

Professional Women in ICT Careers in Kenya: What Successful ICT Journeys Entail.

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Creating an empowering environment for women to venture into ICT careers as professionals requires that families deconstruct gender stereotypes and roles in society. They need to support girls and women to make informed choices about their careers in ICT – careers that do not perpetuate so called ‘sex-appropriate roles’. Gender bias, sex role socialization and general discrimination against women are so entrenched in Kenyan society that individuals (men and women, including policy makers, leaders, and students) think discrimination of women in society in general and in work places in particular is ‘natural’.

Engendering the policy environment in important sectors like education and labour, and in workplaces and general socialization, is one of the strategies of shifting people’s thinking and reducing gender discrimination in the ICT sector, thereby making it more attractive to women who contemplate entering the sector as professionals.

This paper is one of the outputs based on a study that investigated how professional women in the information and communication technologies (ICT) sector in Kenya have accessed and are appropriating ICT. The study was carried out under Gender Research in Africa into ICTs for Empowerment (GRACE) Network, a 12-country research and capacity building project supported by the International Development Research Centre (IDRC).

The paper has been inspired by professional career women in ICTs in Nairobi Kenya who have ventured into the fast growing sector of information and communication technology (ICT), either as owners, CEOs or technical persons, working in various organizations and companies in Nairobi Kenya. They are well educated, trained and occupy high positions on their respective organizations/institutions and hold senior technical and management positions.

Based on their own experiences, these women can be role models to young Kenyan girls and youth who need to build their careers and be effective in their work places. They have indicated that gender stereotypes, gender bias, sex role socialization and discrimination against women in general need to be challenged and dismantled if equity in the work place is to be enhanced.

The Kenya government, and relevant ministries such as education, gender, youth, planning, finance and communication, need to put in place policy and legal frameworks that will empower young girls from an early age to change their mind-set about careers and employment and allow for freedom of choice. Without this only a minority of women will be in a position to draw upon their families, their motivation

and their determination to counter gender discrimination and participate in all sectors toward the development of the country.

This was an exploratory study that used participatory and interactive approaches that gave researchers and key informants the opportunity to dialogue and build consensus of issues of gender and ICT in Kenya. The study relied on key informants (purposively selected 12 professional women in ICT, either as owners, CEOs or technical persons). Qualitative techniques, capturing the respondents' 'voices', experiences an Open-ended, in-depth and interactive interview approach gave researchers and key informants the opportunity to dialogue and discuss

Focus group discussions and in-depth interviews were used to capture the respondents' 'voices', experiences and interpretations of their experiences. This was supplemented by a document analysis of existing literature and fact sheets about selected workplaces and ICT training institutions. Among the main phases of the study was to identify some key informants profiles (case studies) their career development as professional ICT women (Abagi, Sifuna and Omamo, 2006).

Enabling Environment for Success: Freedom of choice

As mentioned above, we targeted purposively selected career women who are either managing ICT firms or are providing technical services to clients of Internet Service Provider (ISP) company. In total we targeted 12 women, who we engaged in in-depth discussions. The discussions focused on several issues including: Enabling environment for success in ICT, education and training background, career choices, work characteristics and demands in ICT, opportunities for career development in ICT, barriers/challenges to women access to ICT and use of ICT for empowerment.

Discussions with the participants indicated that families and relationships with professional relatives had deep influence on these persons' career in general and pushed them into working in ICT in particular. It was found that parental attitudes towards these women were empowering from early age and were found to be influential in their education and career choices. Education was highly valued in all the families. The parents (both mothers and fathers) encouraged their daughters to work hard and excel in school, yet they did not push them towards any particular academic discipline. They were 'liberal' parents, who exposed their children to many things, provided an empowering environment where education and career development were highly valued. Coming from middle class families, all the participants were supported and given freedom to develop and pursue their own interest. All the key informants perceived their parents to be very supportive of their success. The confidence a CEO of ICT firm had about her parents represents the 'voices' of the other participants:

'My father encouraged us to work hard in order to succeed and did not dictate to us what to do. I and my sisters were given the freedom to choose and my father believed in risk taking as a way of succeeding in life. As I and my sisters grew up, we made our own decisions about our education and careers. Our father never interfered with our choices.' (Manager, 2005).

It is clear from our discussions with the participants that having a clear vision and passion to succeed from the early years of schooling are key factors that have propelled all the participants to succeed in their jobs. However, all the participants unanimously agreed that parental support at home and during school days is very critical. “Children, especially girls need to be supported and socialized properly by their parents in order to succeed in school and in their careers. I learned this from the way we were supported by my parents both father and mother and the support I got from my sisters and brothers” (CEO, ISP1, 2005).

Educations and Training

From our sample, ICT women have diverse educational and training backgrounds. With regard to education, practically all the women sampled had completed secondary education and some who had schooled in the previous education system, had done Higher School Certificate. All, except one key informant, are graduates of the local public universities. Although while at secondary school, some studied physics, chemistry, biology and mathematics in addition to other subjects of the secondary school, these were subjects that were shied away by girls. As one of them pointed out “... ”

‘What I noticed in our times, when I was in school, science was something that people really shied from because it was very terrifying and everybody would want to shy away from it. The science class was always smaller and it was something so difficult and a lot of us put it away in our mind...’ (CEO, 2005).

Girls are made to shy away from science and mathematics as a result of a combination of factors, which range from socio-cultural to school-based issues. Scio-cultural factors emanate from societal perceptions that science, mathematics and technology are supposed to be a male domain. This is carried into the school setting with curricula and teaching-learning materials as well as teachers, which purport that women have little or nothing to do with these subjects. Thus, girls generally perform poorly in Mathematics and Science subjects in national examinations (KNEC, 2003; 2004; 2005, Abagi, 2005)

From our discussions, fear of mathematics and sciences, which are important in the pursuit of technology, is basically as a result of negative attitudes instilled in girls during socialization at home and in school:

‘You know basically is just the assumption that mathematics is a hard subject. When you hear people talk about it, you are made to understand that it is hard. Going through it in campus, I do not see why it was difficult at "A" levels. I think the teacher made it difficult because she never used to express herself in a way that we would be able to understand her. That is why I think I hated it, but I have just come to learn otherwise.’ (Informant, 2005).

From our discussions it seems clear that ICT studies whether at the university or in the polytechnics only provide basic knowledge and skills which is not sufficient for

professional development. It is also pointed out that ICT courses are on the whole expensive and dominated by men. The cost as well their domination by male teachers tends to put off many female students. Women therefore constitute a very small fraction of students studying ICTs both in the polytechnics and the public universities. There seems to be a need to review ways of assisting women students to meet the high costs of ICT programmes and also to sensitize and train gender insensitive sensitive teachers to acquire women friendly teaching-learning approaches.

Career Choices

From our discussions with our informants it is apparent that about 80 per cent of the women interviewed who are in the ICT sector had not made it their initial career choice. However, they got joined through other people's influence most of whom were men, whom they consider as their mentors. These ranged from parents, relatives (brothers, uncles) to friends and instructors, who were in ICT related fields. A good number ended up in IT mostly because they had excelled in marketing field and got a job with a company dealing with marketing ICT hardware and software.

These professionals thus entered IT on the basis of their work experience some having studied IT, especially having trained and worked in the marketing sector of some large companies, and being challenged to enter the new and fast growing IT industry, as the following narratives of different career women illustrate:

'From the word go, I wanted to be a lawyer, but when I cleared my" A" levels, I had an elder brother who said, hey! You should join IT from there I decided to go into IT' (Informant 5, 2005).

'I definitely wanted to do it, because way back in high school, I really liked computer studies, but when I was in high school, I could not go to a computer class because I could not afford to pay for a computer course. But when I cleared high school, I got friends and told them about what I wanted to do and they gave me a scholarship. I studied IT for free. These were some people who came from Holland to Kenya because they wanted to work with the youth who couldn't afford to study IT in universities and private institutions. So they funded me with my friends and gave me chance so I was therefore among the people who got the opportunity to study IT.'(Web designer, 2005)

'When I first went to college in the US, my major was what is known as a general major. I took a computer course. I started computer for beginners' classes and the professor in the course became my mentor. This was because first, I enjoyed the course and second, I asked him, to which career does this course lead? He sat me down and he told me that I could be a systems' analyst; and gave me a whole range of careers explaining to me exactly what career path each could take, and I took an interest. So from there, I declared my major as management and information systems, which allowed me to mix both business and computer courses. So I did some computer programming coursework, I also took some management classes, as well as systems analysis

and design. With that kind of background, I could either decide that I want to be an engineer and get into the engineering field or get into the managing or the management part of IT.'(Manager, 2005).

Work Characteristics and Demands in ICT

Going against the odd in a male dominated sector, all our key informants were not employed in the 'traditional' support roles like secretarial work or officer management. They are high profile career women who either own or manage ICT firm. From our sample of key informants, in terms of work characteristics, they can generally be classified into two major categories, namely; managerial and technical work. In the managerial category include; managing directors/managers of Internet service providers and IT companies, which normally sell computers, computer accessories and providing computer maintenance services. In the technological/technical category include; systems administrators, applications systems support, systems managers, systems analysts, computer technicians and related fields.

Whether in the managerial or technical areas, their work is quite diverse and there is always the need to keep learning and having a practical orientation or a hands-on-experience. As managers, for example, the women not only have vast knowledge of business management, but also combine it with some technical skills as the following narratives of the two different CEOs talked to illustrate:

'Although, I do not have technical skills on everything as a result of my computer studies, I do not think there is anything I do not know. I think I am conversant with all the packages, from accounting packages, say word, excel, trouble shooting, printing and others, I have good knowledge which enables me to provide the necessary help or assistance. I work from experience because, I have been in it all through, I can install software, machine and even assemble, I am at an advantage because I did marketing. You see again, you cannot sell a product that you have no knowledge of. You really need to know what you are selling; for you to be able to sell it properly. So I think out of interest, I have found myself wanting to know and learn more on computers so as to be conversant with the latest products that are in the market, especially the latest technology that have been developed so as to keep myself on my toes'. (ICT business woman, 2005).

This seems to be equally the case with those working in technical areas. It is noted that while in training one might have specialized in either software or hardware, networking and the like, the realities of many places of work require that one has to have knowledge, skills on practically every aspect of IT. In many places such technicians work on shifts which demand that one is well rounded in most skills.

An involvement in a wide range of activities seems to be general norm of operation with those working in technical areas, whether in a private company as narrated above or in teaching institutions as the following illustrates:

'Now for a normal working day I will get here at around 7:30 am. Usually students stay around who are designing projects, they need to make use of the lab. The first

thing I do is to open the lab for them. From there I move to the servers to see if there are any errors. Since there are many servers; the main server, data server and others, I have to check if all are working, and also check on the Internet line to ensure it is working, and all other services that are required for the running of the system. From around 8:00 to 10:00 am, I mostly attend to students problems, some who cannot log on or have forgotten their passwords, some who are trying to save their work, which they have lost in one way or another; we have to restore it and give it back to them. Here we also have a lot of machines, many which break down, and there is no single day that passes without a problem in the lab. We therefore currently spend a lot of time fixing machines that are not working. Checking of errors on the servers continues through the afternoon. Come evening, we have evening classes which run from 5:00 to 7:15 pm. After all the students have logged off, I set my backup to run, and then I shut down everything.’ (Systems supporter, 2005).

IT [information and communication technologies] will be one of-if not the-major development issues of the coming decades. If women are not actively present at all levels, we will see new forms of marginalization that could undermine other advances made by women in the twentieth century. This implies a crucial challenge to women to take on these issues (cited in Hafkin and Taggart, 2001).

The women professionals involve in this study are determined to succeed; they informed us that they have to schedule their time very carefully. Generally, this means waking up early and going to bed late. As expected, such women have very little spare time for leisure, compared to their male colleagues in the same professions. This is because most of the professional women also perform household / family duties which most men do.

With such heavy working schedules, there is always the need to create some spare time for one to keep abreast with the fast changing technology in the ICT sector. For most of the women who offer technical support, the Internet becomes a source of self-based training. For some, since their companies do not provide opportunities for further training, due to the shortage of staff, the internet becomes quite handy. In some situations the technical skills are required to support staff in branches outside town. This may require having to travel to such centres or communicating by phone or e-mail. What makes continuous learning very critical is the volatile nature of ICTs.

The volatile nature of the technical field also includes changing demands of the clients, who either require updating of their programmes, want new websites and writing proposals for specific companies which often have to be of very high quality as to win acceptance. If the proposal is accepted, which at times takes time, subsequent phases include, developing templates and the website that requires studying it online. The design of a web often depends on how one structures ones work, which at times demands stretching ones time, such that one needs to work till late to avoid a lot of pressure, and will also depend on the number clients who come for consultation. There is also the issue of serious competitions that necessitate a need for quality work and products.

It is imperative to note that it is not only in the managers of ISP firms who are challenged by the nature of work they undertake to venture in the technical areas. The

technical personnel are also forced by the changing demands of ICT services to venture in management, which includes marketing. It is also important to point out at this stage that the need to diversify one's areas of knowledge and skills and therefore the demand for continuous self-training was not detested by managers and technicians. Although quite demanding in terms of time and resources, the majority of our respondents seemed to enjoy the idea of having to continue acquiring new skills and knowledge and producing different kinds of products. This in itself is quite challenging and exciting at the same time.

One important personal attribute for working in the ICT sector as a woman that was mentioned by both managers and technicians was that of determination. As in most careers if one is not determined, it was said, it is quite difficult to progress. But it is even more challenging in the ICT sector which is still male dominated. Determination has to be coupled with self-confidence, since the job requires keeping abreast with new developments and at the same time it is quite rewarding in material terms:

Empowerment of Women for Effectiveness in ICT

We have indicated above that women's access to ICTs and their progress in the sector is attributable to parental stands and support against gender stereotyping regarding their daughters' self motivation and the extent to which women themselves 'disregard' and/or shed-off the gendered perceptions and attitudes that are entrenched in Kenyan communities. A determining factor is the extent to which girls/women and boys/men change their perspectives and knowledge of the world and careers to counter the apparent 'norms' shaped by male domination. From an early age girls and boys need to be socialized and empowered to challenge the gendered myths, perceptions and stereotypes.

The starting point to level the playing field for women in the ICT sector in Kenya, like in other African countries, is to recognize and isolate the existing gender stereotypes regarding women at different levels: family, school, work place and even in the places of worship. This is because in their current form, such institutions are active vehicles that transmit, inculcate and perpetuate into men and women gendered perceptions, attitudes and behaviour. Without guided self motivation, backed by policy and legal frameworks in education, labour and workplaces, women will not be in a position to challenge the existing stereotyping and discrimination in the ICT environment in which they work.

The respondents in our study are bold, focused and committed women who are determined to excel in the ICT sector. Despite venturing into male dominated field, the challenges they face in and out of the sector as women have not dampened their spirit to succeed. One respondent summarized it all when talking about the challenges they face as women in ICT sector:

'I hear people talking about the ceiling, and when they are talking about the ceiling they are saying they believe there is something up there that stops you from moving. My belief is different. My belief is that if there is something above you that is stopping you from moving, you either decide to break it or avoid it. Actually if you can't break it you can't jump, so you either break it or you step away from it and you create another path' .(ISP CEO II, 2005).

In a country full of gendered expectations and perceptions, our respondents are striving to be good role models to the girls and young women who are still struggling and undecided on what kind of career they should pursue. The message they send to girls and young women is:

'To find their niche! Finding a niche in ICT is something girls should be passionate about? Are you passionate about building career in ICT? And there are very many aspects in ICT that you can actually be passionate about' (ISP CEO 1, 2005).

From an early age girls must be socialized by their family members, existing social and political institutions to take charge of their destiny by challenging the existing gender gaps and stereotypes. This is an empowering process which, in the final analysis, would make such girls informed, brave, ready and free to venture into careers of their choice based on personal interest or responsive mentoring / role-modelling.

It is our thesis that unless Kenya adopts far more people oriented education and development policies and strategies, it is likely not to be able to motivate and attract the majority of women to feel free to access and appropriate ICT for their own development and that of their communities.

According to our respondents, development entails empowering individuals (in this case women) to develop confidence in themselves over-time and to become informed and knowledgeable in society. According to them, empowerment means

'Being able to make informed decision in life and positioning oneself strategically to acquire and responsively apply knowledge and skills learned at home, in school, in society and in the world of work.' (Internet Support Provider CEO 1, 2005).

'A situation where a girl or woman is able to challenge gender biased stereotyped and discrimination, and pursue any career of choice without being forced by her parents, friends, the government or working environment' (Internet Support Provider CEO 2, 2005).

Empowerment is associated with acquisition of the right knowledge, skills and attitudes that would enhance one's chances of excelling in their careers and leading a healthy and comfortable life – being able to access basic needs and services of life, which includes food, shelter, education, health and clothing. Besides, it is related to being able to fight discrimination of any kind including that based on sex or gender.

Indeed, our respondents indicated that a development process that is empowering works towards inculcating the following characteristics (which they use as principles and guidelines in their work):

- Having a vision – a professional dream
- Being focused and following your dream
- Having right skills
- Being confident
- Commitment to work and to succeed
- Fighting for career space as a right
- Being dynamic
- Hard work
- Risk taking
- Seeing gender not as a barrier but as an opportunity
- Fighting for career space as a right

- Continuously seeking more knowledge and skills
- Not bogged down with thinking about marriage at the expense of building career
- Going for what one wants career-wise without being inhibited by gender stereotyping (i.e. challenges the existing gender stereotyping and discrimination in society in general and the ICT environments in particular).

With the above understanding of individual empowerment, our respondents were able to actualize social transformation in their thinking, practice and perceptions of the role of women in society in general and participation in ICT sector in particular. They were able to 'break' the gender stereotyping regarding the role of women and men in society and thus ventured into male dominated career. Indeed, they are able to make informed decisions in their careers and life in general. They are also efficient and effective in offering professional services in the ICT industry they are working in.

ICTs and female well being

Female well being in ICTs should aim at inculcating useful knowledge, skills and information. With these attributes one is able to access basic needs (food, shelter, education and health) and strategic needs like life skills, ability to independently make informed choices and decisions, ability to learn how to learn and the ability to survive and be active in the changing ICT world.

Further, given that women are often positioned differently from men within the labour market, it is critical that programmes and projects that aim to increase women's well being be designed (as appropriate) with the gendered specificities of the sector, Industry, community and/or country in mind.

In the context of ICTs and the services sector, and framed by the contingent elements above, gender sensitive programming aims to bridge the gendered digital divide by situating women and men's access to, and use of, ICTs within their everyday lived realities. Such strategies go beyond questions of male prejudice and preconceptions to the development of projects that identify and address the concrete barriers that women and men face. Further, gender sensitive development strategies acknowledge that the gendered digital divide partially reflects and can intensify inequalities within households, communities, labour markets and the larger economy.

From the experience and position of our respondents, education and socialization for empowerment is key to bridging gender gap in society in general and ICT sector in particular. Gender sensitive parenting, schooling and social/financial support enabled respondents to venture and excel in ICT sector as professionals. Experience and exposure of such women can be used as lessons to target and empower the majority of young girls and women in Kenya who are disadvantaged and are still 'caged' by the male dominated gender stereotypes. The starting point to achieving such an objective is to engender policies in child socialization, education, labour and working environment in both public and private sectors. Of course, policies in ICT sector have also to be women friendly.

Indeed, socializing the young (both boys and girls) to challenge the existing gender stereotypes and biases is the foundation of breaking the current stereotypes in careers and workplaces in Kenya.

Our key respondents reflected on their own experiences and all agreed that the foundation that was laid by their parents and the exposure to various social environments made them confident and able to succeed in the ICT sector. They see themselves as professionals, who can compete with other professionals – men or women anywhere in the world. The confidence, pride and vision these women have is what makes them effective in running and/or working in ICT.

The experience of our respondents means that if the rest of the people (men and women) in country, from an early age, are exposed to the environment and opportunities afforded to the respondents in this study – (gender sensitive parents, proper socialization to challenge gender stereotypes, financial advantaged upbringing and freedom to excel in areas of choice) - both women and men would be able to excel in any sector of the economy, ICT included.

In a nut-shell, a gender sensitive policy environment needs to target the elimination of gender discrimination against women in Kenya. Specifically relevant policy and legal frameworks need to be developed (and operationalized targeting the following

- Enhancing girls' participation in education at all levels, thus reducing (eliminating) the gender gap in education in terms of access, achievement and transition from one level to the other.
- Empowering girls and women to acquire appropriate knowledge and life skills that will assist them in making informed decisions about their education and careers.
- Ensuring that workplace policies and the environment in general do not indirectly or directly discriminate against women by perpetuating gender stereotyping.
- Raising awareness in existing educational, social and political institutions of the need for a process whereby girls and women learn to take charge of their destiny by challenging existing gender gaps and stereotypes.
- Enhancing access and equity in the appropriation and use of ICT for personal and the country's development. (Abagi et al 2006).

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