pace of positive change for gender equity in the workplace, how might we enable Female Leaders of tomorrow in Interactive Digital Media and ICTs, more broadly.

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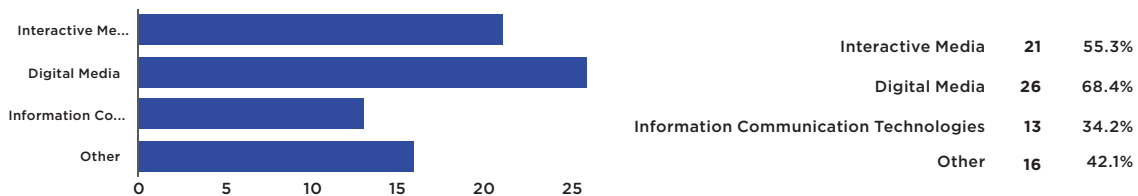
Funding for this study was provided by Ontario Media Development Corporation. Any opinions, findings, conclusions or recommendations expressed in this material are those of the author and do not necessarily reflect the views of Ontario Media Development Corporation or the Government of Ontario. The Government of Ontario and its agencies are in no way bound by the recommendations contained in this document.

Introduction

As part of the Fem-LED project, the OCAD University research team invited women working in Interactive and Digital Media (I&DM) and the broader Information Communication Technology (ICT) industry to participate in a questionnaire. The questionnaire focused on the intersection of women, leadership and technology in an effort to glean, from the experience and opinions of the participants, further understanding of potential enablers and barriers to female leadership in the larger ICT sector, and in I&DM in particular. This report is a summary of trends we found in the participants' responses.

A total of 38 respondents completed the Fem-LED questionnaire, most of whom identified with more than one industry or sector designation, identifying their work as being within Interactive and/or Digital Media, as well as having a second affiliation in ICT or "other," often meaning academia. We strove to locate women who conduct research in academia or as journalists on the topic of female inclusion in media and tech. We also strove to find variety in sizes of organization, from independent professionals to women working in large organizations. The respondents represented a range of experience of between 2 and 32 years in the ICT industry. Of the 31 respondents who identified their current location, 75% were based in Canada with the remaining 25% being in the US.

Which industry sector do you consider yourself to be a part of:



Personal Role and Ambitions

The primary professional ambitions of the respondents were largely centred on leading entrepreneurial endeavours pertaining to the ICT industry or advancing research in the field. Being enterprising, impactful or cutting edge was of importance across the field of responses, with a majority feeling confident that their goals were attainable despite the hurdles they foresaw facing (limited funding, internal company bureaucracy, limited career advancement opportunities).

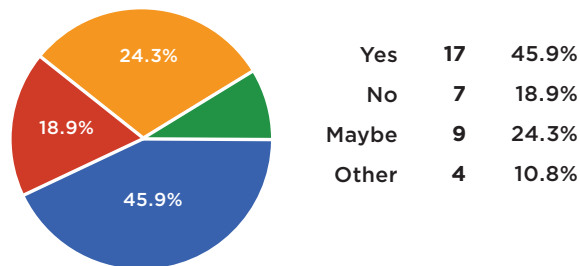
Another goal was ensuring they had financial stability in their lives, and were contributing to social change by making an impact. When responding to the question of how probable it was that they would achieve these goals, most were cautiously confident and spoke of self-imposed barriers and

belief systems that were holding them back, the systemic problems women face in getting funded, and the need for supportive/healthy partners, given childcare needs and demanding schedules. Overhauling the toxic work environments that have normalized a culture of sexism and gender bias, was a major challenge many respondents could relate to.

Previous Experience

When asked how the respondents had gained expertise in their fields, many pointed to their educational background, professional opportunities or entrepreneurial mindset, with being self-taught at various points throughout their lives as a unifying trait. Many have sought additional learning opportunities (informal/formal education) to further develop and differentiate themselves.

Do you consider yourself an “expert”?

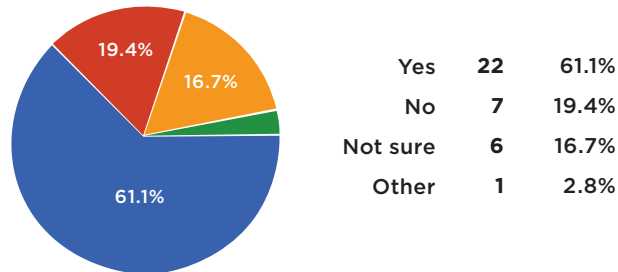


All 37 respondents of the question further explained their self-classification, but only few expressed true confidence. The majority were inclined to justify their position, and many others claimed to be “generalists rather than experts,” with a strong number expressing discomfort with the word “expert” as a benchmark. Self-confidence issues surfaced in many responses.

When asked if they felt others considered them an expert, many responded affirmatively, but prefaced it with disclaimers such as “everything is relative” or “maybe in some things” or “some may perceive me as such.” Modesty, uncertainty and self-doubt were explicit and prevalent throughout the responses, with the term “imposter syndrome” making an appearance, as well.

When asked next if their male colleagues and associates were often referred to as “experts” in the field, over 60% responded, stating that was indeed the case.

In your experience, are your male colleagues and associates more often referred to as “experts” in this field?



There were numerous mentions along the lines of it’s still a “boy’s club,” “bro-fest” or “patriarchal society” mostly made up of white men, with “lots of stereotypes regarding women in technology” and “a strong cultural alignment between the notion of an ‘expert’ and the figure of a man/male.” Gender bias and sexism formed the basis of most responses, with mention of how the press and media portrayals further propagate this skewed perspective.

Despite the gender imbalance, most were drawn to working in this field because of their interest, love and passion for being part of a field that is dynamic, positive, and packed with the potential for making a meaningful impact.

Most identified family members or professors as sources of influence or mentorship that guided their entry into the field.

Women and Media/Technology

Respondents expressed that being a woman in this sector was a source of frequent isolation and disrespect, with men often being taken more seriously than women, who are perceived as “soft” and “feminine,” qualities that are translated in their work environments as “weak.” There were numerous mentions of gender bias and sexism. Conferences and work environments have too little female representation; entrepreneurs and venture capitalists are mostly male. One respondent summed it up well: “From choices that people make about content to who they’ll consider hiring, it’s difficult for women.”

For most respondents, being a woman had undoubtedly affected their involvement in the industry, from being underestimated and misjudged for their amount of knowledge/experience on basis of gender alone, to the expectation of men at various points of their career that they feel grateful for being sexualized and patronized.

Most respondents felt all of these elements were key barriers for women entering their field of work: child care/family obligations, healthcare needs, life-work balance, gender-based norms and

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assumptions, and other reasons. They stated that the industry is overwhelmingly fast-paced and time demanding, with little monetary benefit, and that family obligations that are only further complicated by expensive and unsubsidized childcare.

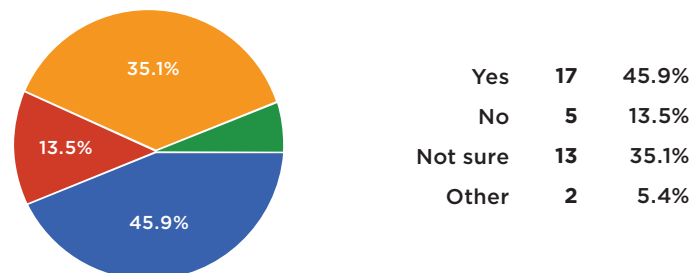
Other noted barriers to women entering and succeeding in the field were: pay parity issues, sexual intimidation and harassment, as well as a prevailing work culture that is inflexible and unaccommodating to women (particularly women with families). Some respondents pointed to more systemic reasons, such as social (parenting) and formal education systems (starting as early as elementary schools), that send strong gender-biased messaging to girls against technology career choices.

How do you think these sectors are changing with regards to female inclusion?



Most expressed that they believed the sector to be improving, albeit slowly. There was cautious optimism that the sector is reflecting a changing society. Many expressed that women are increasingly voicing their needs, but still have to fight and often find male champions backing their cause to be heard in their professional environments. At the same time, many felt that the climate of respect and tolerance is worsening for everyone.

Do you think this industry is becoming more open to female leadership?



While the majority said “Yes” when asked, do you think this industry is becoming more open to female leadership, many mentioned that while there were noticeable female figureheads, there was also little change at the deeper levels of the company. They pointed to the difference between female inclusion and tokenism. As one respondent stated, “Change is inevitable; progress is not.”

When asked about where there were opportunities for leadership in the sector, there was an overwhelming response pointing to the entrepreneurial space, but many participants also stated that they felt opportunities were everywhere, as long as there was a will to push through the “BS” to actually do it. There was a common feeling that women were increasingly leading teams, but that few were actually shaping corporate visions.

Mentorship, support with childcare, and supportive men (colleagues and partners) were seen as critical best supports for women in the field. There was a clearly stated need for society to rethink its values priorities, and for workplace cultures to change first (with “organizational policies and procedures being devised by women for women”). They expressed the importance of ensuring that girls realize all their educational options early on, addressing key “pipeline” issues of qualified female talent.

Workplace

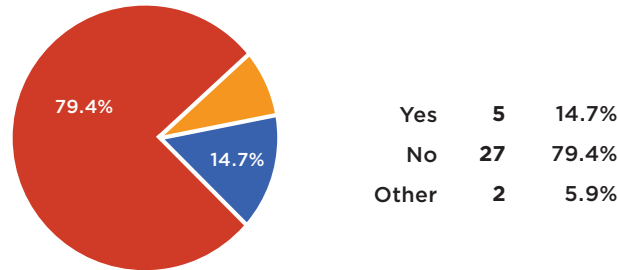
Most respondents admitted to discussing their workplace experiences with other female colleagues, although with varying degrees of dependency and an emphasis on this activity: some as a venting mechanism, others as a more constructive get together seeking to find ways to address the concerns. Most women who got together, did so on their own time (lunch or personal time) and most of the concerns centred on the frustrations of pay inequality, under-recognition of efforts, being overlooked for promotion opportunities and childcare.

While every respondent made note that their female colleagues were more often neglected, ignored or silenced than their male colleague, the frequency of such behaviour ranged from ‘time to time’ to ‘fairly often.’ As one respondent stated, “We haven’t socialized women to deal with it well, and there are no social punishments for men for this behaviour. So it’s unsurprising that it happens.”

When asked, “If you find that there is a work distribution imbalance, what tasks at work do you feel are most often expected of or left to female employees,” a significant majority of the respondents, of every experience level, found they could relate to an imbalance in that women are left/assigned to do a lot more of “soft,” “social” tasks, which included administrative duties, HR, office cleaning, tea/coffee fetching, organizing, mediating and note taking. Others noted that it is expected that female employees will take on tasks that require a heavier emotional burden; as one respondent, put it, “...it’s assumed that men don’t need to serve on yet another gender equity committee, or the committee on childcare, etc.”

The impact of this imbalance (felt explicitly or implicitly) was widespread, with the respondents noting that such behaviours were “supporting old and tired gender norms,” which was “frustrating” and “exhausting and depressing, really” and leading to “stress,” “exhaustion,” “decreased motivation,” and a desire to quit and start a business outside the industry, if need be. One respondent noted that, “Women can’t get ahead, or can’t try out their ideas. Also can’t even have the opportunity to fail. Guys can fail all the time and it’s seen as a good experiment. But when women fail it’s seen as a representation of them as a whole.” The emotional burdens taken on by women was neither considered nor compensated for.

Have colleagues commented on your gender as a significant factor to your ability to do your work?

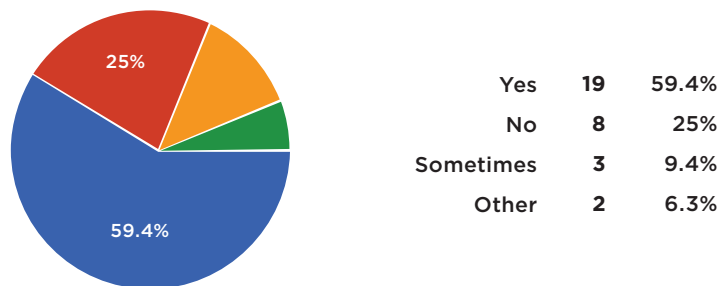


Most respondents said no. Those that did feel this was an issue very strongly pointed to general sexism and to explicit, socially-constructed gender norms as the bases for such behaviour, such as the assumption that a woman shouldn't know as much about programming or electronics and that their background is, as a result, assumed to be less technical than it actually is.

Other issues cited as factors affecting their ability to perform work polled strongly towards three areas:

1. Maternity leave, childcare and parenting needs,
2. Age discrimination, being an additional discriminator that plays a very strong role in this sector, occupied largely by young men.
3. Sexuality, as both a noun (industry not being open to those who identify as LGBTQ) and a verb (constant objectification of women).

Do you consciously employ feminist principles or practices in the workplace?



The feminist principles most consistently mentioned by respondents were those related to hiring and recruitment, with many respondents in hiring positions making a conscious effort to diversify and gender balance their teams, including having a personal 50/50 hiring practice (with further attempts to include LGBTQ as well as women of colour), and non-gendered division of labour when it came to work duties. Several respondents mentioned mentorship as a conscious feminist oriented practice they employ at work.

As it relates specifically to hiring:

As one respondent wrote, “Sometimes I let people pay them less, if it means we’re hiring a woman. If there’s a person of colour who is also a woman, they are double-hired.”

Others noted it can feel powerless or be challenging to employ feminist principles in an industry that seems fairly set in its ways, “I’ve experienced sexism and seen discrimination against people of colour. Some areas in digital have 90% straight white men at the top. They won’t even consider hiring an Asian woman for example. It’s extremely stressful for women because of the itty bitty types of sexism that go on constantly. When you raise these issues it’s not considered important.”

Other Labour Issues

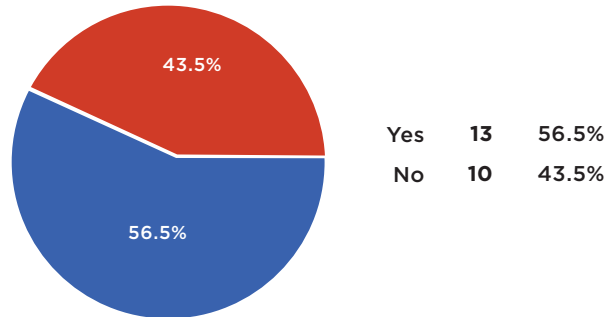
When asked about the extent they felt their workplace supported pay equity for men and women, most respondents knew their workplaces did not operate with that equity in mind, though they did not have access to proof that would substantiate their stance. One person noted working in a school with a “years-in rank” pay scale, for the very reason that this meant no gender disparity in pay, but this was the anomaly.

Regarding whether respondents felt they were asked or expected to work beyond normal working hours for free/without extra compensation, there was an overwhelming, “Yes.” Despite tension attached to this factor, most said that it was self-imposed or self-produced. Others said it was expected, an industry norm, and very much a part of the game. Not complying with such expectations was noted as, “...Also why I’ll never be promoted and have to just quit if I want more money.” Another respondent mentioned, “But overwhelmingly, it’s men asking to ‘pick my brain’ and also men cold-emailing me to promote their work. Maybe women need to do more of this too, to even the score. It’s so subtle, it will never be eradicated; we just need to be aware.”

Responses indicating likely results of not being able attend to work for these additional hours ranged from “you’re let go,” and “more reasons to axe me,” to “will never be promoted” and “I won’t get the new types of work I want.” There was an association with being a “slacker” and having your “reputation and credibility be diminished,” thereby limiting future opportunities. The lack of participation in the social activities after work, which is a big part of the industry, was also seen as a missed opportunity to network and make key connections.

Content Production

Do women participate on equal levels and with equal pay in media production content at your place of work?



When asked this question, most respondents working directly in content production consistently mentioned pay inequality as a reality.

Further, the stereotypical sexual imagery associated with women was noted as a problem when it comes to the female characters being produced, so while there is some degree of complexity there is a lack of represented diversity or reality. As one respondent put it, “Gender representation in game form is narrow and tends to be hyper-sexualized, it is not diverse at all,” while another noted the prevalence of appalling stock photography as the baseline in marketing and advertising.

When asked if they had ever been asked to assume the position of the normal or common female consumer of the product, most respondents stated they had never been asked to do so, with one pointing out that “Games are rarely made for female consumers,” and thus the lack of such requests.

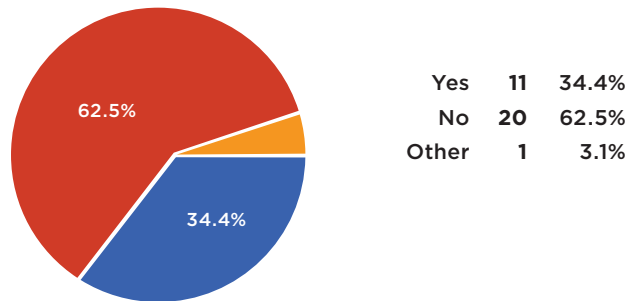
Opportunities

Have you thought about leaving your employment?



There is no doubt, the majority of the respondents considered leaving their employment. The reasons varied, with a strong majority considering doing so in order to pursue professional/leadership growth in a more intellectually stimulating role (including starting their own company). Financial stability/growth was also frequently mentioned, followed by looking for opportunities that allowed for flexibility and incorporated collaboration/impact in their work.

Do you think of leaving the industry?



In comparison, when asked if they want to leave the industry, the majority of respondents answered no. Most mentioned that they want to stay because they see opportunity for growth and because they love the sector and their job; those wanting to leave the industry cited wanting to be in a better work environment with more impact-driven, meaningful work.

When asked if the respondents formally or informally mentor other women, there was a near-unanimous yes, with the majority going out of their way to ensure they are available and active in this area. Mentorship does come with responsibility, as one respondent noted, "I can't walk away from it, but the burden of these confidences and my own frustration over not being able to address the sources of their burdens weighs heavily on me."

Are you satisfied with where you are in your career or educational track?



Those that responded “No” were asked why they might think that is the case, where they would like to be and how they think they can get there. The majority pointed to a lack of professional support and quality opportunities in their workplaces. As one respondent put it, “It’s a myth it’s only an upward trajectory, I’ve made a lot of lateral shifts.” A smaller subset referenced the “need” of a master’s degree in order to get ahead

When asked what can be done to help recruit and support more female leaders and content producers in I&DM and ICT, the two main suggestions focused on creating more “women-friendly and mother-friendly workplaces” and starting young by supporting girls throughout their schooling, encouraging them in related pursuits and providing them with female role models.

Questionnaire Insights and Conclusion

The themes of overt sexism, pay inequity, tokenism, reduced self-confidence, and a sector-wide inflexibility regarding the childcare needs of female employees who are mothers, came out loud and clear throughout the responses: there are barriers to female advancement in the ICT sector (corporate as well as research/academia environments). While most respondents are passionate about the technology field because of its potential and widespread applicability, many feel that the uphill battle just to be recognized and compensated appropriately for their skills and smarts (versus their looks or gender) is one that many are finding too exhausting and futile. Female entrepreneurs noted the blatant imbalance they experience in the VC world.

Most respondents pointed at the need to begin interventions, socially and systemically, by revisiting the education system from very early points in a female child’s life to counteract the increasingly gendered messages they are received from media. There was a plea to revisit the metrics being used to gauge success of female leadership in the sector, to move away from oversimplified ones such as “the number of female CEOs”, that promote tokenism at the top level with little corporate culture shift at the bottom, to others that might more accurately measure the meaningful shifts.

Lastly, there was highlighted the need to go beyond understanding the surface level realities of women in I&DM, but to dig deeper and find the useful skills and approaches that differentiate women from their male counterparts in the workplace, such as their management, communication and leadership styles, that could directly affect their experiences and advancement in the sector.

Authors and Gratitude

This Report was created by: Prateeksha Singh with me, Suzanne Stein, Director of Super Ordinary Lab at OCAD University. I led the overall project with invaluable contributions and work by Mithula Naik, Jill Sharrock, and Prateeksha Singh, along with these other Faculty members at OCAD U: Professors Paula Gardner, Lynne Heller and Emma Westecott.

The Ontario Media Development Corporation (OMDC) has funded the overall Fem-LED project, but is not bound to the findings of this report.

This report is but one of a number summarized works from the Fem-LED group that sorts through the myriad of issues affecting women in Interactive and Digital Media, seeking avenues for change.

We have also created:

- A historical timeline, hosted online and ever-evolving, that chronicles events such as the attainment of “personhood” for women
- Synthesis of academic and other published material on this topic, categorized according to life stages from education to leadership within ICT and I&DM industries
- Report on a bodystorming event we hosted to identify barriers and enablers with female leaders, and
- Summary of trends affecting the future for female acknowledgment and leadership in I&DM/ICTs.

These items and an overall report of findings can be found at: <http://research.ocadu.ca/research-and-innovation/project/fem-led-home>

APPENDIX D





APPENDIX D: Games to Play Descriptions

Feminist Theorist Card Game

by Dr. Emma Westecott and Dr. Paula Gardner with Suzanne Stein

Inspired by Gauntlett's Theory.uk.org card set¹⁰, these cards relay the different feminist and critical theory perspectives that may be taken up to ideate further solutions. We found in the course of this project that we aligned with differing theories and understandings of sexism and feminism. These cards allow us play from differing perspectives in a generative, non-confrontational manner. The cards are whimsical and celebrate female thought leaders in areas that affect female respect and leadership in industry and beyond. To date, our growing stack of cards includes: Anne Balsamo, Lucy Suchman, bell hooks and many more.

¹⁰ Gauntlett's [http://www.theory.org.uk/Theory Trading Cards](http://www.theory.org.uk/TheoryTradingCards).

Game Design for Change

Games go beyond entertainment as the expressive medium of choice for current generations of makers. The use of game design approaches to address a range of social, cultural, and political issues is growing. Whether representing personal experience, like *Dys4ia* by Anna Anthropy in which you explore the maker's experience of gender transition through gameplay, or, modelling an experience of war, as seen in *Hush* where you play as a mother quietening her baby to hide from a Hutu raid. The sectors of game development making / games for change explore the ways that game design can express, and possibly provide practical and strategic solutions to a broad set of social concerns.

To that end, what if the issues raised by the Fem-led project were considered a game design problem?

A game designer might co-create a range of possible 'win states' with the players, and thereby model approaches applicable to the real world. Game design involves identifying, modelling and providing motivation to a player to build skills, literacies and solutions to a particular situation. Over the course of Fem-led it has become apparent that a game design approach might help synthesize research findings to desired future outcomes. To achieve this goal, we created workshop materials to be used by partners and community in an ongoing manner to carry forward the work of Fem-led.



Existing Game Design Approaches

Fem-led proposes a set of physical card games (and expansion packs to existing card systems) that allow for wide distribution of project outcome across partner communities to spread potential impact.

It is increasingly possible to see card games being developed and played as pedagogic tools in feminist (<http://www.superstrumps.com/> for example), theoretical (<http://www.theory.org.uk/cards.htm>) and game design research (<http://www.metaga.me> and <http://www.tiltfactor.org/grow-a-game/>). The FEM:play project employs these tools to develop novel and innovative contexts for engaging communities in participatory, affirmative action.

Our game design research begun with this document, will continue to evolve via testing and workshopping, and as such these current design prototypes are very much works in progress. The authors apologize for any minimal summaries that reduce the content of these game/s; instead, we focused on encouraging feminists to play with the histories, theories, and knowledge of precedent work in a pedagogic setting, as a research priority

We started by reviewing and adapting existing game systems for a range of reasons further described below. Some of these design experiments were limited in application, often reproducing problematic power structures in ways that were recognizable and self-limiting. Other explorations were more productive, offering a framework for design of specific games to explore and model the broader issues discovered in Fem-led's research.

Top Trumps mash up with Grow-A-Game and then The Metagame.

Phase 1 - Top Trumps

Inspired by Gauntlett's <http://www.theory.org.uk/> Theory Trading Cards, early Fem-led game design research looked to identify key feminist theorists and activists for use in a selection of FemTechNet classrooms and beyond. The faculty researchers on Fem-led occupy a range of feminist viewpoints and collaboration involved engagement within a diverse range of feminist traditions. These traditions inform critical engagements with the wider contemporary environment and are in service of Fem-led's goal of creating pedagogic tools we developed a series of Fem-led authored Theory Trading Cards.



Top trumps is a collecting game in which players collect, barter, and compare collections of varying assigned values. Each card represents the subject of play (i.e. cars, personalities, etc.) and each subject holds varying values to be compared during play.

Top trumps is played by shuffling and dealing all cards face down; each player holds their cards so that they can see the top card only. The player to the dealer's left reads out a category from the top card, the one with the best or highest value wins and the player collects everybody else's cards.

Top trumps often include a point value to make it easier to compare cards held. Part of the discussion generated through Fem-led's addition of cards to Gauntlett's Theory Trading Cards involve the questioning of attaching a particular value to any individual, tradition, or viewpoint, particularly one that is feminist. We tested the potential to add feminist theorists to model employed by the Theory cards. To do so, we wrote cards for key feminist theorists in the areas of technology, and digital and media studies including: Simone DeBeuvoir, Germaine Greer, Judith Butler, bell hooks, Valerie Walkerdine, Judy Wacjman, Katherine Hayles, Anne Balsamo, and Lucy Suchman. The model requires a brief 60-80 word summary of the lifetime work of the theorist, and briefly noting the "strength", "weakness" "special skills" of the scholar. We found that these restraints were deeply problematic. They established a constrained ideological vantagepoint to the descriptions. The approach was non-feminist in our view, in constraining but also framing complex work in ideological and broad, and thus nearly meaningless, categories. Finally, the brevity of the descriptions required the use of academic terminology that was inaccessible to players unfamiliar with feminist theory and thus risked alienating players without this background. Given these problems, we deemed the deck to be a tool that would be useful only to some groups, mostly in post-secondary educational environments. Below, we propose making changes in the categories of detail provided on decks.

Notably, this is a discursive game in which a particular problem or issue is posed as a game setting:

Initial Setup:

- Arrange and discuss in the playing group the Top trump cards by field and then by generation.
- Discuss how feminism is taught in classes, who is the canon and why.
- Identify the feminism(s) you identify most closely with, and state why.



Scenario #1 — You are a woman online in the early 21st century amidst the rise of the Betas who have gained visibility as a gater target. Which feminist approach offers what strategies of resistance?

Scenario #2 — You are a trans-gender activist engaged in community and Twitter activism; which feminism can help you?

The above are offered as examples. The group engaged should discuss and develop their own scenarios.

Initial Test Questions:

Major gaps in theorists provided in the Theory.org deck, e.g. Haraway (cyberfeminism), Crenshaw (Intersectionality), Braidotti (affirmative politics), etc., pointed to the need to extend the card deck to add additional theorists, including post-colonial, queer, indigeneous, artists and digital makers, in order that play could cover diverse knowledges and feminist fields.

Design Notes

In the expansion of the card deck, various approaches to ascribing value were identified:

theory.org.uk card sections:

- Brief paragraph and bio
- Strengths
- Weaknesses
- Special Skills

Point categories from super trumps (<http://www.superstrumps.com/>)

1. Leadership
2. Equity
3. Inclusivity
4. Empathy

Point categories from other cards:

1. Nurture
2. Strength
3. Independence
4. Resourcefulness

Perhaps also add:

1. Impact
2. add more...



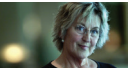



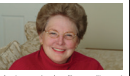
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The questions explored here in designing sections and assessment approaches involved examining personal values and biases inscribed in the cards, that would thus, problematically, be encouraged in game play. As noted above, it became apparent that the process of producing Theory Trading cards, whilst potentially useful in a discursive context, held inherent problems. The necessarily brief summaries of key aspects of each theorist, and the values ascribed to them, was wrought with problems. Any card system built from comparing values reinforced separatist power dynamics, and failed to challenge the status quo and retain a mainstream ideological positioning. Flattening out contributions as general strengths or weaknesses diminishes the complexity of the work and its potential usefulness in various local environments. As the bullet points above suggest, we propose as a solution adopting other categories from Super Trumps and other game systems that encourage us to recognize the feminist values of the researchers work and their potential contributions to social evaluation and change.

In summary whilst the pedagogic value of using cards to extend expertise and discussion around key feminist viewpoints remains significant, the game structure of Top Trumps was counter to the values held by this project.

<h3>Simone de Beauvoir</h3>  <p>French writer and philosopher, 1908-1986, can arguably be credited with forming the roots of gender studies with her book <i>The Second Sex</i>, which focused on the roles of women and their sexuality. She was also a strong advocate of communism, supporting the Soviet Union and China. In <i>The Second Sex</i>, she says socialism will erase the inequalities women face that have been formed over human history. She wrote that civilization forms who a woman is.</p> <p>STRENGTHS: That good ol' French existentialist philosophy</p> <p>WEAKNESSES: Socialist dogma may seem outdated to some</p> <p>SPECIAL SKILLS: Easy existential dread, crisis</p> <p>Inspired by: theory.org.uk</p>	<h3>Judith Butler</h3>  <p>American theorist, born 1956, key figure in queer theory due to book <i>Gender Trouble</i> (1990), which argued that one of the biological sexes is just as socially constructed as gender. It defined the situation of men and women as separate groups and all women as one coherent group - has only served to maintain the problem Butler calls for proliferation of radical gender performances to subvert assumptions.</p> <p>STRENGTHS: Groundbreaking, complex, critical skills</p> <p>WEAKNESSES: Incessant, repetitive, writing style</p> <p>SPECIAL SKILLS: Often reads like a manifesto</p> <p>Inspired by: theory.org.uk</p>	<h3>Germaine Greer</h3>  <p>Feminist writer, academic and broadcaster Greer is hailed as a feminist icon. Her controversial ideas inspired a generation of women who embraced her as the face of the women's movement in the 1970s. Her famous book, <i>The Female Eunuch</i> was published in 1970, and deals with as much about sexual liberation as feminism. In recent years she has re-assessed many of her original theories.</p> <p>STRENGTHS: Confident, witty and 'sexuality'</p> <p>WEAKNESSES: Challenged and often vilified</p> <p>SPECIAL SKILLS: Calling out sexism, accessibility to read</p> <p>Inspired by: theory.org.uk</p>	<h3>Hooks Bell</h3>  <p>African-American feminist, born 1952. Brilliant, poetic, often autobiographical and often provocative. She has written numerous works both as a feminist theorist and as a writer within feminism. Equal rights for all her critics and accessible, sometimes theoretical, always engaged with broader culture. Her only new book (excepting a few Kindle-only) (2000) makes one case for passionate political love.</p> <p>STRENGTHS: Poetic, accessible, narrative writing</p> <p>WEAKNESSES: Dates, repetitive, personal</p> <p>SPECIAL SKILLS: Seeking justice and visibility for all groups</p> <p>Inspired by: theory.org.uk</p>
<h3>Valerie Walkerdine</h3>  <p>Walkerdine has brought a gender and class perspective to the analysis of developmental theory and learning and provided important insights into the complexities of gender and class across education. However, the discursive methodology of the performative-critical method may, at times, detract, within the discourse, from her participation in the analysis.</p> <p>STRENGTHS: Critical analysis, gender and class</p> <p>WEAKNESSES: Some complex</p> <p>SPECIAL SKILLS: Historical, of education</p> <p>Inspired by: theory.org.uk</p>	<h3>Judy Wajcman</h3>  <p>Wajcman is a social scientist probably best known for her analysis of the gendered nature of technology. She is a key contributor to the social studies of technology, as well as to studies of gender, work and organizations. A core argument in recent work is that digital devices are socio-material practices that cooperate with the 'flex' based on interaction with them.</p> <p>STRENGTHS: Emphasizing the material shaping of gender and technology</p> <p>WEAKNESSES: Some complex</p> <p>SPECIAL SKILLS: Often nuanced analysis of digital modernity</p> <p>Inspired by: theory.org.uk</p>	<h3>Katherine Hayles</h3>  <p>Hayles is a postmodern literary critic. Most notable for her contribution to the fields of literature and culture, electronic literature, and digital materials and a key contributor to feminist epistemologies, particularly developing feminist post-humanist theory.</p> <p>STRENGTHS: Critical, of education, (historically) feminist, of culture, of literature, of digital, of education, of post-humanist, of digital, of materials, of digital, of digital</p> <p>WEAKNESSES: Theoretical analysis, often not directly from theory</p> <p>SPECIAL SKILLS: Digital, of education, of literature, of culture, of digital, of education, of post-humanist, of digital, of materials, of digital, of digital</p> <p>Inspired by: theory.org.uk</p>	



Fem-LED Grow-A-Game

by Dr. Emma Westecott and Dr. Paula Gardner with Suzanne Stein

Inspired by Flanagan's Grow-a-Game deck¹¹ this flexible card set has four card categories: challenges, games, values, verbs. Its creation resulted from rigorous research into building a socially activist ideation tool that can be used for social activism.

Our expansion pack adds challenges, values, and verbs relevant to feminism and resulting from the Fem-LED project.

1. Challenges (Problems to address/solve in the context of research undertaken)

- a. invisibility
- b. low-numbers
- c. perceived difference
- d. access
- e. confidence / self-esteem
- f. social ignorance

2. Values (Principles and beliefs held by the project)

- a. leadership
- b. equity
- c. inclusivity
- d. empathy

3. Verbs (actions that are aimed at addressing challenges and/or expressing values)

- a. protect
- b. accept
- c. include
- d. open
- e. inform
- f. celebrate

The additions listed above populate an expansion pack for the Grow-a-game card system identified during the research period of Fem-led; additional category contents should be added in each design research session.

Following Flanagan's design, game can be played in a range of participatory environments that enact the following frameworks as desired and to suit the goals of the players:

¹¹ See Mary Flanagan's original Grow-A-Game deck <http://www.tiltfactor.org/grow-a-game/>



One Card

1. Shuffle values set
2. Each player chooses
3. Each player thinks of an existing game that expresses or requires concept on card

Two Card

1. Shuffle values and games sets
2. Each player chooses one of each card
3. Brainstorm a game that modifies the game card to express the value on the second
4. After a fixed time each team shares idea, best pitch wins

Three Card

1. Shuffle values, games and verbs sets
2. Team chooses one from each set then takes 10-40 minutes to brainstorm a game idea that modifies the game with the verb in order to express value
3. Each team shares idea, best pitch wins

Fem-led adjusted Three Card Gameplay to include the following rules:

1. Shuffle values and verbs and challenges sets
2. Each player chooses one of each card
3. Brainstorm a game that addresses the challenge card by actualizing the verb card to express the value on the second
4. After a fixed time each team shares idea, best pitch wins

This last adjusted game exercise was run in a workshop led by Westecott and Gardner at FemTechNet's April 2016 conference entitled "Signal/Noise" held at the University of Michigan, Ann Arbor; it offered a rich site of inquiry into the ways in which a group of feminists and activists would respond to the challenge of designing a game to model a challenge from their communities.

The team proposed the game as a technique to table and brainstorm common issues experienced by workshop members in ICT & ID&M or other work or educational environments, including ancillary or sociocultural issues that lead to workplace distresses and struggles for success. Workshop members included undergraduate, graduate students, independent designers and researchers and university faculty members from ICT & ID&M fields. Participants were grouped into teams of three, and dealt three cards: a value, verb and challenge. Challenge cards provide broad



social challenges; players were thus encouraged to use the cards as prompts to discuss particular real world challenges. We instructed players that their aim was to ideate or design basic elements of a game that could illuminate distinct struggles of community members engaged in the problem, and to strategize ways to solve the dilemma or to “win” the situation. The model worked exceptionally well with these participants, who easily targeted distinct problematic scenarios, and structures and values that uphold them. They used their analysis to create corresponding game structures and strategies for play and winning. In only 30 minutes, teams of three ideated five games ranging from analogue to digital forms demonstrating great potential for this card game, when used with motivated teams, to address local and familiar problems via creative game scenarios.

The following scenario demonstrates a creative approach taken by one team that deeply addresses structural and sociocultural issues, in a game that demonstrates that the structure fails users; it builds empathy but also exposes structures needing change. This group was dealt the cards: altruism (value), advising (verb), and disease (challenge). To satisfy the “disease” challenge, they focused on living with mental health problems in the United States health care environment. The designers described these challenges to include: emotional and physical pain, comparing self to “normal” others, problematic access to resources, housing, and money and difficulties in maintaining agency. They imagined the game like the American socio-economic system, to reward those who maintain all of these “assets” and to assign consequences to those who lose assets. The designers grounded in the game in disability studies principles, problematizing a mental health approach that frames some as abnormal and thus deficient. The strategy of this imagined board game engages players in navigating the complex structural and socio-cultural systems of mental health care, as would individuals with mental health issues, facing similar barriers and consequences. The goal is to acquire the fewest stressors (e.g. debt, despair, family violence, job insecurity); increased stressors lead to mental health crises and then send players to the emergency room. The game negotiates tensions between social altruism (setting up structures of aid) versus advising (that allows players more agency); as individuals gain stressors, they lose agency and have to obtain advice; in so doing they lose points and the chance of winning. Additionally, players can level up by engaging different institutions in their care plan, but they level down as they age and lose options for care and agency. This game structure and strategy can be mapped onto other scenarios to demonstrate problematic organizational structures, immersing players into these structures in order to experience how they play out and to brainstorm how they can be resolved both through



structural (organizational) and sociocultural change.

In summary, we find that the Grow-A-Game deck, as used in the Fem-led approach, can serve many functions in work, educational or advocacy environments. The deck is a tool that can motivate workers to work in teams to solve problems in the workplace or as experienced by users and clients. In ICT & ID&M workplace environments, teams can identify the varied layers of issues (at the individual, social, and structural (eg legal or management level) that must be addressed, and signal distinct actions to be taken by all employees. The games also produce detailed information for designated (management) problem-solvers in organizations, as steps that can be taken that would likely meet with popular organizational support.

Metagame Expansion Pack

The Metagame operates through a combination of two distinct types of cards: 1) the culture cards (which are phenomena of cultural importance and relevance) and 2) opinion cards (which are questions or statements that prompt discussion). Playing these cards in a range of configurations creates a number of different types of games:

Our expansion pack will add culture and opinion cards relevant to feminism, future development of this will be funded by a secured SSHRC Partnership Development Grant led by Paula Gardner from McMaster University in partnership with Suzanne Stein and Emma Westecott.

There are varied games that can be played with this deck. All of the following games focus on making visible the varied cultures at work in office places and in teams, in a manner that is playful. Because the game play is based on dialogue and argument, the process itself generates understanding of cultural concerns, and cultural practices that function well, and also generate thoughts on solutions to concerning cultures.



Matchmakers

1. Deal everyone a hand of 4 culture cards and 1 opinion card.
2. Each player reads opinion out loud, everyone puts all of their culture cards facedown next to the opinion cards to make good matches (don't play on your own cards)
3. One-by-one each player shuffles culture cards on their opinion lays them out and picks their favorite — if your card was chosen you win the opinion card & all its culture cards
4. Play 3 rounds, at the end count all cards, the most cards wins.

History 101

1. Place random culture card face-up on table.
2. Take turns clockwise, when it is your turn the player on your left draws a card and reads it to you hiding the date, point to the spot in the timeline where the card should go. If you are correct the card gets placed; if not it is placed in front of you as a strike.
3. After 3 strikes, the player is out; the last surviving player wins.

Debate Club

1. One player is the critic; she draws 3 new opinion cards picking one to read out loud discarding the others.
2. Everyone selects the best match from hand and places it facedown on table. One by one each player reveals their card and argues for a minute regarding why their card is the best match.
3. The critic picks the best and worst responses then collects and disposes of the cards. The losing player discards all cards & joins the critic picking the new opinion card; all surviving players draw a card. The winner takes an extra card.
4. The final player wins the game.

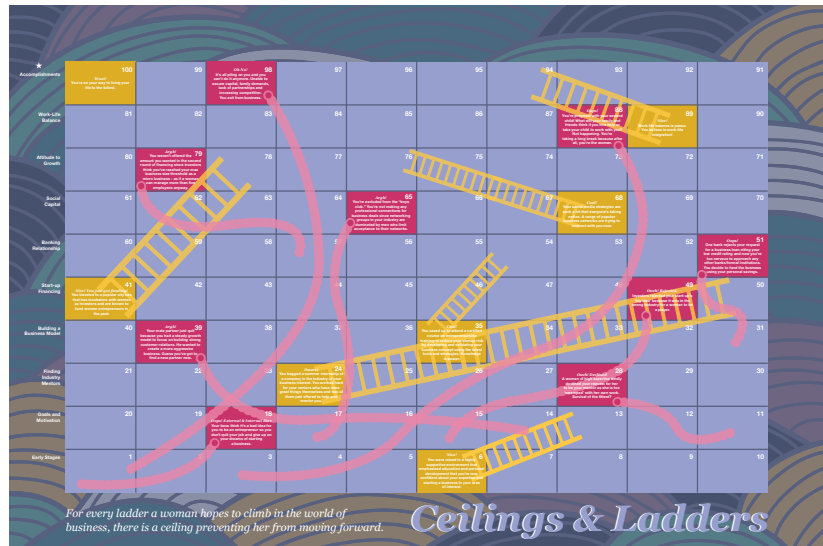


Ceilings and Ladders

by Mithula Naik

Ceilings and Ladders is a game based on Snakes and Ladders. It was developed as a playful engagement strategy to promote awareness and discussions about the challenges facing female entrepreneurs in particular. Her research report, “Beyond the Economic: The Influence of Women Entrepreneurs in Canada,” can be found on the Fem-LED site, along with the game, which is available for download.

Two ideation games have been piloted and prototyped during the Fem-LED project. These have helped us to identify possible intervention sites; we look forward to refining and disseminating these with the support SSHRC and the project: “Bridging with STEAM/M; Collaborative Approaches to Effect Women’s Participation and Success in ICT/Media Environments.”





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