DIGITAL SKILLS USER CENTRED AND MARKET RESEARCH

Hargeisa, Somaliland

Contents

INTRODUCTION

HargaBits Academy is part of a larger educational franchise that exists throughout East and West Africa as well as Pakistan that was established in 1999 by Butterfly, since its inaugural the larger franchise trained approximately seven thousand youth who have been able to secure employment in both formal and informal sectors. While the Bits schools are part of a franchise that is founded on a core ICT curriculum, critical to the success of each school, for extension purpose and for sustainability, is the contextualization of the program to address the local conditions, market, and youth.

Since 2016 the HargaBits has been operating and since its life three batches have graduated from it with diverse specialties based on its set curriculum including graphic designing, motion graphics and web-development. The core objective of the HargaBits is to provide soft skills for those youth that are unable to continue their formal education due to economic circumstance and are not having skills for employment in the market. HargaBits Digital Design School aims to provide digital design training to youth to support to have access for employment opportunities through digital skills training.

HargaBits training program lasts one year. The first 6 months are half-days focused on ICT building blocks, creative thinking, and communication. The remainder of the year involves full days devoted to a specialization — web development, web design, graphic design, or motion design. Based on the concept of experiential learning, HargaBits training is highly participatory, engaging the students in projects to learn by doing. The specialization training also incorporates an internship which connects youth to possible employers.

PURPOSE OF THE RESEARCH:

OVERAL PURPOSE:

Realizing that the success of the program depends on making sure that the HargaBits curriculum is responsive to the market and teaches skills that are in demand, the main purpose of this research was:

- To ensure that the HargaBits curriculum is updated to address the training and support needs of the target youth while simultaneously providing skills that are in high demand by digital market and necessary for ICT entrepreneurs.

SPECIFIC PURPOSES:

Apart from the overall purpose of the research in conducted in Hargeisa City of Somaliland, following were its specific sub-purposes:

- Exploring the current market opportunities and the future trends of the digital skills sector in
- Hargeisa to be able to enhance the current Bit school provided digital skill. Including the subsectors, employers, and entrepreneurial opportunities to ensure the HargaBits curriculum addresses foreseeable market-driven demands.
- To identify and assess the ICT training that is currently available to youth – the skills being taught, the duration, the impact/effectiveness/purpose of the training – that may propel adjustments or improvements to the HargaBits curriculum.
- To establish the ICT/educational needs, mindset, and expectations of the target youth from disadvantaged backgrounds to ensure that the HargaBits academy and curriculum is developed to effectively train the youth for success.
- Identify innovative solutions to ensure equal access and inclusion of gender to quality education and skills development and suggest innovative learning technologies to help increase skills development.
- To identify the most important policies in place that might interfere with or are relevant to the Bits in Hargeisa.
- To map the trends of the future of work opportunities in the target areas.

CONTEXT REVIEW

GEOGRAPHY AND SOCIO-ECONOMY

Somaliland is a country where youth unemployment is more than 70 per cent. While a high number of students are enrolled in the higher academic institutions (i.e., colleges, TVET and university), and thousands have thus far graduated, unfortunately, few numbers of youth get jobs. This impact the youth who are discouraged by the reality in Somaliland and most of them go out of the country in search of better job opportunities elsewhere or commit violent crimes for their survival[1]. Hargeisa is the capital city of the country.

Hargeisa is the largest economic center of Somaliland. It sits on the Horn of Africa, fifty kilometers from Ethiopia, and 160 kilometers from the closest port in Berbera on the Gulf of Aden[2]. However, there is obvious economic growth within the country, and particularly, the capital, Hargeisa. As such, developments in the economy, but social livelihood in terms of social categories falls apart. Youth unemployment remains a persistent issue. Youth make up 70% of the total population with an unemployment rate of 65% according to the Ministry of Labor and Social Affairs (Molsa). Hargeisa, which is the country's biggest city, has many youths who are struggling to find jobs and remain unemployed. Thirty-five percent of employed youth work in

[1] National Internship Policy (NIP)

[2] Doing Business in Hargeisa 2012, Comparing regulation for domestic firms in Hargeisa and with 183 economies report Pp.2; A Co-publication of the World Bank and the International Finance Corporation; 3 Research paper; Youth Unemployment in Hargeisa: Causes and Consequences; April 2017, P.7

both public and private sectors of Somaliland. Most of the youth work for private companies, local, and International NGOs in Somaliland[3].

DIGITAL TECHNOLOGY EDUCATION AND LITERACY

Ensuring that everyone has the right skills for an increasingly digital and globalized world is essential to promote inclusive labor markets and to spur innovation, productivity and growth[1]. Based on the rapid rise and evolution of the Internet and digital media, the new notion of digital literacy partially overlaps with Internet literacy, ICT literacy, media literacy and information literacy. The digital economy is rapidly transforming the employment landscape across industries including financial services, health, entertainment, transportation and, of course, information and communication technologies (ICTs). Hence, digital literacy is nowadays considered a requirement for the workforce and a motivator simple to learn skill for employment opportunity.

Digital skill capabilities are usually considered to collection of skills, attitudes and knowledge required for a certain task while using digital tool or technology. However, the abilities to apply knowledge and use knowledge to complete tasks and solve problems with digital tools are defined as 'Digital Skills.'

In the context of Somali, particularly the Puntland state, there are no existing vocational skills of any kind regulating framework defining vocational skills, technical skills, and digital skills either in cognitive aspect or in practical. We focus here on digital skills that are cognitive skills that require the use of digital tools in purposeful activities and can be observed and assessed in the workplace when contextualized job roles or practical tasks.

RESEARCH APPROACH:

This research will be formative user centered qualitative market research that will gain an in depth understanding and information for better insights about in-demand digital market skills. The aim is to understand, from within, the subjective reality of the study participants. As such, it is an exploratory research methodology. It will use a variety of tools to understand and uncover insights at the nonuser and user levels.

However, different tools of qualitative research were utilized for data gathering including Semi structured interviews with key informant users, Focus Group Discussions with key informant nonusers and as well observational study (***see annex guiding tools***).

As such, the f the research went through the following four phases:

- *Phase 1 Discover*: Further refine the project plan for final, exploratory mapping, literation search and data gathering.
- *Phase 2 Define*: identifying user needs and developing initial insights to make sense of all the possibilities identified in the Discover phase. Which matters most? Which should we act on first?
- *Phase 3 Develop:* Key activities and objectives during the Develop phase are: doing affinity mapping for information and ideas refinement to get high fidelity insights • *Phase 4 Deliver:* where the resulting concepts are finalized and launched.

POPULATION

As this market research is user-centered which formative research is, employs qualitative user centered ethnographic research design, the population under study of this research falls under two extremes of users and non-users as follows:

- **Non-users –** any person that is Somali youth living in an IDPs settings with basic education and having no skills for employment opportunity aged between 18 – 25 at Hargeisa.
- **Users –** Any individual or entity that uses or works digital related business products or services.
- **Customers (as key users' segment)** – Individuals, entities, businesses, public and private institutions that utilize the services and products of digital market and skill etc.

SAMPLE SIZE AND SELECTION

Based on lack of reliable statistical figures to base the sample for this research, and at the same time the assignment is fully qualitative research method with the aim of to understand, from within, the subjective reality of the study participants; hence, bearing in mind that the general rule in qualitative research is that you continue to sample until you are not getting any new information or are no longer gaining new insights, and this will not be achieved through superficial knowledge about a large, representative sample of individuals, rather the aim is to reach people within the study area who can share their unique slice of reality, so that all slices together illustrate the range of variation within the study area.

This research will use qualitative sample technique of combination or Mixed Purposeful which allows triangulation, flexibility, and to meet multiple interests and needs based on the research purpose. As such, based on the population understudy, each category will be taken a purposeful sample of available sub-categories at the market.

User-Centered Design (UCD), commonly called Human-Centered Design (HCD), is a process and a set of techniques used to understand existing challenges to create innovative solutions for the mattering problems. These solutions could range from, but limited to, social issues, academics, products, services, environments, organizations, and methods of interaction etc.

To achieve in-search solutions for the problems, the UCD should be one that is inclusive and interactive, whilst always putting at the core the people for whom you are designing. Additionally, solutions could not be attained if problems and context is not fully understood.

In accordance with the above objectives, the tools utilized to collection data, of this empathizing stage of the market and user research, was mainly Semi-structured in-depth interviews with key businesses in the market and group discussions with non-user groups, particularly youth of marginalized community settings, that is, IDPs. And students who are currently enrolled and studying vocational training skills. Below table summarizes the diversity of selected interviewed stakeholders through SSI and FGD:

TABLE 1: SAMPLE LIST OF STAKEHOLDERS MET AND INTERVIEWED:

#	KEY INFORMANT STAKEHOLDERS INTERVIEWED	INTERVIEW TYPE
1	**COMPANIES**	
	Telesom Communication Company	Semi-structured, in-depth interview
	Som Cable Fiber Optic Internet Company	Semi-structured, in-depth interview
2	**ACADEMIC INSTITUTIONS**	
	Hargeisa Technical Institute	Semi-structured, in-depth interview
	Admas University, ICT department	Semi-structured, in-depth interview
	University of Hargeisa, ICT Department	Semi-structured, in-depth interview
3	**PUBLIC INSTITUTION (MINISTRIES)**	
	Ministry of Education and Science, Department of ICT	Semi-structured, in-depth interview
	Ministry of Planning and National Development, Department of ICT	Semi-structured, in-depth interview
	Ministry of Telecommunication and Technology, Department of Research, and Innovations	Semi-structured, in-depth interview
	Ministry of Information, Culture and Awareness,	
4	**INTERNATIONAL ORGANIZATION**	
	Danish Refugee Council	Semi-structured, in-depth interview
	Norwegian Refugee Council	Semi-structured, in-depth interview
5	**LOCAL ORGANIZATIONS**	
	Havoyoco	Semi-structured, in-depth interview
6	**DIGITAL BUSINESSES**	
	Somsite Innovate Venture	Semi-structured, in-depth interview
	Saami-online Market	Semi-structured, in-depth interview
	Color Zone Printing	Semi-structured, in-depth interview
	Kow Media Corporation	Semi-structured, in-depth interview
7	**MEDIA**	
	Somaliland National Television	Semi-structured, in-depth interview

	Radio Hargeisa	Semi-structured, in-depth interview
	Horn Cable Television	Semi-structured, in-depth interview
	Astaan Television	Semi-structured, in-depth interview
8	**YOUTH**	
	HargaBits Alumni (graduated students currently working)	Focus Group Discussion plus Semi structured, in-depth interview
	HargaBits Students	Focus Group Discussion
	Mohamed Moge, IDP	Focus Group Discussion
9	**ENTERPRISES**	
	Dhaweeye Taxi	Semi-structured, in-depth interview
10	OTHER BUSINESSES	
	Jaahuur Top design	Observation study
	Sagal Jet Printing	Observation study

ETHICS AND HUMAN SUBJECTS ISSUES:

Each participant will only be referred to by their first name (i.e., institution name will be mentioned as part of research stakeholder map list) and their identity (i.e., interviewee name within that institution and title) will not be traceable to their responses. We will not be having any of the audio transcribed during this study. Participants will be recruited voluntarily with their own consent to join an interview, focus group discussion and workshop.

There will be no sensitive issues to be asked that is against their own behavior. Individuals could voluntarily terminate participation and information provision at any time during activities, everyone has the right not to answer any question that he/she may not want to respond to.

All participants will be:

- Asked permission to record their voice during interviews for the purpose of documentation only.
- Provided the participant Consent Form and will have walked them through it as well will be read for them if they cannot read or write.
- Given time to review it and read it at their own pace and ask them to sign it when they feel comfortable.

There will be no children recruited as participants, all participants are mature, and youth aged between 18 – 25 years.

LIMITATIONS

There were several defies that were limitations to the data collection during the field activity. The major one was time, based on the user-centered research field works needs time bound that is sufficient to information recording and analysis, nevertheless, the field activity was only one round

phase. This has the challenge of impossibility to go again to the field to gain additional information as you may figure out a need for additional information from the user/non-user prospective.

There was also a challenge of getting target stakeholder to interview due to their availability. This challenge is not only limited to field activity, but it is a major limitation to research work generally. Even as such, the time limitation does not pose a challenge of information or data insufficiency.

RESEARCH PHASES AND ACTIVITIES

THE DISCOVER PHASE I

EMPATHEZING AND FIELD DATA GATHERING

To get a reliable solution for improving the HargaBits curriculum, an empathizing activity was undertaken. Engagement discussions which are more interactive and open were conducted. An interactive discussion technique was utilized known as brain-walk[3]. As such, two mini-group and two individual discussions were conducted. The two group discussions, one was with trainers, and the other one was with graduated students that are currently employed. The two individual interviews was made with two graduate students that have two different digital skills and are currently employed. The group discussions were held separately as well as individual interviews.

Taking into consideration the importance of gender issue, female participation in these situation immersion activities was ensured. However, for trainers there were no female participants because of that all trainers were male. The discussions brought about valuable information, as detailed in the analysis, findings, and Insights section of the component of the define and develop Phases 2 and 3, in terms of current challenges and opportunities about the HargaBits curriculum and training approach.

However, during the empathizing, the academy stakeholders were mapped, including users and non-users, a stakeholder's map table was drawn from this discussion of those direct stakeholders, in-direct stakeholders, and user-stakeholders *(see Annex 1).* However, stakeholder categories were limited only to those participants were familiar with and are available in Hargeisa. These include funders or international organizations, local private and public institutions, digital business, multi-media groups (TVs, printing design and publishing agencies, studios, digital branding etc.), TVET institutions, design firms, creative agencies, cooperates, ecommerce businesses and social marketing and promotion businesses.

[3] Is a dynamic, physical version of brain writing.

Figure 1 Discussion with HargaBits Trainers about the Curriculum

Following this activity, trainers journey maps *(see Figure 1)* were drawn from the discussions. Trainers' journey maps identified that pain points in which are challenges to training approach and desirability of the curriculum. Also, the student Journey Map was also drawn from these discussions from the entrance to graduation process.

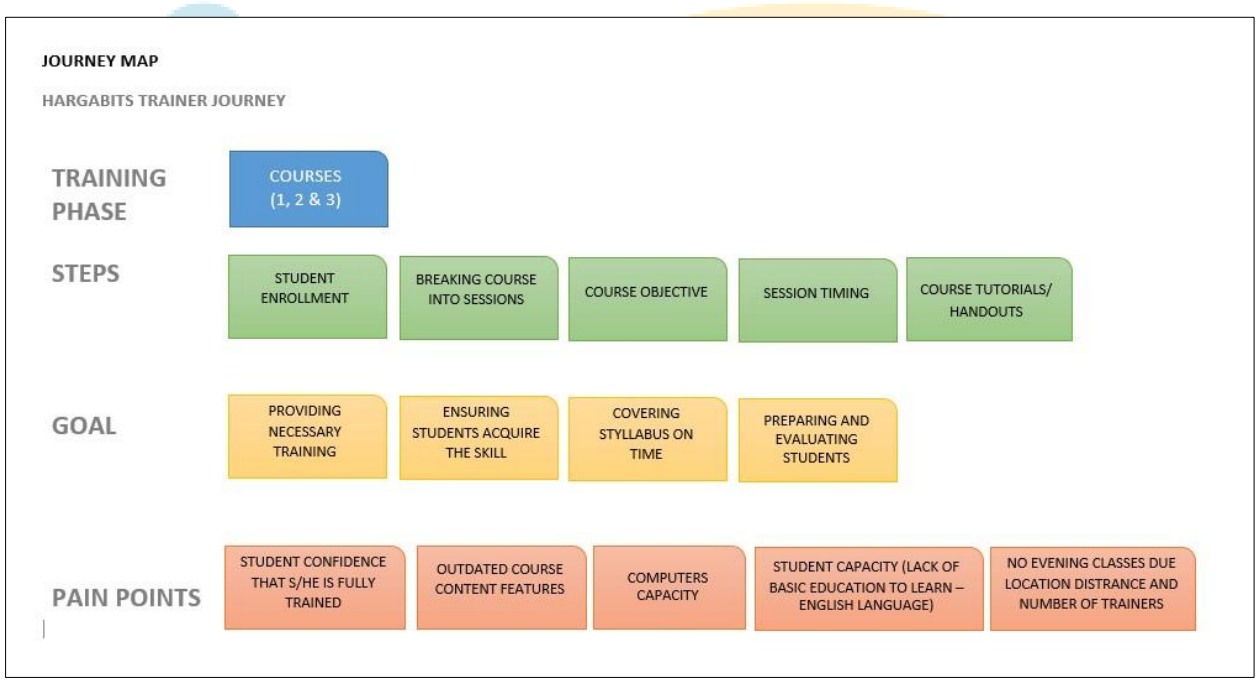

Figure 1 Trainers Journey Map

After the exploratory activities and field data collection *(see annex: Tools for data gathering)* were initiated. In accordance with sampling technique, principal participants, sampled from the mapped stakeholders of the research, were met, and interviewed via one-on-one and group discussion techniques, to gain in-depth information to generate rich insights about the subject matter, their needs, challenges, and views. Correspondingly, examining observations were made for better understanding and to visualize the data acquired. The Stakeholder map was

successful in reaching a sample of categorized stakeholders that purposefully satisfied the data collection.

THE DEFINE AND THE DEVELOP PHASES II AND III DATA ANALYSIS AND SYNTHESIS

After data collection, that data was organized, defined, and categorized to produce valuable insights and concrete that are shareable to the relevant stakeholders. Affinity mapping were utilized to synthesis, analysis to produce key findings and insights to come up the insights by following the below steps:

1. Data collected and organized in a logical and manageable manner.
2. Data collected was referred in accordance with the research objectives.
3. Data explored and uncovered findings – relative themes, patterns, and stories.
4. Identify Insights

FINDINGS AND INSIGHTS:

Findings are categories into three parts based on stakeholders' segments as HargaBits, the public sector and the private sector. The public sector will cover the needs, uses, perceptions and expectations of interviewed public institutions. While the private sector will encompass findings from international organizations, local organizations, TVET institutes, Higher Academics, Digital service businesses, Telecommunication companies, Media, and target youth audience.

1. DIGITAL TECHNOLOGY BUSINESSES MARKET: SUPPLY AND DEMAND

Digital technologies and utilization of it in Hargeisa are unlike any other city of Somaliland. Digital technology is almost part of everything businesses do either in banking and money services, advertising, communicating, administration, and documenting. That is why, as this research confirms, digital jobs and activity are becoming ever more important in traditionally non-digital areas of the economy – from retail to financial services and the public sector. There is a clear contribution that digital technology is making to employment in digital and traditional business and as well self-employment opportunities for youth, and to the economy across the country, where Hargeisa is its core.

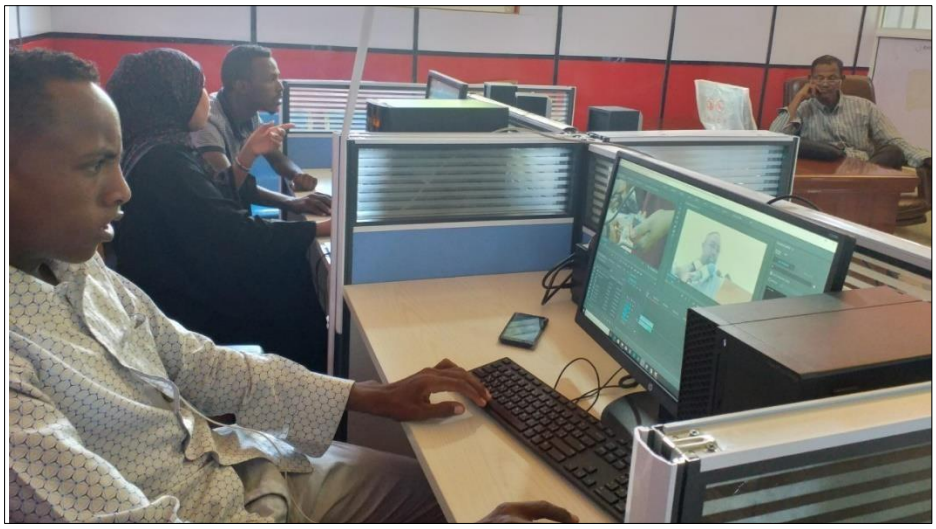

Figure 2 SLNTV Station for video editors

The opportunities are enormous if put effort the latent of market in-demand as there is a trend of shifting business economy a digital based driven one and community are having an enthusiasm for digital technology utilization. The journey starts with knowing what to offer and where it needs to get to, working with a highly supportive institutions that set the market platform like the government, technology companies and digital servicing businesses can create the optimum set of conditions for continued growth.

The Digital market in Hargeisa is diverse and growing in number; encompassing digital businesses that are providing competing range of similar services regardless the number each business offers. This specifies the kind of in-demand quality and competency digital workers should have based on the dynamic of market completion in service quality. Profiling these stakeholders as small, medium, or large depends on their size and the quantity of the services they offer in terms of bulk or stock and in retail wise. Telecommunication companies, Media, digital designers, printing and publishers, software and web developers are amongst those do employment opportunities. Seconded to these are creation individual business they provide these services to their clients.

However, there is an apparent trend of growth of digital technology utilization in the market which signifies higher in-demand of digital skill human resources both in the private and the public sector. The public sector is having the burden of shortfall of digital skill personnel than in the private sector. The positivity of this burden is that there is higher opportunity of employability for youth that have skills of digital designing and development of any. Divergent to this, there are factors that are puzzling to this demand in terms of balancing the supply. There is a saturating skill in the market that limits the demand of employability opportunity of those having these skills.

Additionally, businesses or companies that demand skilled people have financial constraints that limit the margin of human resource they could employ. Apart from their need basis, this defines market stakeholder's digital skill human resource criteria of preference, which is an individual equipped minimum three skills that could manage different needed digital tasks or even having one specialization that has the needed quality and competence to provide the digital task.

As such, there is a point of in the market that there is a short run of supply[4] of skillful digital human resource to fit a particular task of digital work, because of short hiring of digital skilled people. In addition, there is lack of investment opportunities that makes these skilled people create their own businesses of their own ideas. Poor digital work competency[5], quality and limited skills is a major causing factor of this matter.

2. CURRICULUM AND TRAINING RESOURCE:

The academy's curriculum consists of three courses. Each course provides the students with a toolbox full of knowledge, skills, and attitude to enter the job market of digital media and design. In course one, the getting connected, is about an introduction to the computer, internet, and design. Course two, the digital garage, is about exploration into the world of digital design and development and Course three, the media lab, is a specialized course in digital design and development. Course one takes about 6 weeks while course 2 and 3 takes a period of 18 weeks each.

However, the **curriculum content, sequence, timing, and level** is a major issue raised during discussions. Curriculum seems bit advanced compared to the level of target students of the academy. There are students who have never switched on a computer and are only vaguely aware of the internet and its uses and students that are having at least basics about this. With such circumstance, equalizing both students' level of awareness about computer and related functionalities as beginners of the course is essential. To this fact, course one of the curriculum timings is not complementing to provide the necessary skills for those students as well content and teaching material are not adequately applicable and well prepared. Language barriers exist, as part of the curriculum, English language course is not included to avoid this problem during learning in all the three courses' contents. This would be a barrier to the students getting the desired skillful quality and capacity while lacking such basics. As such, the trainers and students noted that there are outdated content features in some courses since the curriculum was not updated since it has been made.

[4] The law of diminishing marginal return defines this condition as: "at some point, adding an additional factor of production results in smaller increases in output. For example, a factory employs workers to manufacture its products, and, at some point, the company operates at an optimal level. With other production factors constant, adding additional workers beyond this optimal level will result in less efficient operations.

[5] A description of a required skill, attribute or behavior for a specific job used to define and measure an individual's effectiveness.

Insight: Poor English language makes students less confident to apply their acquired skills of digital designing and development.

Together with this, there is a time limitation based on the training theory sessions and practicality session, where burden lies on the skill practicing. This results from two dimensions, one from students, as there are students who do not have personal computers and internet accessibility. On the other dimension is the limitation due to available equipment. In some courses **computers' capacities** are not able to work for some software or may not be applicable based on their processing system. There is **a limited number of digital skill trainers** with the required skills. This shows the **lack of female trainers** and as well as that some sessions be provided in morning and afternoons, but not in the evenings.

Insight: Limited available number of professional digital design and development trainers builds the insufficiency of quality felt by the students

In addition to this, **student preparedness** as mentioned earlier is a challenge to the trainer. **English language** and **lack of having basic computer skills** are amongst the barrier skills of students lack when enrolled, this is mostly the Bits target students' level of education, however, this signifies a need to review and set the enrollment criteria while keeping fit the target students.

Insight: Content that is specially developed to cater for those with no experience whatsoever of computers and the internet and as well improving their English language.

Figure 2 Harga BitTrainer Explaining about their reflections.

On the other aspect, there is **a limitation of available courses**. This has the problem of not learning other skills that you can get jobs in other areas sometimes. Courses are limited to ones that are in-demand in one market but not even other market needs. Despite these number of issues, there is high desirability of students to learn additional skills to improve their digital skill careers. However, courses in the bits program curriculum are not providing opportunities with other audiences in the market particularly the need specific groups or individuals that are interested to improve a specific digital skill.

Insight: Delayed curriculum remodeling fades other interested audience in the market both in public and private sector and limited diversity of Bits program content to deliver

3. TRAINING SOFTWARES AND STUDY AID FOR STUDENTS

Limited **student materials** of hand-out and textbooks as well as firsthand training limitations either of computer accessibility of limited exercising time are concerning issues students raised making them worry, they are not having their expected subsidizing essentials to sufficiently learn. **Software is** mostly cracked as they are not purchased from the vendors, and they cannot be updated in terms of their content features. This also widens the gap of not adequately teaching all software content features as they are continually updated.

In addition to this, software for training needs to be categorized based on course and student level. Based on the student level inequality as beginners, software needs to be reformed and sorted as basic, intermediate, and advanced. This helps students to understand the courses better and get a solid foundation as they start the program.

4. INTERNSHIP AND EXISTING NATIONAL POLICIES

Graduated students noted that during their journey of learning, **skills workout** was incredibly challenging and **academy's location**, accessibility in terms of distance is a challenge to some students coming distant village based on transport circumstances. However, involvement period in terms of applying the skill is a challenging factor in the market, employers need minimum two years of **experience**, while the internship program provided by the academy is only 3 to 6 months' time. However, the internship is a fantastic opportunity for getting employed at that hosting institution but does not guarantee.

An insight: Hand-on practice that could help students acquire the technical skill of digital machine repairing and handling rather than digital designing and development skills.

The employment attainment issue is a critical one to both the students as well as trainers, as this is a major national problem. Youth that are digital designer and developers worry mostly about their profile and experience to get into the market; while trainers worry about how they could convince students that they are skillful and have the required quality to work this skill in the market. Internship and apprenticeship could manage these fears as now there is a national Internship Policy for Somaliland to

5. PREPAREDNESS GETTING INTO THE MARKET FOR EMPLOYMENT AND WORK PAYMENT

There are differences between girls and boys when it comes to **preparedness to go into the market**. There is barricade of market feting due to public perception about digital design and development skills for both. However, this hinders girls, particularly from successfully adopting into the market dynamic compared to boys who get employed earlier. This makes it hard for students to diffuse into the market even though the demand exists.

This discourages the youth about their skill and frightens them getting into the market. Contrary to this, payment is another discouraging factor. Employed students are mostly the lowest paid in many places, this is due to the perception that these skills are simple and easy tasks to oversee.

6. THE PARTNERS

There is **a discrepancy of available partnerships** for HargaBits. The academy is mostly partnered with private sector. Partnership is essential for market adaptation for graduating youth from academy. Limitation of partner institutions is also another pushing back factor for youth courage. This also helps support collaboration and talent strengthen.

7. YOUTH – UNSKILLED YOUTH

Youth perceptions related to skill learning are different. However, to their awareness of opportunities available in market there are skills saturated in the market like the

"photographer." They have hesitation about learning skills that are saturated in the market which have no opportunities for employment. Contrary to this, they belief skills, particularly digital skills, have potential for employment opportunities as there is a need for it in the market.

Figure 3 FGD with youth in IDP setting M Moge

Also, unskilled youth accessibility to information about the availability of digital skill school is poor. Even those aware of academy's availability have the perception that learning fees for these skills are expensive.

Figure 4 Girls in IDP looked at the sort cards to identify any digital skill that they are familiar with - this was helpful to identify their level of digital design awareness.

6. COMMENDED IN-DEMAND SKILLS IN THE MARKET

There are several skills that are demanded in the market as proposed by different stakeholders of the research during the interviews. These in-demand digital skills vary based on capacity of information and digital literacy of available, range of services offered, the quality and competence as well as the creativity preferred by the stakeholders in the market. As such, these proposed in-demand skills are categorized based on categories stakeholders and their concerned skills:

STAKEHOLDER CATEGORY	SUB-CATEGORY	SPECIFIC SKILL DESIRES
PRIVATE	Telecommunication Companies	• Cloud Management or system administration skill • Digital Electronic Technicians/Engineers (Internet Equipment) skill • Lead generation (digital customer generation) skill • Digital Content creation (i.e. customer education digital material) skill • Report writing skill. • Digital project/work planning skill
	Banks	• Network and System security o financial system and Messaging trafficking
	Media (Televisions and Radio)	• Digital skills and capacity building Trainings (software's for graphics designing trainings) • Basic IT skills • Broadcasting skills (Transmission) • Video production, Script writing and editing skills. • Graphic designing skills
	Graphic Designing and Printing	• Digital Machine Technical Operators (maintenance and repair) • Design and Creativity skills
	Digital Marketing businesses	• Digital marketing (i.e., Retailing skill) • Online digital customer care skill • User Design/experience skills • Computer skills (office package)
	International and Local Organizations	• Digital Content Creation and communication skills
PUBLIC	Government Institutions	• Capacity digital skill training/workshops including basic IT skills of Computer. Essentials, Word Processing, and IT Security. • Digital work project proposal writing • Data security administration skill

YOUTH	Unskilled Youth	• Graphic designing • Video graphic skills • Auto-mechanics • Digital retailing • Digital electronic repairing skills • Mobile coding • Digital Modeling skills
	Skilled youth (students of the Academy)	• Script writing skills • English Language – for digital skills • Sound Engineering skills • IT skills (i.e., livestreaming activities) • Business Proposal and planning skills • Mechanic skills • Digital ethics • Research skills • Drawing and sketching skills • Mobile Application[6] • Computer hardware skills

RESEARCH IMPLICATIONS

CONCLUSIONS

Despite the number of circumstances surrounding the improvement of the curriculum, however, there is market demand for the digital the academy offers and there is an opportunity for gaining a wider audience as reformed the curriculum. Below are some recommendations provided by the students and trainers to update and improved the trainings and the academy's curriculum:

RECOMMENDATIONS

Based on the research findings and insights from the interviews with the diverse stakeholders available, the research recommends the following points:

1. REFORMING THE CURRICULUM

Reforming the Academy curriculum in a strategic way is vitally essential for the sustainability and success of the Academy. There is a need of strategically redesign the curriculum in a way

[6] This course is part of curriculum content but not delivered, however, students noted that is helps programming students by combining it with the web development.

that I could accommodate to all levels and diverse set of its audience. The curriculum content should also be restructured in a way that fits beginners, intermediate and advanced levels of target audience interested in digital designing and development and as well students learning.

2. NEW DIGITAL SKILL COURSE

On basis of the different concern of skill demands for the different stakeholder following skill areas as trainings and as course skills could be a new update addition to the curriculum.

- Auto-mechanics

- Digital retailing
- Digital electronic repairing skills
- Mobile coding
- Digital Modeling skills (AutoCAD for product and architecture designing)
- Capacity digital skill training/workshops including basic IT skills of Computer Essentials, Word Processing, and IT Security.
- Digital work project proposal writing
- Data security administration skill
- Digital Content creation
- Report writing skill.
- Digital project/work planning skill

3. IT/COMPUTER CERTIFICATION PROGRAM:

IT Certification will help those in need to improve their skills and competencies necessary to use a computer and common computer applications. Content-wise, it could offer a range of units including Computer Essentials, Word Processing, and IT Security. Whether the individual is in school, university or in the workplace, this IT certification course could offers the basic IT literacy skills needed to have as a student or professional worker.

2. TRAINING CLASSES:

Based on the need of wide stakeholders, particularly in the public sector, that are either custom classes and/or private training classes to accommodate and address specific training topics of businesses or organizations, or train a group will help those audience in the market whom are having time constraints to learn digital skills or to improve their digital skill they are having. These trainings can occur at customized locations or at the academy's classroom center. These training courses will not offer multiple classes or course training but will limit it only to specific course training.

3. VOLUME DISCOUNT TRAINING PROGRAMS

There are worries relating to fees by some youth and other market stakeholders. To make flexible the affordability of gaining digital skill the academy could offer discounted training programs for individuals and groups to reduce the cost of learning.

4. CREATIVE CLOUD COURSES

A way to improve the curriculum quality is adding new ways of teaching digital skills in shorter time targeting different themes of digital designing available in the market. Creative Cloud is a group of applications and services from Adobe for creating design, marketing, and communications content. Comprehensive Creative Cloud training offers an introduction to multiple Creative Cloud tools. Classes could be those available either only for print, web, and video. These can be dividing into three ways:

- Creative cloud for print design
- Creative cloud for web design
- Creative cloud for video and effect

Each creative cloud course could be offered as a stone alone that could teach specific tools for these graphic designing. Related cloud course contents courses can be taught as single courses or can be taught as a package that can be taken one at a time.

5. EQUALIZER OR BOARDING SKILL COURSE

Equal Skills helps to remove the fear of using a computer for complete novices by using a simple, non-threatening approach to educating individuals in the basic skills of using a computer, email, and the Internet. It also helps improve to cross over English language related barriers particularly digital skill terminologies.

6. CAPSTONE PROJECTS FOR REAL PROBLEM SOLVING

Also called a *capstone experience*, *culminating project*, or *senior exhibition*, among many other terms, a **capstone project** is a multifaceted assignment that serves as a culminating academic and intellectual experience for students, typically during their final year of high school or middle school, or at the end of an academic program or learning-pathway experience. This should be a minimum of 3 months in addition to the internship period.

Strategically designing capstone projects will be helpful to encourage students to think critically, solve challenging problems, and develop skills such as oral communication, public speaking, research skills, teamwork, planning, self-sufficiency, or goal setting —i.e., skills that will help prepare them for modern careers.

ANNEX 1:

HARGABITS STAKEHOLDERS MAP:

DIRECT STAKEHOLDERS	INDIRECT STAKEHOLDERS	USER STAKEHOLDERS

1. Oxfam
2. World vision
3. NRC
4. SC
5. DRC
6. GIZ

TVET Institutes

- Hargeisa Technical institute
- GAVO technical institute
- **Universities:**
    a. Department of ICT
- **We Are Bits Network**
    a. All Bits Schools

Youth/Students:

- HALDOOR
- ASAL
- USWO
- SOYDO

Public Institutions:

- Agencies and Ministries (Department of IT, communications, and statistics)

Local Organization

- SONYO
- TAAKULO
- HAVOYOCO
- NAGAAD
- NAFIS NETWORK
- ASAL ORGANIZATION
- YOVENCO
- Y-PEER

Studios

- Ali Jibril Media Production
- Hawraar Media
- Afro Production
- Kow Media
- Real Films
- Real Video
-

Multi-media

- Victoria
- Jaahuur top design
- Ali Apollo
- Milgo Multimedia

Cooperates

- TELESOM
- SOMTEL
- PREMIER BANK
- TAKAFUL
- DAHABSHIIL
- DARASALAM BANK
- SOMCABLE
- DEERO GROUP
- OMINCO
- STAR GROUP
- SAHAL transport
- Airlines
- Transportation companies

Creative and Branding Agencies

- Joy light branding
- Limo Branding
- Butterfly Somaliland
- Brandkii
- Color Zone

Printing companies (all jet printing)

Web development

- Isom solutions
- SomSite
- Sahal Technology
- TABARAK

Tech-hubs

- Innovate Venture
- Harhub
- Wax Qabso
- Sareedo Innovation Hub

E-commerce companies

- Ziqqi online
- Saami Online
- Muradso
- Suuqsade
- Dilaal

Social Media Marketing and promotion

Design Firms

- Butterfly
- Think Inn
- IQ firm **TVs**
- ERYAL
- SLNTV
- Horn Cable
- Bulsho
- Star
- True
- Astaan
- SAHAN
- Horyaal 24
- SAAB
- Badda-cas

ANNEX 2: QUESTIONNAIRE GUIDE TOOL FOR INTERVIEWS AND FOCUS GROUP DISCUSSIONS:

I. TOOL FOR THE UN SKILLED YOUTH – Youth Needs Perspective (FGD)

1. Identify the Needs of youth (based on existing market opportunities)
    a. What are the existing gaps in employment?
    b. What are the existing gaps in the youth skills for employment?
    c. What training skills are you interested in? Why do you like it? Where can you learn? Are there places that offer these skills? What is the cost of learning these skills?
    d. Are there skills that you are interested in, but not offered in your locality? What are they? Why do you like it?
    e. Have you ever taken or tried to gain skill training? Why or why not? What challenges prevented you from acquiring?
    f. What would you do different other your formal education to learn skills for employment?
    g. What would you like to see for skills training? Solutions?
    h. Who would you like to conduct training skills? Why do you like it?
    i. What are your views of skill training needs with respect to gender – females and males (girls and boys)?
    j.

II. TOOL FOR THE BUSINESSES – Needs Review (Digital businesses and infrastructure businesses) - Interview.

1. What industrial services do you offer?
2. Where do you source skilled employees? Materials? Suppliers?
3. What are your needs related to digital skills or Vocational skills?
4. Does your services match market needs – digital skills or other Vocational skills? Why or why not?
5. Are all your functional services fully equipped with the required skillful labor?

III. TOOL FOR STUDENTS LEARNING SKILLS - Student Assessment

1. What program (digital skill or TVET) are you involved in?
2. Why did you choose this training skill course?
3. Do you like this skill training course?
4. What would you change about this training skills currently available?
5. Is the training meeting your expectations? Why or why not?
6. What education did you receive earlier than this skill training?
7. What would you change about the courses training?
8. Did you feel prepared for the market once you graduated? Why or why not?

IV. TOOL FOR ICT and TVET INSTITUTES - Instructional Assessment

1. What kind of training did you offer?
2. How long have you instruct the training courses?
3. What training profession did your trainers receive to instruct the courses?
4. What do you like about instruction?
5. What are the strengths of the institutions?
6. What are the gaps that need to be addressed?
7. Do you meet with Industry about content and curriculum?
8. What evidence do you have that Industry needs are being met?
9. How does the institution assess the success of the training courses?
10. How successful are your graduates in obtaining long term employment?
11. What barriers do you think exist to hinder continuous training of some skills to have adequate skillful employees in the market?
12. What methodologies do you use in your training course to build the knowledge and experience of your trainees/Students?

VI. TOOL FOR GOVERNMENT INSTITUTIONS

1. What are the existing gaps in the TVET sector – digital and other skills?
2. Is there a national standard for TVET? If not, what work is being done to develop national standards? Who is responsible?
3. What are your measures for assessing the effectiveness of vocational schools?
4. Do you engage Industry on the effectiveness of vocational schools?
5. What role can the market play in vocational education?
6. How do you see the market participating in the Government's initiative in creating employment opportunities?
7. Who needs to lead the reform of the vocational education or training sector? VII. TOOL FOR WORKERS/EMPLOYEES:

1. How long have you been working here?
2. How were you recruited?
3. Where were you trained before recruitment? What is your level of qualification?
4. Do you feel confident to conduct your job?
5. Are there skills you need but you lack? Which specific skills?
6. Do you benefit from the training skills you learnt from the Academy?

VIII. TOOL FOR INTERNTIONAL ORGANIZATIONS/UN AGENCIES

1. What is the role played by your institution? What are the activities that you do in the TVET sector?
2. Does your institution have plans for TVET and the labor market?
3. What are the strengths and weaknesses of the currently applied TVET system?

4. How do you plan to change the Community perception in TVET?
5. How appropriate are TVET programs for the labor market?
6. What are the economic, geographic, and social factors your organization wants to impact on TVET programs?
7. What are the ways of upgrading the situation of TVET?
8. What are the suggestions that you see appropriate to improve the performance of TVET schools and centers?
9. How can we increase community awareness of the need for and importance of upgrading the TVET sector professionally and organizationally?
10. How to improve the quality of graduates from TVET schools and centers?
11. What are the mechanisms to be followed to guide the technical and financial support for TVET sector?
12. Do you think that the enrollment in TVET centers of after primary school is appropriate? Explain that?

ANNEX 3: INFORMED CONSENT LETTER

RESEARCH DESCRIPTION: As part of the Work in Progress initiative funded by the Dutch Ministry of Foreign Affairs, Butterfly Works and Shaqodoon co-founded HargaBits digital design school in Hargeisa, Somaliland in 2016. The primary objective of the academy is to provide youth from disadvantaged backgrounds with knowledge in graphic designs, motion graphics, photography, web design, ICT skills, multimedia, and entrepreneurship to improve their opportunities for employment and/or self-employment. To further prepare youth for the workplace, the training also includes life skills and emphasizes personal confidence, communication, and self-esteem.

Shaqodoon is conducting User Centered Market Research for HargaBits to make sure that the academy curriculum is responsive to the market and teaches skills that are in demand, while also being supportive and realistic in addressing the needs and experiences of the disadvantaged youth for whom it is designed. This session should take you no more than 1 to 2 hours (30 to 60 minutes)

CONFIDENTIALITY: All the data collected will be anonymous. Your identity will be protected to the extent permitted by law, including the Freedom of Information Act. Members from Shaqodoon, HargaBits Academy and other appropriate affiliated institutions may review the records of this study. The data will be used by Shaqodoon and HargaBits and their core management team to create in demand digital and TVET skills benchmarks for youth employment opportunities. The data will not be associated with any individual. All the time, demographic data, and user and non-user experience and satisfaction data will be anonymous. All the data will only be identified and linked together by an assigned code or tag and will not be linked back to an individual in any way.

You are free to withdraw from the study at any time during the experiment. In total, we expect to have approximately 106 subjects to participate in this research.

There are no risks involved in participating in this study, nor are there any immediate benefits. The long-term benefits of this study should be improved voting systems.

"I have heard and/or read the above description of this research project. I have also met and spoken to the research consultant or Shaqodoon researcher, who answered any questions I had about this project. I acknowledge and agree to participate in this research, and I understand that I may withdraw at any time. I also agree that an audio record or pictures could be taken from me for report writing purpose only."

Participant Name: _____ Signature: _____

Researcher/Consultant: _____ Date:

_____