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Jakub Bielikowski
Społeczna Akademia Nauk

Women in the IT Management – Analysis Dimensions

Abstract: This paper looks into statistics, classic and modern research of women in the management and of women in Information and Computer Technology (ICT) industry. The subject of women in the management, the effect on the companies and their culture and factors underlying women's management success has been raised in the 70's, but there was not much research into the ICT industry until 90's, with quite significant literature in the subject in the last decade. Based on the literature and current management thinking review paper aims to identify the factors that influence first women choice of ICT as business career and second – women success in the management. The objective is to identify a framework that will be used as a reference in author's qualitative research into woman in the ICT management in different cultures.

Key Words: Women career, gender equality in management, women in management, women in ICT

Introduction

The objective of this paper is to propose a framework for analyzing issues affecting women career in the Information Technology (IT) sector. IT sector belongs to one of the fastest-growing industries/services worldwide. IT sales are reaching the level of approx \$4 trillion and it is estimated that IT will generate 1.7M new jobs [Tandon et al, 2012]. Even in crisis-hit Europe IT jobs are set for 5% growth [European Commission, 2010]. In Poland IT sector sales tripled in last decade to PLN 31bn and IT is expected to grow by 7% annually [Antal, 2013] – at a rate more than double that of the economy growth. With such a growth rate the IT sector is believed to be a major source for new jobs and management careers.

In his more than 20 years professional IT experience, author noted significant differences between countries in IT women's engagement particularly in manage-

* jakub.bielikowski@gmail.com

rial roles, underlined by statistically very different levels of women's IT participation (por. Fig. 1). Whereas the subject of women in the management is well researched, the specifics of women in IT (or ICT – Information and Communication Technology sector) management is relatively new, e.g. even simple Google Scholar phrase search brings 9 results for “women in IT management” vs. 24,000 results for “women in management” and “women in ICT” brings just over 900 results.

Researching the high differences in women's IT participation, particularly in senior professional and managerial roles can bring multi-cultural insight into specific organizational and management aspects – organization culture and policies, work conditions, skills and job roles – much beyond state policy issues usually brought to the focus. Those were already noted by Galpin [2002], Huyer et al [2005] and Trauth et al [2008]. Therefore the article looks into proposing a framework for analyzing issues related to women in IT management. The framework is based on analysis of academic research, management consulting reports and industry press publications in both women's vocational choice in IT and women career progress. The article is divided into the following chapters:

1. Women in the management worldwide – current state of women's progress in the management ranks and insight into changing research view on the situation.
2. Women in the IT industry – current state of women's presence in the ICT industry.
3. Framework for women success in the IT management – which pulls together theory to propose classification of factors affecting women IT choice and factors affecting their managerial career.
4. Conclusions – summary of findings.
5. Proposed next research steps – author plans for the framework use.

Women in the management worldwide

Growth of female's job market participation and increased number of women making into management caused „women in the management” to become subject of academic and management research. The US women job market share grew from 29% in 50's [Sloane College, 2009], 38% in the 70's [United States Department of Labor, 2014], to 46% from 90's until today [Catalyst, 2014]. In Poland in the 60's women already represented 44% of all employed [Velkoff, 1995], same as today, with employment rate (percentage of women in employment) remaining around 57.5% [Główny Urząd Statystyczny, 2012]. That rate is actually below EU average 62.6%, the US rate of 65.4% and approx. 77% in Sweden [Eurostat, 2014]. Iceland has one of the highest women employment rates, with 79.5% of females in the employment [Eurostat, 2014]. In Turkey, the woman's share of labor force is still very low at 29% [Turkish Statistical Institute, 2012]. While women employment was growing rapidly, historically there were practically no female managers. In the

US only in 1964 the Civil Rights Act forbade discrimination on the basis of sex as well as race in hiring, promoting, and firing [Congress of the United States, 1964], followed by government actions [National Archives, 2014]. Even if, as late as in the 70's, in the US females were 38% of the labor force, they occupied only 15.9% of managerial position. But, today they fill 51.4% of the management, professionals and related occupations [Catalyst, 2013].

Similarly to labor force participation women management progression differs significantly by countries. In table below we look at developing and developed countries. In Europe author compares Northern with Southern Europe and all that with Poland as an example for EU Enlargement economy. The purpose is not to identify any statistically valid trends, but rather to find examples of opposite situation:

Table 1 - Women in the management worldwide

| Country | % of Women in employment | % of Men in employment | Women among professional & technical workers | Women in the management | Women on boards of listed companies |
|-------------|--------------------------|------------------------|--|-------------------------|-------------------------------------|
| US | 64.5% | 77% | 55% | 43% - 51.4% | 10% |
| Canada | 74% | 81% | 56% | 37% - 35.7% | 6% |
| France | 65.6% | 73.7% | 47% | 39% - 41.3% | 18% |
| Sweden | 77.2% | 82.2% | 51% | 32% | 17% |
| Netherlands | 71.6% | 81.3% | 50% | 29% - 27% ¹ | 5% |
| Italy | 49.9% | 69.8% | 47% | 33% | 8% |
| Greece | 43.3% ² | 62.7% | 51% | 28% | 11% |
| Poland | 57.6% | 72.1% | 60% | 36% | 7% |
| Germany | 72.3% ³ | 81.9% | 52% | 30% | 3% |
| UK | 69.4% | 80.5% | 48% | 35% | 7% |
| Australia | 70% | 83% | 54% | 37% | 7% |
| Singapore | 63% | 83% | 45% | 31% | N/A |
| Thailand | 70% | 85% | 56% | 24% | N/A |
| Brazil | 65% | 85% | 52% | 36% | 9% |
| Qatar | 53% | 96% | 20% | 7% | 0% |
| Turkey | 31.8% | 75.3% | 36% | 10% | 8% |

¹ Increase from 15% in 1992 [Davidson, Burke, 2011]

² Decrease from 52.9% in pre-crisis time [Eurostat, 2014]

³ Increase from 63.1% in 2005 [Eurostat, 2014]

Source: Own Analysis based on [Eurostat, 2014], [World Economic Forum, 2013], [Catalyst, 2014], [Davidson, Burke, 2011]

Women's share of top management roles remains in single digits, even in Sweden - advanced equal opportunity country - it is below 20%. Norway is an exception, having 37% of board seats in listed companies filled by women [WEF, 2013] driven by 40% quota stipulated by Companies Act amendment in 2003 [Teigen, 2008]. Korn/Ferry Institute [Orr, 2013] identified factors, mostly perceptual, inhibiting women progress to the executive/board level:

1. „Women lag men in the accumulation of high-visibility experiences that prepare them for executive positions.
2. Women are held to higher standards and they are meeting or exceeding them in many areas.
3. Women are rated lower in financial and strategic skills, both of which are mission critical at the executive level.”

In this article we concentrate on barriers and enablers of women's managerial progress irrespective of the rank, but the factors above, play important role in today's women careers.

In the 70's the barriers and enablers of woman career were looked at from corporate perspective by Wood [1976] pointing that women do face same issues of being a manager as men, but at the same time they face unique constrain of holding a position long considered „man's job” and thus experience insecurity in the managerial job, especially low self-perception. Also they are being perceived as having „demanding nature at times, less flexible” and displaying „unwillingness to reach out and help other females” thus themselves creating barrier for other women.

Kanter [1977] pointed to special status of women in the management – women becoming „tokens: symbols how-women-can-do, stand-ins for all women”. In the absence of external pressure such tokenism was considered a „self-perpetuating mechanism preventing women from organizational success”.

In the 80's Schwartz [1986] argued that they are two factors influencing women careers – maternity and different traditions and expectations from sexes, that in turn lead to higher cost of women as manager, views shared in business even today [Morgan, 2012]. Those thesis were developed by Schwartz [1992] and Catalyst Research she founded. Catalyst is now considered an influential player in promoting women in business. This „gender-centered approach” [Akpinar-Sposito, 2013] with examples like Pringle & Gold [1990] pointed to different strategies adopted by women at work with „women becoming more like men” by „understanding of mentoring, power negotiations, managing conflict and change”, at the same time looking at affirmative action. However, affirmative actions were not necessarily providing for change of women perception or even made situation worse [Heilman, 1997]. Later research started to question the „gender-centered approach” [Hall-Taylor, 1997], [Bell, Nkomo, 1992] for ignoring increased workplace gender diversity and for promoting treatment that leads to marginalization of women in

the management. However, radical feminism still brings valuable insight into the management sciences [Sulkowski, 2007].

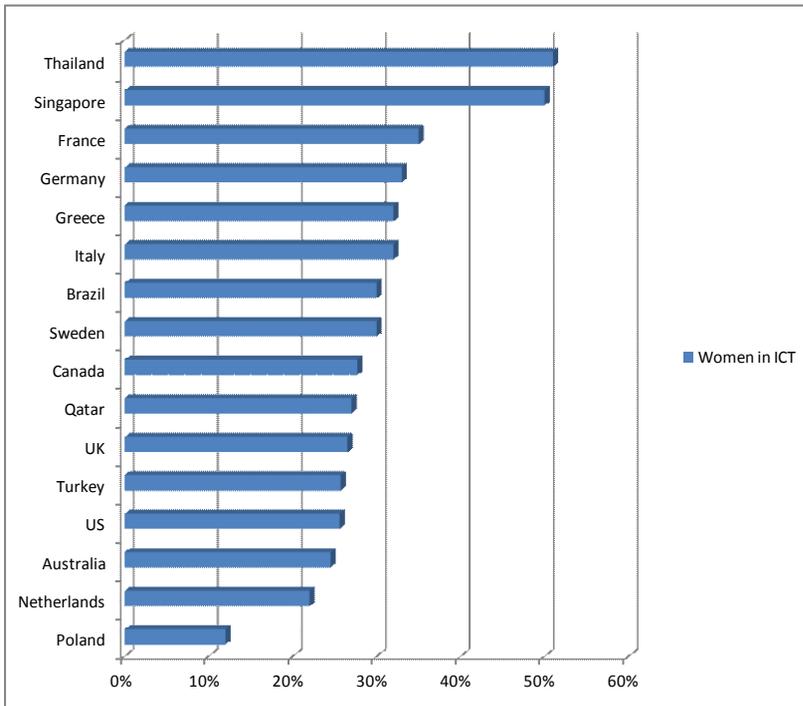
The increase of women managers is driven by perceived company performance impact, shown by studies conducted by McKinsey [Desvaux, Devillard-Hoellinger, Baumgarten, 2007], Credit Suisse Research Institute [2012] and by formal policies for woman inclusion like Norway, Spain and France setting quota: „to reserve at least 40 percent of their boardroom positions for women within six years” [Reuters, 2011]. Those changes generated new focus at more organizational and competence aspects of women’s management careers. In their compilation Billimoria and Piderit [2007] grouped the factor influencing women success in temporary business hierarchy into 3 broad categories:

1. Social factors that affect perception of women ability to succeed in the business like myths and stereotypes in media or the issue of social identity
2. Work-life choices faced by women – especially issue of balancing career with family life, but also work focus and criteria for success
3. Organization factors affecting women in business –leadership style or any formal barriers.

Similar factor were noted in management consulting research: McKinsey [Barsh, Yee, 2012], [Devillard, et al, 2012], [Sussmuth-Dyckerhoff et al, 2012], PDI Ninth House [2012] or Korn-Ferry [Orr, 2013] expanded on factors like: commitment to company policy for women equality, personal leadership qualities for woman or seeking high-exposure position and personal drivers at work. The 2007 McKinsey report [Desvaux et al, 2007] pointed to education, as engineering and management are two areas, where proper early advice and education access can help to battle low number of female job applicants, and similarly „to change binary perception of “men’s jobs” and “women’s jobs” at the very early stage of education”.

Women in the IT industry worldwide

The IT industry has been regarded for long time as men domain, even the own industry publication states that IT is „a juvenile “boys club”, where everything from hardware to source control is pelted with unfortunate, vaguely sexual names. If nothing else, sheer numbers indicate the obvious fact that IT is still a male-dominated field” [Gray, 2013]. Such perception is confirmed by hard statistical numbers:

¹Figure 1 Women in ICT in selected countries.

Source: Own analysis, based on [Eurostat, 2014]; [Catalyst, 2014] (US, Canada); [Antal, 2013] (Poland); [Aradi, Schwalje, 2013] (Qatar); [Cash, 2014] (Australia); [Castle, 2014], [Chan, 2006], [Galpin, 2002], (Thailand, Singapore, Brazil)

Women's participation numbers presented on the figure have high degree of uncertainty, particularly true in Poland, where some research [Antal, 2012], [Hozer, Koćmiel, 2008] suggest that 10-15% is the more accurate figure (or even 9% being percentage of developers heralded by news [PulsHR, 2014]) rather than 38% claimed by Eurostat [2014].

IT industry still attracts lower percentage of women then other industries and from career perspective represent „leaky pipeline” [Gras-Velazquez et al, 2009]—i.e. losing women with each step of career progression. More than 56% of women drop out from IT industry mid-career [Stanford, 2012]. IT industry should be fertile ground for women advancement. ITU – International Telecommunication Union, UN specialized agency – claims for „A bright future in ICT opportunities for a new generation of women” [Tandon et al, 2012]. Even though women ratio

¹ This quite impressive number represents share of Qatari women against total of Qatari women and men in the ICT industry, in fact because of large number of Indian immigrant workers (predominantly male) the real share is much lower

is falling quickly with hierarchy, in the US 15.6% share [Catalyst, 2013] of board directors in the IT exceeds 10% ratio for other listed companies. The next chapter looks for factors that influence women’s success in IT.

Framework for Women Success in the IT Management

There are two types of issues that influence women success in the IT management – industry ability to attract and retain women and women’s issues related to management progression, as they apply in the IT.

The tables below summarize main factors influencing women IT selection and advancement. Coming from Holland research into vocational choice [Holland, 1959] developments by Krumboltz [1976] and his associates [Mitchell et al, 1996] and summarized by e.g. Curry & Milsom [2013] the main attention is paid to: a) individual personality and organization fit for that personality, b) support given to the individual from organization, c) job availability, d) perceived employment attractiveness, e) ability to obtain required skills (education), f) suitability of the job offered to personal circumstances.

Author’s intention is to propose a framework that joins both formal academic research, management applied research (management & HR consulting reports) and industry popular publications that were considered to anchor the research with market perceptions and realities.

Table 2 - Factors influencing Vocational IT choice

| Factor | Influence | Comment |
|---|---|--|
| Economic & External Factors Influencing IT Choice & IT Job for Women | | |
| (c) Job availability - Global skills shortage in IT /Enabler/ | IT faces skill shortage in almost every country [European Commission Information Society and Media, 2010], [Tandon et al, 2012] making any qualified candidates interesting. The campaigns like UK Women for Information Technology [Mahony, Van Toen, 1990] were specifically targeting women to alleviate skills shortage problem. | |
| (d) Perceived employment attractiveness - Economic attractiveness for IT industry /Enabler/ | IT industry is deemed to be one of fastest-growing in the world [Tandon et al, 2012] and mostly jobs are readily available there, even in crisis situation! [Tandon et al, 2012]. IT sector is generally better paying than rest of the economy and in particular in developing countries the initial salary can be 10x national average [Morgan, 2012], whereas in Poland it is approx 1.5-2x increasing with experience to 5-10x [Antal, 2012] and in the US staff salaries are approx. 2-3x median wage [Computerworld, 2012] | Economic attractiveness works for both men and women |

| Factor | Influence | Comment |
|---|--|---|
| (f) Suitability of the job to personal situation - Work conditions in the IT /Barrier/ | <p>IT industry does not have „heavy, dirty and involving machinery”[Ismail, 2003] ,[UNESCO] conditions of other engineering branches, but on the other hand it has long hours [Tandon et al, 2012] [Morgan, 2012], [Küskü et al, 2007], [Catalyst, 2003], [Liu, Wilson, 2001] and „workaholic culture” [Huyer et al, 2005] that may put women off.</p> <p>Real flexible hours and the ability to telecommute and use of IT tools as upcoming trend can make those work conditions less onerous [Tandon et al, 2012] [Morgan, 2012] [Catalyst, 2003]</p> | The work conditions have also influence on balancing work and family issue |
| (e) Ability to obtain required qualification - Women educational orientation for IT /Barrier/ | <p>Desvaux et al [2007] pointed to crucial lack of IT orientation for girls, where Mahony and van Toen [1990] pointed that girls are much more attracted to computer science if education emphasis is on social, business and communications aspects of computing. Otherwise IT is perceived as „not applicable to live” [UNESCO] and „IT workplaces (are not) potentially enabling of cool and connected working lives” [Gras-Velazquez et al, 2009] so as a consequence IT is seen as not relevant.</p> <p>UNESCO [UNESCO] and Dryburgh [2000] calls even for use of gender-sensitive teaching methods or gender segregation in IT education and ITU for reassessment of education [Tandon et al, 2012] shared with industry view [Parsons, 2013]. Hafkin & Huyer [2007] pointed to the fact that girls education in IT is often rudimentary and not enough for advanced jobs.</p> <p>In 2003 women comprised only 27% Computer Science Graduates in the US, decrease from 37% in mid-80's [Catalyst, 2003]. The proper educational preparation is deemed necessary for many jobs in the industry, though Hewlett and Sherbin [2014] argue that women education share is now closer to par (41%), but the dropout rate is a problem.</p> | Some countries like Korea introduced wide-ranging educational reform for that purpose [Lee, 2010] |

| Factor | Influence | Comment |
|--|--|--|
| (e) Ability to obtain required qualification - Women education in mathematics /Barrier or Enabler/ | <p>Mathematics and other hard science skills are deemed necessary in IT [Stanford, 2012], though this assertion is partially being questioned [Mahony, Van Toen, 1990]. Interest in math/science is often cited by women themselves as selection criteria for engineering and IT [Küskü et al, 2007].</p> <p>Initially girls show equal or higher aptitude to mathematics, but in secondary / tertiary education often boys are perceived as better in math [Hyde et al, 1990], especially when results are combined with gender-aptitude preconception [Schmader, 2001]. However more research under Hyde showed that those are moderated in countries where women presence in science and politics is more visible [Else-Quest, Hyde, Linn, 2010]. Therefore the attitude, rather than absolute skill level may be more of the problem.</p> | <p>In Turkey it is observed that on secondary education show strong math skills – that may suggest differences in education system encouraging girls to learn math</p> |
| (b) Support given to the individual from organization - “Cost to employ women” / Barrier/ | <p>There is a perception that women are „more expensive to employ” [Schwartz, 1986], also in IT [Morgan, 2012]. Factors cited included maternity leave, more requirements for flexible / shorter working time or risk of absence because of child sickness [Maguire, Kleiner, 1993]. There is still a gender pay gap in the core IT, in Europe around 15-18% [European Commission Information Society and Media, 2010]. The difference in the US is around 10% [Frost & Sullivan, 2013], [Dice, 2013], which arguably compensates for any additional cost, especially given higher women’s education level [Frost & Sullivan, 2013].</p> <p>In the age of global IT capabilities limitation [UNESCO] alternatives like hiring immigrants are no better economically, because of the global IT salaries pressure. State regulation requiring women parity on the job, or regulation rebalancing „risk of leave” like obligatory paternity leave, mandatory flexible hours, or even military service, in those countries where they apply, remove perceived cost barrier efficiently</p> | <p>It is interesting whether IT companies behave differently in countries where anti-discriminatory laws and special paternity laws (like mandatory paternal leave) exists</p> |
| Societal & Cultural Factors Influencing IT Choice & Job Retention for Women | | |

| Factor | Influence | Comment |
|--|---|--|
| (b) Support given to the individual from organization – Men’s perception of women’s competence in IT /Barrier/ | There is lot of stereotyping of women having lower engineering skills that men – as perceived by men themselves [Küskü et al, 2007] and same applies in IT [Morgan, 2012], [Gras-Velazquez et al, 2009], [Catalyst, 2003], [Liu, Wilson, 2001. That makes hiring and promotion selection in the industry to favor men over women. Impact of „hiding” sex information on women acceptance was shown in music industry with big advancement of women in orchestras after introduction of blind audition [Credit Suisse, 2012], same is noted for Turkish anonymized exam systems that promotes women in engineering [Küskü et al, 2007] | |
| (d) Perceived employment attractiveness - Lack of role models /Barrier/ | Lack of role models for women in IT [UNESCO] [Parsons, 2013] influences men selection criteria as above. Interestingly successful IT women can see themselves as experts not as women-experts [Stanford, 2012], so it does not help women’s expertise perception. | Groups such as She++ [Stanford] or Black Girls Code [Parsons, 2013] or Polish Geek Girls Carrots do play a role of helping women to build awareness of female capabilities in the IT industry – as those have to be first advertised by women to be noted. |
| (b) Support given to the individual from organization - Number of women in IT – “token” situation / Barrier/ | “Token” [Kanter, 1976] situation of women in engineering & IT positions is common [Evetts, 1997], [Küskü, 2007] [Standford, 2012] That has a danger of cornering women into specific image and roles [Stanford, 2012] as self-perpetuating cycle [Bell, Nkomo, 1992]. | With increase of women in IT influence of that factor wears off. As long as women are seen as exception, their presence is not accepted as rule (e.g. Polish saying represents common view that „exception confirms the rule”). |
| Women internal decision factors | | |
| (a) Individual personality - Women interest in IT /Barrier or Enabler/ | In line with Holland theory [Holland, 1959] there are personal capabilities that makes certain women more interested in engineering careers. In West & Ross study [2002] women who choose IT used verbs such as ‘fun’, ‘exciting’ or ‘variability of applications’ and display real interest in IT. Despite innate (in this case personal) factors, building new perception of IT for women is cited as requisite to attract more women to the IT [Gras-Velazquez et al, 2009]. | |

| Factor | Influence | Comment |
|--|---|--|
| (f) Suitability of the job to personal situation - IT perception as “boys club” / Barrier/ | <p>From early days of computer games and computer clubs IT has a distinctive male image [Mahony, Van Toen, 1990] with specific subculture.</p> <p>According to Dryburgh [2000] women already in Computer Science adjust to male culture, but the women outside are deterred from entering the field.</p> <p>Women still feel „marginalized by lab-coat, hard-hat, and geek workplace cultures that are often exclusionary and promulgate bias” [Hewlett, Sherbin, 2014] and IT has „juvenile boys club image” [Grey, 2013] and developer frequently equals to male [European Commission Information Society and Media, 2010].</p> | <p>See ‘Women educational orientation for IT’ above</p> |
| (a) Individual personality - Women self-perception of IT skills / Barrier/ | <p>Though lot of women do believe that men have better computer skills [Liu, Wilson, 2001] [European Commission Information Society and Media, 2010] or are afraid of showing their incompetence [West, Ross, 2002] the reality is that women who occupy similar IT positions are often better educated [Frost & Sullivan, 2013] and their skill level is at least equal to men’s [Gras-Velazquez et al, 2009], [European Commission Information Society and Media, 2010].</p> | <p>This points to more general issue of women’s perception of being adequate for job [Credit Suisse, 2012]</p> |
| (d) Perceived employment attractiveness - Family acceptance / influence / Enabler/ | <p>For girls having a female family member who works/succeeds in engineering/IT is a strong factor to select the profession [Smith, Dengiz,2009], [Stanford, 2012], similarly to Role Models ability to change industry perception of women in the IT. Family influence is much stronger than teacher’s influence, even if that is also important [Dryburgh, 2000]</p> <p>Also Morgan [2012] and Smith & Dengiz [2009], [Gras-Velazquez et al, 2009], [Galpin, 2002] pointed to the family acceptance of IT/engineering career choice being an important element.</p> | <p>The family factor is particularly strong in cultures with traditional women role image</p> |

¹ Example can be article from Academic Job Fairs in Poland’s Metro from 7th November 2014 citing full-time opportunities offered to graduates in Signity (IT company) vs part-time in other companies [Metro, 2014]

Source – Own Analysis

Further the managerial progress is analyzed using factors above, social& organizational factors identified by Billimoria and Piderit [2007] and recent consulting research like Devillard et all [2012], Orr [2013]: g) social and self-perception of the women's ability to succeed, h) work-life choices, i) organizational factors, j) leadership skills and styles. This is presented in the table below:

Table 3 - Factors influencing managerial progress

| Factor | Influence | Comment |
|---|---|---------|
| Economic factors | | |
| (b) Support given to the individual from organization - Women more expensive to become managers /Barrier/ | This is already mentioned in Table 2 above, with particular fear of promoting women before they get babies, which in turn could mean wasted investment [Kottis, 1996] like finding replacement, potentially temporary. There is a significant body of argument [Credit Suisse Research Institute, 2012] that actually having best talent in the management, independent of gender [Sussmuth-Dyckhoff et al, 2012] is necessity in the age of global talent scarcity [Desvaux et al, 2007], [Barsh, Yee, 2012] and provides big economic benefits [Devillard et al, 2013]. | |
| Perception factors | | |
| (g) Social perception of women's ability to succeed /Barrier/ | The general picture of women in society is „submissive, dependent (...) less competent than men and unsuited for authority or leadership” [Geis, 1993 cited in Sanal, 2008] The successful public figures, which change such model are cited in research e.g. Davidson & Burke [2011] to prove changes in gender perception. | |
| (g) Social perception of women's ability to succeed - Roles stereotyping /Barrier/ | „The best man for this job is a man” [Maguire, Kleiner, 1993] assertion was for long a major barrier for women advancement. Stereotypes about women may result in perception of e.g. women unfit for management/ administration jobs [Sanal, 2008]. Change in perception of a manager's role from the „gamesman” - a self-focused, hypercompetitive and demanding blind obedience, to „paying attention to workforce” [Stanek, 1980] helped to turn attention to skills where women perform better [Orr, 2013] like: customer relationship fostering, promoting teamwork, developing talents and engagement. On the other hand boxing women as provider of „soft skills” marginalizes them in the management ranks [Hall-Taylor, 1997]. Also it may be observed that women candidates with appropriate education „became not visible” to employers [Kotti, 1996] who complain about lack of job candidates. There is a significant move to recognize that old managerial role stereotype is no longer valid, but there is still a tendency to prefer being managed by man rather than woman, by both sexes, independent of actual assessment of managerial capabilities [Wojciszke, 2002]. | |

| Factor | Influence | Comment |
|--|---|---------|
| (g) Social perception of women's ability to succeed - Role modeling / Barrier/ | Similarly to the IT role models, in the management role models act in two ways – to prove that women can do the job and give women evidence that such progress is possible [Maguire, Kleiner, 1993] Women „lack role models, networks and mentors” [Catalyst, 2003], but also women tend not to advocate their own success [Devillard et al, 2012], [Orr, 2013] thus even if successful are not visible as role models. Therefore promotion of such role models by Catalyst and likes is important. | |
| Work-life choices for women | | |
| (h) Work-life choices - Balancing work and family / Barrier/ | Practically all texts on women career touch upon issue of balancing work with having family. Even some research suggest that among successful women there is disproportionately big share of childless women [Desvaux et al, 2007]. Mostly because „anytime, anywhere” availability that requires sacrifices in family life [Devillard et al, 2013]. Interesting remark to the issue is shown by Morgan [2012] where ICT organizations talk „a lot about supporting women's family responsibilities (...) but little about men's role as fathers” as childcare is assumed to be primary women responsibility. | |
| (h) Work-life choices - Different career priorities / Barrier/ | There is a notion that women lives do not fit male career development theories [Bell, Nkomo, 1992], [O'Connor, 2001] and despite slow formal progress, women can get nonetheless job satisfaction and meaningful development. Barsh & Yee [2012] confirmed that women may opt out from promotion seeking other gratification like giving people purpose and interacting with them. | |
| Women readiness for management progression | | |

Source – Own Analysis

Conclusions

Women career in the IT can be defined in two critical dimensions:

1. vocational choice - women willingness and ability to enter IT career
2. and factors influencing women managerial progression, which also apply to the IT industry.

Based on the analysis of literature materials, author proposes a framework that analyses factors influencing women career in the IT sector alongside those two dimensions as follows:

1. Vocational IT choice: a) individual personality and organization fit for that personality, b) support given to the individual from organization, c) job availability, d) perceived employment attractiveness, e) ability to obtain required skills (education), f) suitability of the job offered to personal circumstances

2. Managerial career - the factors defined above and g) social and self-perception of the women's ability to succeed, h) work-life choices, i) organizational factors, j) leadership skills and styles.

The above defined factors form the framework of reference that can help in finding to what extent they are reflected in women's experience in real world. Also that could help to validate recommendations to increase women's IT participation proposed by numerous policy reports like e.g. ITU [Tandon et al, 2012].

The framework requires further consolidation to remove duplicated areas, which at the moment represent different viewpoint (e.g. industry vs. individual or industry vs. broader society) on the same issue. Such clarification should be really performed after the feedback from women in the IT industry, which can help clarify whether the framework's building blocks represent the same or different issue.

Proposed next research steps

The trends identified above from research and popular literature should be confronted with real women experience in the IT. Such research already commenced by the author and is now planned to be extended to larger women representation in Turkey, Sweden and Poland – as they represent three different economic and management patterns: Sweden – and equal opportunity country with women's IT participation close to 30% and high management participation, Turkey – country where western stereotypes will not expect significant female IT presence, but is on par with that of the US, and Poland – where women's share of IT jobs was historically very low, but seems to be rapidly changing. Author proposes qualitative research to reflect on perceptions and feelings of people in real management and professional roles in ICT organizations.

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