

**BUSINESS PLAN NGO: DIGITAL COMPETENCES SCHOOL FOR
UNDERPRIVILEGED YOUTH IN COLOMBIA**

Adapting the European Commission model DIGITCOMP to the Colombian context

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2015-2016

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GLOSARY:

NGO= Non-Governmental Organization

ICT= Information and Communication Technologies

PEST =Political, Economic, Social and Technological

DIGITCOMP= Digital Competences model created for the European Commission

MSMEs =Micro Small and Medium businesses

MINTIC = Ministry of Information and Communication Technologies

MEN = Ministry of National Education

SENA= Servicio Nacional de Aprendizaje

“To a nation looking for peace and social reconciliation”

1. Summary

English: The following business plan presents a NGO that develops digital competence in Colombian underprivileged youth. Its objective is to increase the use of ICT for working and entrepreneur doing both: providing free lessons to youth and delivering digital outsourcing services to companies. To develop a suitable high-quality digital competence model and a sustainable business plan the inputs considered were: 1) The literature review: contains a PEST analysis to adjust the European DIGITCOMP model to the Colombian context, and the analysis of the Sesame Workshop business case as a success reference of an educative NGO. 2) The competitive analysis: evaluates the opportunities and threats of the outsourcing services industry where the NGO acquires financial resources and the weaknesses and strengths of the institution in comparison with others. 3) In-Depth interviews: examines the thoughts, perspectives, and knowledge of the owners of MSMEs regarding digital competence and the use of ICT. The outputs of the analysis are; the adapted version of DIGITCOMP presented in the product section of the marketing policy; the formulation of the development strategy for the NGO; and the policies for its implementation.

Key words: Digital Literacy, Social Innovation, Digital Talent, Colombia

Português: O plano de negócios apresenta uma ONG que desenvolve a competência digital em jovens carentes da Colômbia. Seu objectivo é aumentar o uso das TIC para trabalhar: com o fornecimento de aulas gratuitas, e prestação de serviços de outsourcing digitais. Para desenvolver um modelo de competências adequado de alta qualidade e um plano de negócios sustentável as entradas consideradas foram: 1) A revisão da literatura: contém uma análise PEST para ajustar o modelo europeu DIGITCOMP ao contexto colombiano e análise o *Sesame Workshop* como referência o sucesso de uma ONG educativa. 2) A análise da concorrência: avalia as oportunidades e ameaças da indústria de serviços de outsourcing, onde a ONG adquire recursos financeiros e os pontos fracos e fortes da instituição, em comparação com os outros. 3) Entrevistas em profundidade: examina os pensamentos, perspectivas e conhecimento dos proprietários de MPMEs concernentes à competência digital e a utilização das TIC. Os resultados do análise são; a versão adaptada do DIGITCOMP apresentado na seção produto da política de marketing; a formulação da estratégia de desenvolvimento para a ONG; e as políticas para a sua implementação.

Palavras-chave: Alfabetização Digital, Inovação Social, Talento Digital, Colômbia

2. Executive summary

According to The Global Competitiveness report 2014-2015, Colombia has an efficiency-driven economy which need to improve its production processes taking advantage of the existing technology. However, by 2011 only 7% of the MSMEs, were connected to the internet because the owners though ICT were unnecessary and expensive (MINTIC, 2011). Eight years after the creation of the Vive Digital plan leaded for the MINTIC, 50% of the MSMEs have access to the internet but its owners are not aware about ICT importance and do not have digital competence. To increase the use of ICT in Colombia it is a key to reduce the two highest barriers people have for using digital gadgets and tools: the lack of education and the lack of financial resources, reason why this business plan develops:

1) A Digital Competence Model which is based in the European DIGITCOMP model and is adapted to Colombia according to the findings in the literature review and the market analysis see the result in **figure 1**. The core motives that transform the competences are:

- While in Europe the priorities to the 2020 are the consolidation of the union, to compete with economic leaders and the innovation, in Colombia it is more important to create social-oriented values that reduce inequity, poorness and crime using existing technology
- DIGCOMP Colombia is design only for working and entrepreneur
- 96% of the Colombian companies are MSMEs and 71% operate in the commercial and services sector. DIGITCOMP Colombia develops competences to succeed in that market
- The target population of DIGITCOMP Colombia probably have never used a computer

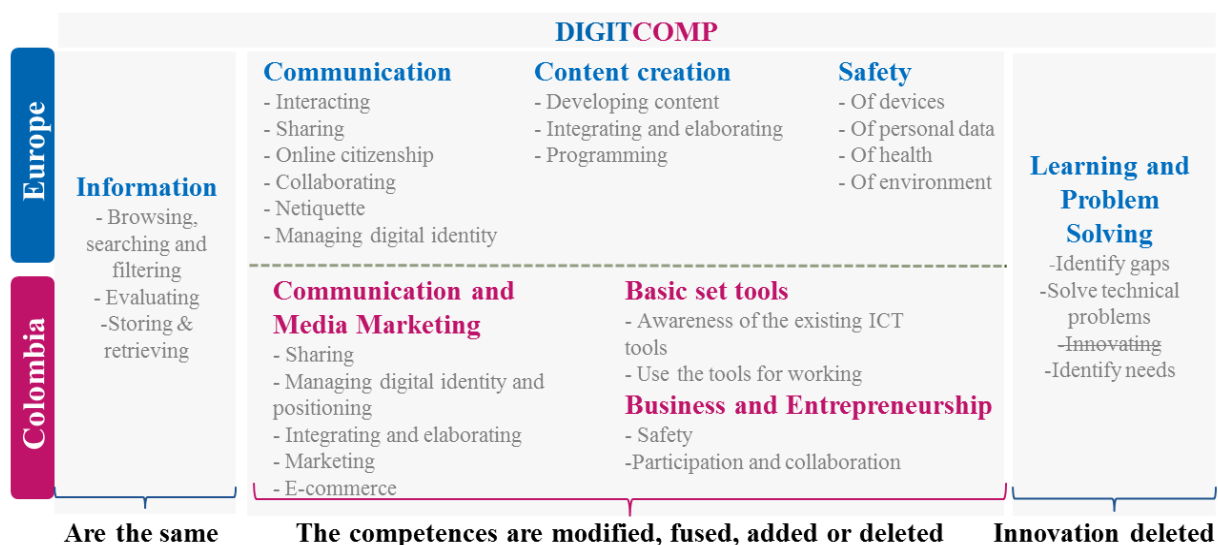


Figure 1: Summary of competences in DIGITCOMP Europe (upper section) and DIGITCOMP Colombia (down section)

2) An Innovative Business Model that allows MSMEs to obtain ICT benefits without using capital of their current profit which is possible due to the financing cycle of the institution.

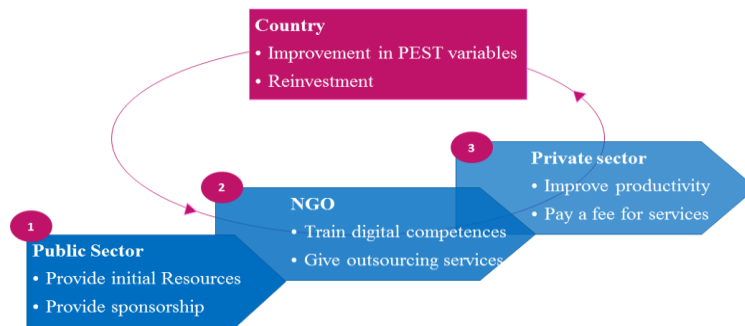


Figure 2: NGO Financing cycle

The (1) implementation phase will be assisted for the public sector. According to the articles 103 and 355 of the Colombian Constitution of 1991 the state must support the NGOs and can provide resources to programs aligned with national aims. Since education and digital literacy are pillars of the National Development plan, the NGO has the constitutional right to obtain public funds. There are three channels to obtain public resources: formal petitions referencing the constitution, the contests to finance startups, and current social programs.

The (2)(3) sustainability phase of the financing cycle is founded in the findings of Bruhn, Karlan, & Schoar, 2009 who affirm that consulting services increases MSMEs profits. The percentage of return to capital can vary from 5% to 33% depending on the qualification of the consultants. During one year the NGO will provide digital consulting services to the MSMEs, and after the profits increases a fee proportional with the new incomes will be charged.

The institute has a hybrid competitive advantage because: it offers better prices for consulting projects due to its low cost structure, and it provides a differentiated service grounded in the social innovation, the European brand origin of the digital competence model and the “people/customer-centered mindset”. Moreover, the digital outsourcing services is an unattended market, there are 1.600.000 MSMEs and only 1.402 companies offering KPO services mostly to big companies in engineering and legal services.

The implementation phase will follow a collaborative resource sharing strategy which is structured for the mission, vision and values of the NGO, and applied through the policies of; Marketing, defining the 8Ps; Organization, creating a committee to manage the complexity of the strategy; ICT, protecting data and managing IT resources; and Financial, proving savings in training programs of potential partners, MINTIC and MEN, of 74% and 99% respectively.

3. Promotion

To be sustainable in the long- term this NGO needs two kind of promoters. The first ones are the institutions in the public sector that could increase its social impact for the nature of their functions, such as: MINTIC, MEN, The Social Prosperity Administrative Department and Bancóldex. Their sponsorship is key to legitimize the NGO in the society and to obtain the initial resources to start operating. The second ones are the companies in the private sector which are expected to provide financial resources to the NGO in return of services. The portfolio of initial services are divided in three lines: Social Marketing Campaigns, offered to the big national and international corporations to increase their legitimacy in the country; Digital Outsourcing Services, offered to the MSMEs to increase their ICT use; and Human Resources Services, offered to all the companies interested in hiring digital talent.

3.1 Public Promoting Entities

MINTIC: According to the Ley 1341 it is the entity in charge of design, adopt and promote the policies, plans, programs and projects of the ICT sector. They are in charge of increasing and facilitating the access to the ICT and its benefits to all the Colombians (MINTIC, 2016). In 2008 they created a plan called Vive Digital to build a digital ecosystem and increase the access and use of internet in the country, one of the working lines to achieve that aim is to train people in the use of technology (MINTIC, 2011).

Supporting this NGO the MINTIC would rise the impact of the plan Vive Digital due to: The sustainability of the training program will be sustain in the long-term for the private sector resources; the digital competences for the Colombian youth proposed in this dissertation will increase the number of digital entrepreneurship, increase the number of youth people skilled to apply digital features to MSEs business strategies and increase the use of internet.

MEN: Was created for the ley 7a de Agosto 25 de 1886 and has the mission to train humans in ethic values, proficient at work and respectful with others through a good quality education. They aim to generate educative opportunities that allow the citizens to progress and as a result to close equity gaps. Its functions are regulated for the Artículo 2/ Decreto 5012 del 28 de diciembre de 2009 (MEN, 2016) which gives it the power to supervise all the activities in the educative sector, support, manage regulate, sanction and evaluate its quality.

Supporting this NGO the MEN would increase the probabilities to reduce equity gaps through education due to the digital literacy for the underprivileged youth will allow them to break the

poorness cycle. Moreover, the youth in Colombia do not use to study majors related with IT because they are not well informed about it, if they are trained for free in digital competences they will be aware of the benefits of studying majors related with technology.

Social Prosperity Administrative Department: Its principal challenge is progress in overcoming poverty, the inclusion of the vulnerable population and victims of violence, and the consolidation of the territories with the presence of prosperity and reconciliation initiatives (Prosperidad Social, 2016). The NGO can be benefit and at the same time collaborate to achieve the aims of the entrepreneurship program, youth in Action program and the Producing for my future program implemented for the social prosperity.

Bancóldex: Institution subscribed to the Ministry of commerce, Industry and Tourism in charge of grant to the MSMEs credits with low interest rates, business advisement and free training. They are in charge of managing the Productive Transformation Program (PTP) which looks to develop the productiveness and competitiveness of the country strengthen the companies, one of the working lines to achieve it is to develop international competitive competences in the human capital (Programa de Transformación Productiva, 2016). The NGO will help the institution to achieve its goal related to: train competences in human capital, give support to the MSMEs and improve the international competitiveness of the country.

3.2 Private promoting entities

Big national and international corporations: Social acceptance is a key external factor which cause a high impact in the performance and the profitability of the enterprises. To assure a good reputation companies are implementing social marketing in their strategies supporting social causes to legitimize their brand in their clients mind. The NGO has a humanitarian purpose and the aim to reduce the well-known problem of the cycle of poorness, offering the opportunity to big companies to support a cause legitimate for at least 80% of the population who are facing the poorness condition.

MSMEs: This NGO will provide to the MSMEs digital outsourcing services to develop their digital capacity, increase their sells and net profits paying a cheap fee as a donation to the NGO.

The NGO is a digital talent provider for the private sector and an educative institution which support the educative goals of the country.

4. Literature review

The aim of the literature review is to present: the theoretical base of key concepts, the adaptation process of the product (Digital Competences Model) and the main features of the business (NGO). It is divided in three sections. The first one defines the concepts that the reader must understand in order to comprehend the digital competences model proposed in this paper. The second one is the analysis to adapt the digital competences model created in Europe to be applied in Colombia explaining: the benefits to achieve in the PEST contexts with the use of ICT, the current situation of Europe and Colombia in the PEST variables and how the differences between both transform the definition of each digital competence included in the model. The third section presents the Sesame workshop business case which is a reference for the business model of the implementation of the NGO.

4.1 Key concepts

The constant disruption of the technology and its impacts in the socioeconomic features is instigating the fourth industrial revolution. It has as a consequence new communication environments which requires new skills (Martín, 2003) and a new literacy process to guarantee the inclusion of everyone in the digitalized world. For better understanding of this paper it is important to distinguish the conceptual difference between digital competence, digital literacy and multiliteracy and comprehend its role in the implementation of the NGO.

In the literature it is possible to find varied definitions for digital competence which change according to the time and the evolution of technology, see **ANNEX 1. Digital Competences Timeline**. Nowadays, important organizations like the World Bank, ODCE and UNESCO has done their own version, however there is not a global agreement about it. According to the European Commission, 2012 the definition of digital competence use to be adapted depending on the use it is going to have, but it must be structured having into account: the learning domains, tools, competences areas, models and purpose. In this paper, Digital Competence: is a set of knowledge, skills and attitudes (Learning domains) suitable when using digital tools and gadgets (Tools), performing tasks and creating strategies (competences areas) effectively, creatively and ethically (models) to work in digital environments or be a digital entrepreneur (purpose) (European Commission, 2012).

Digital Literacy is a wide concept which lacks of consensus. Divers authors have tried to define it as a single conception but others argue it is not possible to delineate it without

including other related notions, see **ANNEX 2. Digital Literacy definitions**. In this paper, Digital Literacy: is the process of teaching the youth the meanings of the digital codes, allowing them to understand digital information, communicate through ICT environments and achieve bottom-line business purposes (Area Moreira, Gros Salvat, & Marzal García-Quismondo, 2008).

Multiliteracy integrates the information, the person and the society (Martín, 2003). Digital literacy is not an independent process, it must include *Information literacy*, to find, organize and process information; *Media literacy*, to interpret, use and create media for one's own benefit and participation; *ICT literacy*, technical knowledge and usage of computers and software applications; and *Internet Literacy*, tool related knowledge and skills, successfully function in the networked media environment (European Commission, 2011). The attitudes, knowledge and values required in the information, media, ICT and internet literacies are the DNA of the digital competences.

In order to develop digital competences in the students of the NGO and after an extensive assessment of different competences models, see **ANNEX 3. List of reviewed digital competences models**, the best option for the digital literacy process in Colombia is the DIGCOMP model built for the European commission, 2013. The model is suitable for this business plan due to: it has into account the overlap existing between the information, media, ICT and internet literacies; the proposal serves as a meta-framework for curricula and certifications; it has a strong theoretical basis; it was validated for wide-ranging experts; and it is flexible enough to be adapted.

DIGCOMP has three main reports. The first one, presents the conceptual digital competences model for the 21st century in Europe based in an extend literature review (European Commission, 2011). The second one presents a digital framework based in other digital literacy initiatives (European Commission, 2012). The third one presents the final version of the digital competences model, its definitions, levels, components and examples of applications (European Commission, 2013).

The studies could be review for deeper understanding of the methodology used in the adaptation process and the structure of the resulting digital model proposed in this dissertation. DIGCOMP was built clustering conceptual building blocks, see **ANNEX 4. Original DIGCOMP building blocks**. Since the literature review and the market analysis introduced new concepts those building blocks are modified to be applied in the Colombian

environment. As a result the digital competences proposed in DIGCOMP for the European environment, see **ANNEX 5. DIGITCOMP Europe**, are renamed and redefined.

4.2 Model adaptation

Human competences are strongly influenced for its environment, depending on the context and the society requirements the people must develop characteristics which allow them to live in it. Nowadays with the revolution in ICT a new literacy process must be done integrating digitalization of information and communication with the people skills and society requirements.

The DIGCOMP model was made to develop digital competences in the European context. To assure the effectiveness of the digital literacy process in Colombia it is important to perform the adjustment ICT, person, context performing a comparative analysis between the common environment factors which surround both states industries, such as Politics, Economics, Society and Technology (PEST), understand the differences and adapt the current model to the Colombian context and industry needs.

4.2.1 Political analysis

“A good government implicates two things: Firstly, loyalty to the objective of the government which is the happiness of the citizens; secondly, the knowledge of the best routes to reach the objective.” – James Madison, The federalist papers, No.62

The sentence said for Madison introduces two main concepts important for the political breakdown. The second part of the sentence *“The knowledge of the best routes to reach the objective”* affirms the governments must create a set of strategies, plans and actions to reach objectives for the well-ness of the citizens, the resulting plans are defined as Policies. The first part of the sentence *“loyalty to the objective of the government which is the happiness of the citizens”* emphasizes that the actions of the governors must be based on individual preferences agreed by a collective decision-making process, this process is defined as Politics (Eckardt, 2014). Paraphrasing, a good government elaborate good politics executed for good policies. Digital literacy is a topic which must be contained in the governmental plans during the 4th industrial revolution, to assure the competitiveness of the human talent of the country and their consume of digital information (Martín, 2003), the consecution of the social and economic advantages mentioned later in this document and the democratization of public decisions.

Case studies has shown the benefits win-win of the governmental and private sector alliances for the technological development, for instance: The smart city project in Shanghai is been easy to execute due to the flexible public policies in technology, governance and infrastructure; The Japanese firms and IBM have developed alliances with local governments to accelerate the digitalization process; and the smart city of INTERREG is also using governmental partners to implement e-services in the North Sea region (Gil & Tian-Cheng, 2015). This projects are improving quality of life and as a result the happiness of the citizens and legitimization of the government.

The European Union was created in 1950; nowadays it is composed for 28 independent countries which share sovereignty. Their individual power is delegated in common institutions created to take decisions democratically and collectively. The most representative ones are: The European parliament, which approves the legislation, exorcises de democracy and manage the budget; The European counsel, which makes conclusions about the priorities for the development of the European Union; and the European commission, which propose legislation, policies and action programs and is the responsible to execute the decisions of the parliament and the counsel (European Commission , 2013).

Regarding ICT regulation each country has its own policies, however the goal of the Council is to harmonize the digital features of the state members, create a digital single market and a common legal framework for the union. It is evidenced with the creation of the Europe Action Plan 2002 as part of the Lisbon Strategy; the Digital Single Market of 2011, The Connected Continent regulation, the General Data Protection Regulation and the Digital agenda 2020.

Colombia is a sovereign country with three main powers: Judicial, represented for the magistrates who must assure the justice to the society according to the constitution and laws; Legislative, represented for the senators who approve the laws and Executive, represented for the president who manage the country and elaborate the laws (Corte Constitucional Republica de Colombia, 2010).

Regarding ICT regulation, the presidents who have been in power have built regulation for a proper management of the technology; one of them is Law 1341 of 2009 which renovates the Ministry of Information and Communication Technologies to massif and guaranty the use of ICT. Other public institutions have created policies, plans and programs to accomplish that aim, see **ANNEX 6. Governmental laws, policies, plans and programs to leverage ICT development in Colombia**, where is evidenced that the majority of the digital initiatives

since 1994 are focused in assuring the access to digital gadgets and tools constructing adequate infrastructure and giving digital devices to people and institutions.

Due to the differences in the political organization and the economic development between Colombia and the European Union the priorities when designing digital public initiatives are different: In Europe the priority is to integrate the digital market, harmonize the legal framework of all the state members and consolidate the union, while in Colombia the priority is to invest in infrastructure to increase the access to the digital tools and devices.

4.2.2 Economic analysis

There is a positive correlation between ICT development and economic improvement of the individuals, the companies and the worldwide economy. The benefits for the individuals are: more job opportunities due to new job positions, more products and services with competitive prices to choose from (Area, 2001) more satisfaction derived from the end-to-end customer experience, 24 hours connectivity with each other including colleagues at work and suppliers, more data and information to minimize uncertainty of decision making (Harvard Business Review, 2015) reduction of time used in cognitive tasks which the computer does to invest it developing core competences (The Conference Board, 2011). For the companies, cheaper production costs (Area, 2001) Less time to go to the global market been efficient, more innovative business models, optimized business operations, more revenues and more geographical flexibility (Harvard Business Review, 2015), more digital buyers and talented workers from around the world (Area Moreira, Gros Salvat, & Marzal García-Quismondo, 2008). For the worldwide economy, ICT Contributes to the merge and development of new industrial sectors (Area, 2001) and the economic globalization, increases the economic production, breaks borders (Martín, 2003), increases competitiveness and economic growing (Area Moreira, Gros Salvat, & Marzal García-Quismondo, 2008) reducing poorness due to the creation of additional economic output wide distributed across the population (The Conference Board, 2011).

Nowadays Europe has an innovation-driven economy, to increase its competitiveness the EU must produce new and different goods using the most sophisticated production processes and innovate new ones (World Economic Forum, 2015). The main purpose of the strategic plan Europe 2020 looks to overcome the economic crisis, the unemployment and the deceleration of the economic growing through 3 primacies: Smart growing, based on the knowledge and the innovation; Sustainable growing, promoting an economy more effective, green and

competitive; and Integrative growing, promoting an economy with a high employment rate and social territorial integration. The quantitative main economic goals 2020 are: To employ the 75% of the population between 20 and 64 years old and to invest the 3% of the GDP in R&D (European Commission, 2010).

Colombia has an efficiency-driven economy, it means the country must develop more efficient production processes and increase product quality driven by higher education and training, well-functioning labor markets and the ability to harness the benefits of existing technologies (World Economic Forum, 2015). The main purpose of the National Development Plan 2014-2018 looks to: Sign a peace agreement between the Colombian Government and the Colombian Armed Revolutionary Forces (FARC) acronym in Spanish; to reduce the economic and social gap between underprivileged and rich people and Increase the education of the population. The strategies to achieve it are: Safety and justice for the construction of peace, Infrastructure and strategic competitiveness, social mobility, transformation in the countryside and a transparent government. The main quantitative economical goals 2018 are: To increase the productivity 0, 4%, To decrease unemployment 2%, To invest the 0, 9 % of the GDP in R&D. (DNP, 2014)

Analyzing the Economic aims of Europe and Colombia, the plans to achieve it and their current economic features it is possible to conclude that both are looking for similar economic goals: To increase the employment rate and to increase the investment in R&D. However, both economies are in different stages of development and the best way to increase the competitiveness of the countries is not the same. While Colombia is “organizing the house” focusing on improving issues regarding basic necessities for the competitiveness like security, inequity, corruption and education, Europe is renovating its strategy to compete with the big potencies like USA and Japan. It is reflected in the strategies and priorities to integrate the ICT in both economies, the percentage of the GDP which is invested in R&D and to train Human Capital in digital competences is higher in Europe than in Colombia.

4.2.3 Social analysis

The main impacts of the ICT in the society are related to the relationship government-citizens, and the relationship people-people. The relationship government-citizens progresses because there is more information available that incentivize habitants to pursue their civic rights, increases democratic participation, helps to avoid social inequality (Area Moreira, Gros Salvat, & Marzal García-Quismondo, 2008), online interaction of citizens with e-governments

reduces corruption and increases perception of governmental effectiveness (The Conference Board, 2011), furthermore, digitalization innovates in social services provided for the government improving the quality of life of the citizens (Area, 2001) in core areas such as; education, allowing the technology develop cognitive, attitudinal and axiological aspects, (Area Moreira, Gros Salvat, & Marzal García-Quismondo, 2008); and Health care, increasing life expectancy (The Conference Board, 2011). The relationship people-people is stronger because the social media increases the possibilities to meet people around the world with shared interests and characteristics allowing the creation of communities beyond the home and the workplace (Harvard Business Review, 2015).

Despite all the advantages of the digitalization it also creates some risks for the society related with two main issues: The exclusion of some people from the digitalized or the real world. The exclusion from the digitalized world is referring to the people, mostly adults, who are digital illiterate, due to their inability to use ICT will cause them more difficulties to access in the labor market, vulnerability during the information management and inability to use the digital media essential to perform some tasks (Area Moreira, Gros Salvat, & Marzal García-Quismondo, 2008). The exclusion from the real world is referring to the people, mostly children, who were born and raised in digitalized environments, they dedicate more time to watch TV and surf the internet than to activities which improve the quality of human relationships (Area, 2001) creating Isolation, cyber bullying and active exclusion (The Conference Board, 2011). Nowadays for the youngest generations is more important the cyber life than the real one, it is more important to create a good profile on line and add a lot of friends in the social networks than build real friendships. This abuse of technological media provides over sensorial stimulation, reduce people life's privacy and let as a result, few childhood friends. (Area, 2001)

The plan Europe 2020 is mainly focused in the economic growing, therefore the social objectives of the plan are oriented to cause a trade and industry improvement. Europe is convinced that the most important resource to increase the competitiveness is the people, therefor, is investing more in the education of the Human capital, the goal is to reduce the percentage of school dropout which should be less than 10% and that at least 40% of the youth should have superior studies. At the same time it ought to cause social integration and poorness reduction, the risk of poorness must threat 20 million people less. The social priorities to achieve the objectives of the plan are: To support youth movements which

increase their employment probabilities, to develop new competences and employments and to use the platform against the poorness (European Commission, 2010)

In Colombia the National Development Plan 2014-2018 is mainly focused on improving social aspects in 3 pillars: The security, reducing the incidence of violence from 25% to 16%; the inequity, decreasing inequity (GINI coefficient) from 0.54 to 0.52 and; improving education issues regarding quality and the high school education coverage from 41,3% to 50%. To attain the objectives the government is focusing in the sustainability of the peace agreement and the access to the 4G from all the departments of the country (DNP, 2014). One of the highest challenges of the plan is to improve the quantity and the quality of the education, nowadays the third part of the population is poor and the country is one of the most unequal in Latin America, due to the incapacity of the education system to increase the quality of the human capital (Delgado, 2014)

Analyzing the social aims of Europe and Colombia it is possible to conclude that both are looking for a similar goal: To improve the education of the Human Capital and as a consequence to reduce poorness. However, the challenges for both economies are different; In Europe main concern is the dropout of the students before completing upper secondary education due to a process of disengagement related to problems with the curse of study, the school, health, personal or emotional difficulties, mostly presented in immigrants. (European Commission, 2013) In Colombia the main concerns are the coverage and quality of public education and the dropout of the students who prefer to start working. There are at least 1.1 million kids out of the educational system and 52 of 100 students leave the school before they turn 18. The core dropout problems are: because the youth born in families with a low income prefer working to support the financial status of the family and because they think the knowledge acquired in the school is not relevant (Delgado, 2014)

4.2.4 Technological analysis

Technological implementation is considered essential for the competitiveness of the countries; however, the technological development is different in each of them. To consider a country as technologically ready it is important to assure, in a first level the access to the ICT and in a second level its usage. Once those basic stages are assured the countries must have into account a third level which refers to the ability to conduct research and development for ICT innovation that expands the frontiers of knowledge (World Economic Forum, 2015)

In Europe a cutting- edge products and processes must be design to give higher value –added to their activities. The progression requires innovation and a large investment in R&D (World Economic Forum, 2015). The European Parliament and the council consider the Digital competence a key characteristic which all individuals need to develop in order to be socially and economically active (European Parliament and the Council, 2006). Based on this recommendation the European commission presented a Digital Agenda that is looking for the economic and social benefits of developing a digital market based on an ultrafast internet and interoperable apps. The aims of the Agenda are framed in 7 initiatives: To create a unique digital market, To improve the conditions for the interoperability of products and ICT services, To promote confidence and thrust in the internet, To guarantee a faster internet, To stimulate the inversion in Research and Development, To promote the digital literacy and inclusion, To use the ICT to solve social challenges (González & Corbella, 2010). One of the actions to promote the digital literacy and inclusion was the creation of the DIGCOMP model which in its introduction affirms that Digital inclusion depends more on knowledge, skills and attitudes than on access and use (Erstad, 2010) (European Commission, 2013).

In Colombia The Ministry of technologies (MINTIC) is the entity responsible to assure the ICT development in the country through its plan Vive Digital which looks to: increase the digital offer, improving the infrastructure and making services to develop digital connectivity; and to create digital demand, producing useful apps for the micro companies and the citizens; and training the users. The objectives of the Vive Digital Plan 2010-2014 were to triplicate the number of departments with the infrastructure adequate to use internet, to connect 50% of the MSMEs and 50% of homes to the internet and multiply for 4 the number of internet connections (MINTIC, 2011). Those aims to improve the infrastructure and assure access to the internet were achieved by the end of 2014, however the investment in awareness and training to use it was not the same, a big issue having into account that the most of the population and business do not use internet because they think it is not important (MINTIC, 2011). The new goals for the plan Vive Digital 2014-2018 are: To be global leaders developing social apps for the underprivileged and, to be a more efficient and transparent government (MINTIC, 2014).

Based on the previous analysis about the ICT implementation strategies and aims it is possible to conclude that the European digital agenda is oriented to consolidate the union as an Innovation-driven economy establishing activities to increase innovation and R&D. Colombia is directing its objectives to consolidate the country as Technologically ready investing in

infrastructure to assure the access to the internet and developing apps to motivate the poor people to use the technology and as a consequence reduce the social GAPS and exclusion, to motivates the use of ICT is important to create promotion campaigns to aware people about its importance and work in its safety, due to the 83% of Colombian companies have suffered of cybercrime making the ICT unreliable (Kroll, 2015-2016) While Europe is in the third level of ICT development, Colombia is in the transition from the level one to the level two.

4.3 The business and the Innovation

The business presented in this paper is a NGO which develops digital competences for underprivileged youth in Colombia. It looks to support the proposition that the digital literacy must be done in an educative context because it is the strongest social transformational tool (Martín, 2003). The target population of this initiative are youth form 18 to 22 years old who do not have financial resources to pay a fee that sustain the operation of the NGO. The innovation of this business is presented in the business model to find financial resources for the implementation and sustainability of the NGO. The plan has as a guideline the business model of the Sesame workshop and the main findings of researches with related aims.

The Sesame workshop was founded in 1969; it is a nonprofit educational organization with presence in more than 150 countries addressing educational needs combining media, Muppets, and fun. They base their curricular content and prove their achievements through research. More than 1.000 studies has shown that the children who watch Sesame workshop have significantly better cognitive outcomes than those who do not (Sesame Street, 2016). They are using the latest ICT to create educative content, from radio and videos to interactive media. Likewise, they are committed with the digital literacy process in a partnership with the ground-breaking research and innovation lab, the Joan Ganz Cooney Center. They have been 40 years in the market obtaining financial resources from corporate, foundation and government support; distribution fees and royalties; and product licensing. In 2015 the revenue by source was 31%, 29% and 40% respectively (Sesame Street, 2016).

In 2013 the Ministry of Information and Communication Technologies in Colombia did a partnership with Sesame workshop to finance the creation of a program called Monsters on-line, the aim was to promote the digital literacy in kids between 3 and 7 years old through animations and stories (MINTIC, 2013). It shows the interest that the MINTIC has for educative initiatives which integrates ICT sources in the digital literacy process and increase the knowledge and use of digital devices and tools.

The Sesame workshop is a worldwide case of success of a non-profit organization with educative aims. There are two aspects of their strategy that are suitable for the operation and sustainability of the NGO: Their educative method which is based in gamification and their sources to obtain financial resources.

Educative method: Gamification is “the act of applying the game-design elements in a non-game setting in order to increase engagement, change behavior, or achieve a specific, desired result.” (Literacy Link South Central, 2014). It is proven that gamification engage the students with the learning process when it is fun, develops skills, feed the spirit and gives relaxation through the pleasure which it provides (Aristóteles, 1985). People like pleasurable activities; therefore, if the Colombian youth enjoy the digital literacy process, they will involve, feel interested in finishing the program and acquire digital competences to “win the game”.

Mixing fun and digital media the Sesame workshop has obtain positive results in their audience: increasing in 67% the literacy and numeracy scores, increasing 40% pro-social behaviors, double the gender equity measures, among others (Sesame Workshop, 2016). Other gamification examples of success in the educative environment are: Duolingo which provides free online language education and has won Apple’s and Google Play’s galas; and Goalbook which creates share learning plans using social networks (Literacy Link South Central, 2014).

Although this dissertation do not analyze deeper the method for the digital literacy process, it intends to fund its base in the gamification because of the high correlation between engagement of the students with the learning process and an education system based in fun and playfulness (de Byl & Hooper, 2013). In Colombia 52% of the students leave the school before they turn 18 because they prefer working to provide financial support to their family and because they think the knowledge acquired in the school is not relevant (Delgado, 2014). The objective of the NGO is to train and develop digital competences in those kids who have dropped the school and are in risk of repeating the poorness cycle of their families and could be digitally excluded. It is expected that the gamification engage them to finish the digital literacy program.

Sources of financial resources: Analyzing the financial structure of incomes of the sesame workshop it is possible to evidence that the most of their revenue is derived from the products they produce and distribute. According with (Kearns, 2000) non-profit organizations tends to mistakenly depend on donations and proposes a set of private sector practices that enhance the

strategy, the operational success and as a result the sustainability of the NGOs, one of the recommendations is to create a sustainable source of income.

As the Sesame workshop, this NGO aims to obtain its resources using a sustainable approach. Providing social marketing services to obtain corporate foundation, providing digital marketing consulting services to obtain resources from the MSMEs, and aligning the objective, business, programs and strategy of the NGO with the National Development Plan in order to receive the public funds allowed for the Colombian constitution. The implementation of the initial phase of the business plan intends to be financed for the public and private capital, however, the sustainability of the NGO in the long-term will be financed 100% for private capital.

The support given for the public sector is regulated for the Colombian legal framework. In Colombia the Article 103 of the constitution makes the state contribute with the organization, promotion and training of the NGOs and the Article 355 allows the public institutions to use their public budget to sign contracts with NGOs which supports programs and activities align with the national development plan (Corte Constitucional Republica de Colombia, 2010). Since education, reduction of poorness and digital literacy are pillars of the National Development plan of the president (DNP, 2014), the NGO has the constitutional right to obtain public funds.

To obtain key resources in the initial phase of the implementation of this business plan, the NGO must: submit a formal application to existing programs of the government which support education, ICT development and reduction of poorness, or to write a formal petition letter to have a meeting with the public workers in charge of managing the public funds of social programs. Other source to obtain key resources is to participate in the contests organized to support entrepreneurs. The MINTIC created a program called Apps.co which aims to support the entrepreneurships of business that encourage the use of digital tools and devices in the country, they often organize contests to transform good ideas into reality (MINTIC, 2016), private companies like Microsoft, Bavaria and HP gives financial support to entrepreneurs with ideas to strength the ICT sector in the country.

NGOs do not find financial resources to star its operation when the potential investors lack of trust in its mission and purpose. The legal framework in Colombia which regulates the third sector institutions is weak, allowing people to take advantage of legal GAPS to obtain public funds for individual benefits (Congreso de la república de Colombia, 2003). To reduce the

lack of thrust of the stakeholders, the NGO will be constituted as a social non-profit organization, registered in the DIAN that is the entity in charge of managing the taxes, and registered in the Cámara de Comercio Bogotá which manage and regulates the companies in the place they are constituted.

To obtain key resources from the private sector for the sustainability of the project the NGO will offer to big corporations social marketing services that ratifies their corporate social responsibility (CSR). It is proven that CSR, understood as a set of programs that enhance organizational performance through stakeholders' satisfaction, increases the legitimacy of the companies, position positively their brand in the mind of the community, investors, potential talent and customers increasing their chances "to be chosen" by them and improves operational performance (Parast & Adams, 2012). The NGO will create social marketing campaigns to convince the stakeholders of its financial donors about their corporate social responsibility and commitment with the digital literacy process in the country, in that way, the social marketing campaigns will leverage their benefits derived from the CSR. If the social marketing campaigns are done and published for the NGO the people would rely more on the transparency of the messages.

Other source of private financing are the MSMEs. In Colombia there are 1.600.000 companies, 96% are MSMEs and 71% operates in the commerce and services industry (Montoya, Montoya, & Castellanos, 2010). In 2011 the 93% of those companies did not have a connection to the internet because the owners though technology is unnecessary and expensive (MINTIC, 2011). Nowadays, that number decrease to 26% (MINTIC, 2016) because of the implementation of the plan Vive digital. Despite that fact, the MSMEs are an unattended market for digital consultancy services.

To obtain a sustainable source of income the NGO will provide digital consulting services to the MSEMs. Research shows that external advice in ICT improves the relationship with customers (Pérez, Sánchez, De Luis Carnicer, & Vela, N.D.), and consulting services have a positive effect on MSMEs productivity, sales and profits. The percentage of return to capital is correlated to the quality and qualification of managerial talent (Bruhn, Karlan, & Schoar, 2009). While McKenzie and Woodruff (2008) find in Mexican enterprises a monthly return to capital between 20% and 33%, De Mel, McKenzie, and Woodruff (2008) just estimate a monthly return to capital of 5 % in Sri Lankan micro companies (Bruhn, Karlan, & Schoar, 2009).

To sum up, the key characteristics of the business and the innovation are based on: A) the reliability on the quality of its product due to the digital competences model has a strong theoretical base, it is validated for many experts and it is adapted to the Colombian PEST context. B) The digital Literacy methodology based on gamification to increase engagement and reduce the effects of dropping out the school. C) The business model: it could be seen as a win-win public-private relationship. In the first phase, the public sector sponsors and give resources to the NGO, therefore, the NGO is available to function providing training to the youth and KPO services to the MSMEs, as a consequence, companies improves and hire the service in a long-term giving private financial resources to start the cycle and making sustainable the initiative with private sector resources.

5. Reference table

This table summarizes how the main findings of the literature review impact the resulting digital competences model.

	Benefits in PEST variables	European Union context	Colombian context
Political Analysis	<ul style="list-style-type: none"> *ICT politics oriented to the happiness of the citizens *ICT public policies financed for the private sector *Citizens become digital information consumers *Government legitimation *Better quality of life due to the development of Smart cities *e-services in public institutions, less costs of bureaucracy 	<p>Main institutions: European Parliament, Counsel and Commission.</p> <p>Political priorities regarding ICT: Harmonize digital features, digital single market, unified legal framework, special focus in copyrights</p>	<p>Main Powers: Judicial, Legislative and Executive.</p> <p>Political priorities regarding ICT: Access, use of digital gadgets in education, massif internet, train people in ICT</p>
	<p>Impacts in the model: While in Europe the intercultural attitude and the knowledge to communicate in diverse environments is a priority in Colombia is more important to create social-oriented values to aware about digital advantages.</p>		

Economic Analysis	<p>*For individuals: closer communication, better products and services and more jobs.</p> <p>*For the companies: less costs more incomes sources</p> <p>*For the worldwide: globalization, reduction of poorness and better quality of life</p>	<p>Focused on: Overcoming the economic crisis and increasing innovation</p> <p>Main objectives for 2020: Smart, sustainable and integrative growing</p> <p>R&D objective investment: 3% of the GDP</p>	<p>Focused on: Improving efficiency in production processes taking advantages of the existing technology.</p> <p>Main objectives for 2018: Peace, equity, infrastructure, unemployment and transform the countryside</p> <p>R&D objective investment: 0,9% of the GDP</p>
	<p>Impact in the model: While in Europe the innovation is a key attitude due to the innovation- driven economy, in Colombia it is more important the analytical adaptation to integrate existing technology. Furthermore, while the DIGCOMP model is designed for work, employability, learning, leisure, inclusion and/or participation in society, this model is applied for working.</p>		
Social Analysis	<p>*Advantages government-citizens: democratic participation, transparency, perception of government effectiveness and innovates in social services</p> <p>*Advantages people- people: possibility to meet people around the world with same interests, creation of communities and networks.</p>	<p>Plan 2020 focused on:</p> <p>Reducing school dropout</p> <p>Training Human Capital in lifelong learning areas</p> <p>Social integration and poorness reduction</p>	<p>Plan 2018 focused on:</p> <p>Peace agreement</p> <p>Decreasing inequity</p> <p>Improving education coverage</p>
	<p>Impact in the model: To mitigate the effects of social issues in Colombia. Attitudes must be aligning with the achievement of the peace and the advance level of the digital competences must be oriented to cause a positive social impact.</p>		
Technological Analysis	<p>Stages of ICT development</p> <ol style="list-style-type: none"> 1. Access 2. Usability 3. Innovation 	<p>Innovation-driven</p> <p>Digital agenda 2020 aims: unique digital market, Interoperability of products Confidence R&D Digital literacy and inclusion</p>	<p>Efficiency-driven</p> <p>Plan Vive Digital is focused in: Assure Digital offer Create digital demand Develop Social apps Transparency</p> <p>-Cybercrime 83%</p>
	<p>Impact in the model: It is key to increase preventions and solutions for the cybercrime to make the ICT trustable and useful.</p>		

Table 1. PEST Analysis summary

6. Methodology

6.1 Research paradigm and question

Nowadays the fast evolution of the technology is transforming the companies around the world into more digital; it is well known that the right combination between technology and talented people increases the productivity of the companies. Aligned to the ICT evolution, one of the most important tasks of human resources professionals is to train and develop digital competences in the people, permitting them to take advantage of its benefits.

In Colombia there are around 1.600.000 enterprises of which 1.542.400 are categorized as Micro companies because they have from 1 to 10 employees, in 2011 the 93% of those companies did not have a connection to the internet because the owners though technology is unnecessary and expensive (MINTIC, 2011). Due to the investment of the government in providing internet connection to micro companies, nowadays around of 771.200 are contented (MINTIC, 2016) but it does not mean they are using it well. The 75% of the 57.600 companies categorized as small, medium or big for having 11 or more employees have an internet connection and are consider competitive and dynamic managing information (Ruiz, 2014).

The lack of education and knowledge about IT and the lack of economic solvency to invest in technology are the main issues of Colombian companies to increase productivity, it is understandable having into account that: the percentage of the employed population who have studied after finishing the school is 21.7% (DANE, 2015), The poorest youth population prefer working than going to study, the public financial resources are insufficient to attend the demand in education and the financial support of the private sector is low and the institutes are not well connected with the labor market (Salmi, 2013)

This business plan presents a sustainable business model to perform a digital literacy process for the Colombian youth in danger of digital exclusion. It looks to increase the use of ICT and as a consequence obtain its benefits in the PEST variables. The business model mitigates the effects of the two main barriers in Colombia for using ICT: lack of education and financial resources, creating an NGO which trains youth in digital competences and provides digital outsourcing services to MSMEs for free during one year as part of their curricula. To assure the youth will have a good performance when providing HR and marketing outsourcing services, it is key to develop in them the precise digital competences: adjusted to the

characteristics of the country, relevant for the sector and appropriate for the needs of the clients, reason why the research question of this project is: **Which are the digital competences that the Colombian youth need to develop in order to work in digital environments or to be a digital entrepreneur?**

6.2 Data collection and analysis techniques

This Business plan is an exploratory study. The data collection was performed in two stages: (1) literature review and (2) Market analysis.

The first phase (1) consisted of a review of digital competences models in the market, analysis of key concepts, and research of advantages in the PEST variables when employing ICT, investigation of the influence that the European PEST variables could cause in the construction of DIGCOMP and comparison of those variables with the Colombian context. The literature review where selected to: link the political, social and economic wellness of a country when increasing the use of ICT (purpose of the NGO); and to adapt the DIGCOMP model created in Europe to the Colombian context (to answer the research question).

The second phase (2) consisted of a market analysis: to understand the competitive environment of the NGO, and to adapt the digital competences model to the characteristics and needs of the MSMEs operating in the commerce and services industry. The gathering of information was based in two sources:

- Online consultation about the KPO industry: the analysis answers the questions proposed for (Kearns, 2000) to perform an environmental scan of Non-profit organizations
- In-depth interviews to owners of MSMEs in Colombia: The questioner was composed for twenty nine 29 questions. 6 to define the profile of the business, 4 to understand profile of the sector and the business strategy, 6 to recognize the use of ICT, 3 to value the knowledge and awareness of the interviewed about digital competences, 3 to understand the digital competences valued for the MSMEs, 5 to know the possible motives of the MSMEs to support the NGO and 2 to understand how they see their business in the future, see **ANNEX 7. In-Depth interview questioner guideline**. The 9 in-depth interviews were performed in Spanish on January and February of 2016 to the owners of MSMEs in the commercial industry, see **ANNEX 8. Profile of the interviewed**.

The secondary sources reviewed material includes books consulted in Colombian libraries, journal articles and scientific reports consulted in specialized databases, government reports published in their web pages and other published material online. Because of the exploratory nature of this study it includes consultants' opinions and scholarly academic review.

The cleaning process of information and data analysis was based in the grounded theory. Which is described as "Systematic theory developed inductively, based on observations that are summarized into conceptual categories, reevaluated in the research setting, and gradually refined and linked to other conceptual categories." (Schutt, 2014). Following the inductive reasoning logic proposed for Barbara Minto, drawing inference based on similarity and clustering the main ideas found by the same concept (Minto, 2008).

6.3 Steps followed

1. Definition of the problem: research about Colombian issues. Breakdown of the problems and formulation of possible solutions from the ICT and Human Resources perspectives. Selection of the digital literacy as an initiative to impact positively the socioeconomic context of the country
2. Proposals to solve the problem: Analysis of digital competences models which could be applied in Colombia and selection of DIGCOMP as the most suitable option. Analysis of the alternatives to guarantee the implementation of the model, deciding to create an NGO as a digital literacy school. Analysis to assure the sustainability of the project, creating the business model proposed in this paper.
3. Literature review: analysis of the structure and process used in the construction of DIGCOMP. Definition of key concepts adapted to the project. PEST comparison between the EU and Colombia. Conclusions to adjust the model and description of the Business Model through the CANVAS components.
4. Competitive analysis: SWOT
 - Market analysis (OT): environmental scanning to examine the outsourcing services industry where the NGO will compete for financial resources.
 - Internal analysis (SW): detects the strengths and weaknesses of the NGO
5. Adaptation of the digital competences model: Having into account the conclusions of the literature review, the answers obtained in the In-depth interviews and the environmental scanning of the outsourcing services sector.
6. Development of the business plan: Construction of the strategy development, definition of the implementation policies and the financial evaluation.

7. Market analysis

The results of the market analysis are split into three parts: the first one, is the report of the main conclusions of the In-depth interviews, the second one describes the opportunities and threats that the NGO could face due to the characteristics of the industry it operates in. The third one presents the conceptual digital competences model based on the conclusions of the literature review, the conclusions of the in-depth interviews and the market analysis of the industry.

7.1 Main conclusions In-depth interviews

The main conclusions of the in-depth interviews are built up inductively based on the answers of the interviewed and the observation of their reactions during the talk. Using a grounded theory approach the answers were summarized into conceptual categories and linked to other categories (Schutt, 2014), see **ANNEX 9. Association of categories**. The main findings are:

- The managers whose objective is to grow think that it is important to use digital devices at work. They use IT tools to: increase the number of clients, control their stock, pay their bills and taxes, improve their customer service and position their brand.
- The owners whose strategy is more focused in the stability than in the growing of the business showed less interest in using digital devices. Some of them do not have an internet connection in their stores because they consider it is not necessary for their type of business. They preserve their stability offering a good service to their common and frequent clients whose relationship is based on loyalty and personal affection.
- The main tactics that the MSMEs are using to achieve their objectives are: to provide a better service to their clients and to increase their sales, with actions on-line and off-line
- All the interviewed assure they have digital competences; however they do not know its meaning and do not evidence its observable behaviors. In spite of their lack of knowledge the owners of MSMEs with a growing strategy are aware of its importance and would like to develop digital competences.
- All the interviewed use at least one personal digital tool or gadget to work, but they do not feel interest in training their current employees in digital competences because their functions are too operative. For the other hand, they think an external person who possesses digital skills could help them to improve their business and sales

- All the interviewed know about the free programs of the government to train digital skills. However, none of them have attended to it because they do not have time or because they think they already have developed their digital competences
- The owners of the MSMEs value the employees who have attitudes which demonstrates: commitment with the company (responsibility, collaboration, loyalty, transparency, innovation, entrepreneurial) , empathy with the customers (sympathy, happiness, good service, disposition) and self-development (self-learning, interest and open mind)
- The interviewed consider that a digital competent person should have basic skills to use digital devices and tools, likewise, the person must have knowledge about marketing to exploit the most those digital skills and increase sells
- If the interviewed would hire an employee with digital competences they would expect him/her to use the available digital gadgets and tools in the company to achieve its objectives following their current strategy
- Despite the owners of the MSMEs have different strategies they all are looking for stability. They think that, if they hire today employees with digital competences in ten years their business will be bigger and more stable
- The owners of MSMEs are afraid of training their employees in digital competences and lose them because they could find a better job in other company or because they could copy their business in a digital version
- The interviewed feel interest in hiring digital consulting services only if it is proven that the profitability of the business will increase. The digital development should not implicate them an extra cost without having an extra income first.

7.2 Market analysis of the industry

The market research examines the sources to finance the NGO during its implementation and sustainability phases.

Initial phase of the project: Since the Colombian constitution offers to the third sector institutions the option to obtain public funds; this NGO will do the request to:

The MINTIC: As part of the Vive Digital plan they are investing money to build 4G infrastructure that assure all the Colombians can have access to the internet, to connect more houses and companies to the internet and to give digital devices to the public schools. It is

expected that the MINTIC shares with the school ICT key and expensive resources such as, connectivity to the internet, computers, tablets and available software.

The MEN: It was created with the purpose of giving quality education to the citizens to generate opportunities of progressing. Its functions are established in the article 2/ decree 5012 of December 28 of 2009 which makes the ministry perform activities that improve educative programs and manage the public schools and universities in the country. It is expected that the MEN shares the infrastructure they use for the public education, due to the public schools are located in the same neighborhoods that the target population of this school use to live in.

The Social Prosperity Administrative Department: It is an institution in charge of formulate and direct policies for the social inclusion sector and implement actions to stabilize the socioeconomic condition of vulnerable communities. The social prosperity programs that can provide important resources to the NGO are:

- Entrepreneurship program: it develops entrepreneurial skills to the poor people. It is expected that this program shares people, professors and knowledge to the planning and implementation phases of the courses which look to develop digital entrepreneurship competences
- Infrastructure program: the community social sector of this program builds infrastructure with educative, cultural and recreational purposes, especially in zones affected or destroyed for the violence. It is expected that this program provides infrastructure to those places where there are not public schools with the tools needed to develop digital competences
- Youth in Action program: it gives 200.000 COP (equivalent to the 0.29 of the Minimum salary) to the underprivileged youth who study and have good grades. It is expected that this program gives that finance assistance to the students of this school.
- Producing for my future program: it increases the productive, financial and social assets of vulnerable, extreme poor and displaced population. It is expected that this program provides to the students of this school the technical and financial support to create their own business.

The biggest threat of this phase is the uncertain amount of money or resources that the NGO will obtain from the government and the time it will take to obtain enough financial resources to start running the operation of the NGO. To mitigate the impacts of not obtaining enough

resources, the plan B would be to accomplish a crowd founding plan with private donors, including civilians, companies, universities, ONGs and international institutions which could be interested in the mission or services of the institutions.

Sustainability of the project: The financial resources to guarantee the sustainability of the school are based on providing talent to the private sector through different digital services designed for big corporations and MSMEs; therefore, the market analysis is focused in knowing the characteristics of the outsourcing services sector answering the questions of the environmental scan suggested for (Kearns, 2000):

- What are the key economic characteristics of the outsourcing sector strategic environment?

Description of the industry: In Colombia the Outsourcing Services are defined and delimited for the state in 3 subsectors: Business Process Outsourcing (BPO), is the delegation of intern processes of the Customer Support offered for the front-office and the administrative tasks performed for the back-office to an external supplier; Information Technology Outsourcing (ITO), is defined as the delegation of processes related to the information technologies, technological platforms, usability of specialized software and management of technology to an external supplier; Knowledge Process Outsourcing (KPO), is the delegation of activities which demands an intensive use of knowledge and the service is provided on demand.

The service that the NGO will provide to its donors is comparable to the one offered in the KPO subsector. Therefore, the market analysis will be performing taking into account the main characteristics of the outsourcing services making an especial emphasis in the KPO subsector.

Size and growth rate of the outsourcing programs and services: The outsourcing industry represented the 2, 04% of the GDP in 2014 and it is expected to continue the 14% growing tendency until 2019 (Dinero, 2015). The KPO subsector represents the 7% of the outsourcing industry in the country and it is integrated for 1.402 companies which mostly offer engineering and legal services (International Data Corporation, 2014). The growing tendency in the sector is produced for the Productive Transformation Program (PTP) developed for the Colombian government which intends to motivate the foreign investment strengthen 20 sectors of the economy, including the outsourcing sector. It is possible to notice the opportunity that is giving the context around the NGO derived from the growing level of the industry, the

support of the government, the foreign investment expected for the PTP and the low number of competitors in the market.

Barriers of the industry: The companies in the KPO subsector use to have a solution shop business model: they work on-demand projects, structure the problems of the clients to solve it, add value through the expertise of the professionals and charge high prices for the work done. The competitiveness of this sector is stable due to the opacity caused for three main reasons: Criteria of evaluation: companies use to outsource knowledge when they do not have the expertise or knowledge to face a new problem or a non-common event in their daily operation, therefore, when they accept the service they do not have the criteria to evaluate its quality. Pricing: The knowledge is appreciated as a high valuable asset, therefore, the price for the KPO projects is estimated based on the value that the project has to the customer and the position in the market of the outsourcing company. For the customers of the KPOs the price is a proxy for quality, the more expensive it is, the better quality it has. New competitors: The new competitors use to enter to the market emulating current business models instead of disrupting them (Christensen, Wang, & Van Bever, 2013)

The challenges of the NGO to enter the KPO industry are related to the lack of experience in related projects, the lack of brand positioning and the professional and educational skills of the persons who will provide the service. The first two challenges are faced for all the startup companies, experience and brand positioning can be improved with time. The third challenge has a biggest impact to this business due to the qualification of the professionals is a key factor in the industry which looks mostly for workers with a professional degree, however, the students of the school are persons who are developing their professional skills.

Characteristics of the services: The 71 % of the MSMEs in Colombia are in the commerce and services industry. (Montoya, Montoya, & Castellanos, 2010). According to the results of the In-Depth interviews performed to owners of MSMEs in this industry their aims are related to increase the quality of service, increase the value of their brand and increase sales. To achieve those objectives the NGO will provide digital and social marketing services and HR services.

- How intense is the competition in our strategic environment?

Substitute services: The mission of the school is to develop digital competences in underprivileged Colombian youth and its principal source of financial resources is providing

marketing and HR services to its donors. The substitute services are the ones offered for the government for free to the people due to it will avoid the donation of the fee that the NGO ask for to its clients. The main programs which exist nowadays and are related with the courses the school intends to offer are:

Talento TI: It is an initiative of the Ministry of Technologies to train citizens, public employees and professors in digital competences. The courses combine a method between online and presence classes. The portfolio of courses online includes varied content divided into three levels: basic, intermediate and advance which can be found in the platform called Soy TIC

Cámara de Comercio: it is a nonprofit private entity which supports the operation of the companies, mainly in Bogotá. They use to provide workshops to train the owners in managerial competences, one of the workshops was called TECNORUTA which trained the owners of MSMEs in areas related to digital marketing, E-commerce, cloud computing and resources management. Workshops like this one are not permanent but are done often.

SENA: it is a public institution which provides technical training for working to adults. They provide courses in presence and online through the platform senavirtual.com. They have had opened courses to train the citizens in basic digital competences, some courses are permanent and others are temporal.

Bargain power of suppliers: It is really high. The main suppliers of the school are the governmental institutions that have programs which can donate important resources. They will support the initial phase of the project and without their help the school will depend on private donation which is variable and not sustainable. Furthermore, the public funds to NGOs are limited and the procedure is highly bureaucratic. The key to mitigate the high power of the suppliers is to invest in time to build relationships and a network of potential donors and sell them this proposal as an initiative which supports and is aligned with their aims, in that case they are the main suppliers of the project and the school is a supplier of the institutions.

In the long term, the NGO will depend less in the public institutions and more in the private sector which power is medium. Each company is important because will donate financial resources, however they are decentralize, it means that if a company stop their donations it would not impact the sustainability and the operability of the school. The risk that the

companies stop providing resources is low due to they will give donations after testing the benefits that they can obtain with technology and the price for it would be lower than the offered in the market.

Bargain power of clients: In the short-term it is high. The clients do not see the need of using internet or digital devices; therefore they will not pay a service which require digital competences until they see its advantages. The clients do not depend on the school services and can say no to the projects and to stop giving the financial donations when they consider it pertinent. The first negotiations with private MSMEs will be a challenge; however, in the long term with the support of the government and demonstrating success cases, it will be easier to capture new clients.

Substitute competitors: The competitors of the school are those companies that provide advice to the MSMEs. In Colombia there are not KPO which provide knowledge and digital services to the small companies, however, a common threat of competitors in the business of outsourcing services are the same employees, in this case the students, due to a company could prefer to hire directly the person and pay him/her instead of giving the donation to the school. To prevent this threat it is important to engage the students with the institution, its mission and values during the time they are studying.

Competitiveness: The competitiveness to enter the KPO strategic environment with the business model proposed is medium. Due to the number of companies in the subsector (1.402) are much less than the MSMEs in the market (1.600.000). The potential competitors are competing based on brand positioning and differentiation while the school will compete with low prices. The business model of the competitors, demands fixed cost in skilled professionals while the school will provide basic digital services with students as part of their study program. The target of the competitors is different, they prefer to work with big companies and internationalize their clients as part of the PTP sponsored for the government. It is important to highlight that one of the challenges of the KPO firms in Colombia is to find skilled professionals. Therefore, the potential competitors could be partners to share Human Capital resources or initiatives.

In the short-term the competitiveness will be strong for the high power of the suppliers, due to the main sources to start the project will be given for public and powerful institutions and the demand for public donations is high. However, if the negotiations with the public institutions achieve the objective to obtain the initial financing and sponsorship the NGO will be a project

sustainable in the long-term because: the substitute services do not give to the MSMEs a continued training and the guarantee to evidence the benefits of having employees with digital competences in their business; the bargain power of suppliers, private and public donors, will be medium because they are decentralize; the bargain power of clients, the MSMEs, is medium because they are decentralize; and the competitiveness is low because the competitors are few, they use other strategy and are focused in attending other target of clients.

- What forces drive change in our strategic environment?

Political forces: The initial phase and sponsorship of the project highly depends on the political current in power. In Colombia the politic environment is stable, it is a democratic republic governed guided for a constitution updated in 1991 which guarantee the liberty of education in the article 26 as a fundamental right of the Colombians. That right is controlled and sponsored depending on the political current and government plan. The strongest stakeholders who could impact positively or negatively the sustainability of the school are:

The president: Juan Manuel Santos will be the president until 2018. There are two aspects which are helpful for the implementation of this project. For one hand, Education is a pillar of his governmental plan, one of his initiatives is to increase the quality of education and establish a teaching method based on competences. For the other hand, he sees technology as a strategic partner for the economic and social development reason why one of his objectives is to improve the infrastructure of the country and guarantee the access to the internet from all the Colombian territory.

The expected time for the school to generate its own financial resources is three years, and the expected time to start with its implementation is 2018. During the time of negotiation with the public institutions (2017) about the financial support Santos will be the president, however, during the implementation of the project, the president and the governmental plan could change, redirecting the budget of education and IT development to other causes. There is a risk that the next president would cut the budget and affect this project or in the other scenario increase the budget to accelerate the technological development.

Ministry of technology: Nowadays as part of the vive digital plan the Ministry is fixing the main goals and investing the most of the capital in infrastructure to guarantee the access to the internet and the digital devices. It is expected that once the coverage reach 70% of the

country, they would start investing the financial resources in training digital competences. It could be seen from two perspectives: the negative one sees a threat of a substitute service, and the positive one, sees it as an opportunity to interest them to invest in this project.

Economic forces: Nowadays the economy in the country is facing new challenges. The GDP in 2015 was composed mainly for the production of oil (39%), manufacturing (20%), Commerce, hotels and restaurants (16%), Financial and business services (15%) and others (10%). The economy strongly depends on the production of oil reason why after the prices fallen in 2015 and the valuation of the dollar the country is having a deceleration in the growing; the balance of payments is negative, the inflation is increasing and the consumption of products and services is decreasing (Banco de la Republica de Colombia, 2016).

In 2008 the government included in the national development plan a transformative productive program to diversify the portfolio of products and services of key industries to the international market. One of the industries chosen to leverage the economy of the country is the Outsourcing sector which is been strengthen through the creation of a robust regulatory framework, improving the infrastructure and logistics available, training human capital and giving access to financing (USAID, 2008).

The aspects mentioned before can facilitate or disturb the creation and sustainability of the NGO. The economic deceleration affects the financial solvency of the customers/donors, if they do not have enough solvency, they would not pay/donate financial resources. However, the PTP gives financial access and intents to train human capital in digitals and technical skills; it could transform the program into a client and a donor to train the youth in digital competences.

Social forces: The cycle of poorness, the lack of education and the demand of digital skills to find a well-paid job are three well known situations which impacts the social stability of the country. Colombia is divided into social classes: Class 0 - are the homeless people, classes 1 and 2- are poor people, class 3- 4-5 are in the middle and class 6 are rich people. The 80% of the Colombians are class 2 who repeat the cycle of poorness, especially because they have problems to access a good quality education and as a consequence find a good job.

Since this NGO looks to mitigate the impact of those social difficulties, it could have a good support of the 80% of the population who life with the problem plus the ones who would feel interested in supporting this cause. The school will use the digital marketing to promote and

legitimize this initiative to obtain the social support of the Colombian citizens and as a result big national and international companies could feel interested in giving funds with the purpose of legitimize their brand in the country through the social marketing.

Technological forces: The constant technological disruption creates a need for the companies to be updated with the ICT development in order to create internal strategies and take decisions align with the external facts. Since the technological advances are fast, varied and expensive to implement it is important to develop digital competences: to identify the right technology for the characteristics of the company, to learn fast how to use it and to inspire other people.

The governmental investment to build infrastructure which allow people to connect to the internet, the lowering of prices of digital gadgets, the credits that technological suppliers use to give to buy IT products are making technology more accessible to the Colombians. The digitalization of public services, the social networks and the requirement of big companies to know how to use computers and specialized software are making people feel interested in developing digital competences.

7.3 Digital Competences Model

The digital competences model which is going to be used to build the training program, curses and curricula of the NGO is based on the DIGITCOMP model constructed for the European Commission in 2013. Figure 3. Suggest the group of skills and attitudes relevant in the Colombian context in the 21st century. It is the result of the integration between the conceptual mapping done in the first phase of DIGCOMP and its adaptation according to the main findings and conclusions of this study resulting in the literature review, the In-depth interviews and the market analysis, see **ANNEX 10. Conceptualization of inputs for adaptation of DIGCOMP to Colombia.**

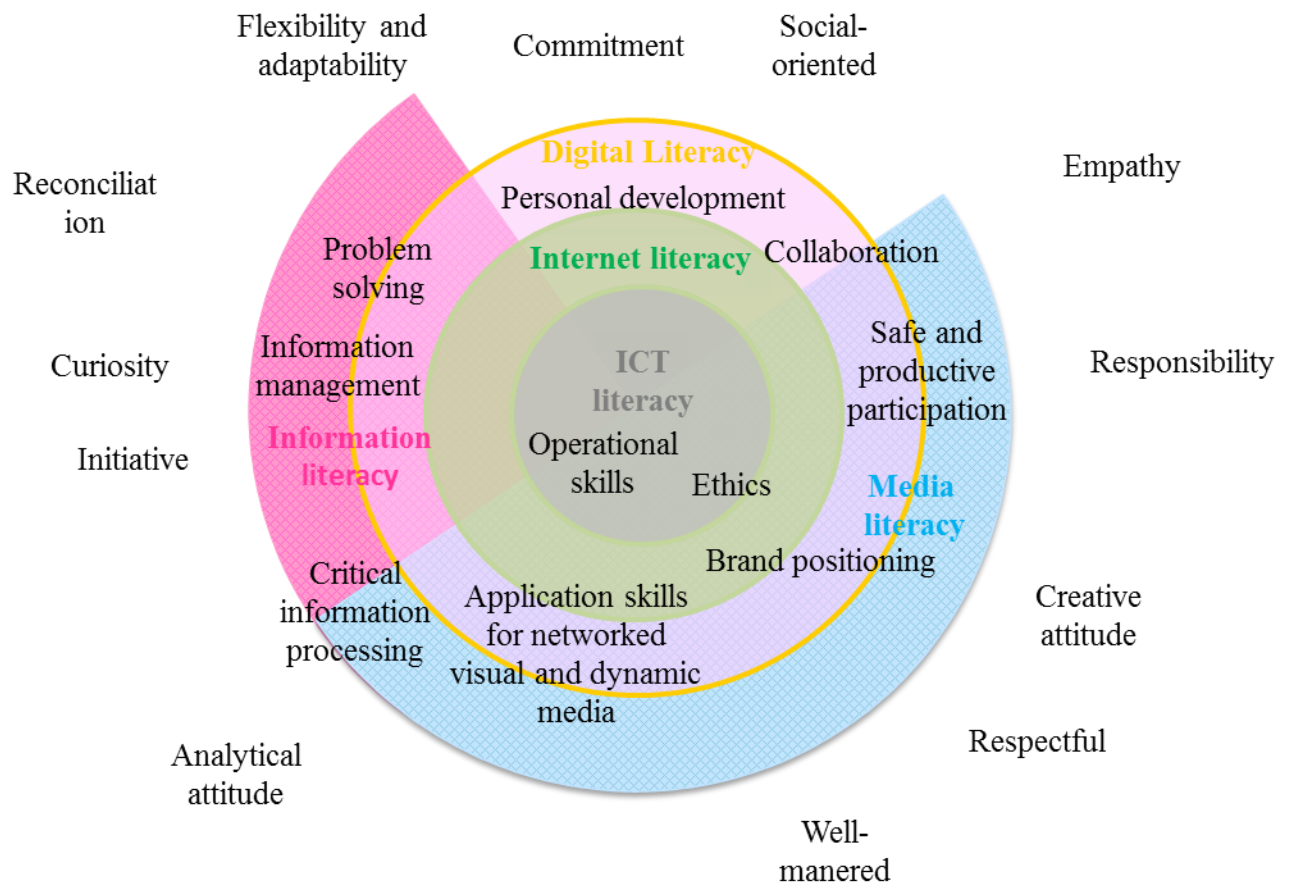


Figure 3: Digital Competence landscape in Colombia for the 21st century

* Original version adapted to the Colombian context from (European Commission, 2011)

DIGITCOMP Colombia adapts the original structural model according to the findings of this project: It considers the same competence-related structures, see **ANNEX 11. Research studies that influenced the structuring of DIGCOMP** and integrates its original building blocks of knowledge, skills and attitudes with the new building blocks derived from the conceptualization process of this project.

In the topic grouping: Skills and knowledge are related thinking about the design of the training program which is based in gamification, therefore, each learning session will teach the main concepts while developing the related skills at the same time. Skills and knowledge building blocks were arranged according to perceived increasing cognitive complexity. Attitudes are grouped and separated for their relationship. Figure 4. Shows the building blocks proposed in DIGCOMP. The blue ones are kept the same from its original version, the green ones are introduced for Colombia and the pink ones are an adaptation of its original version.

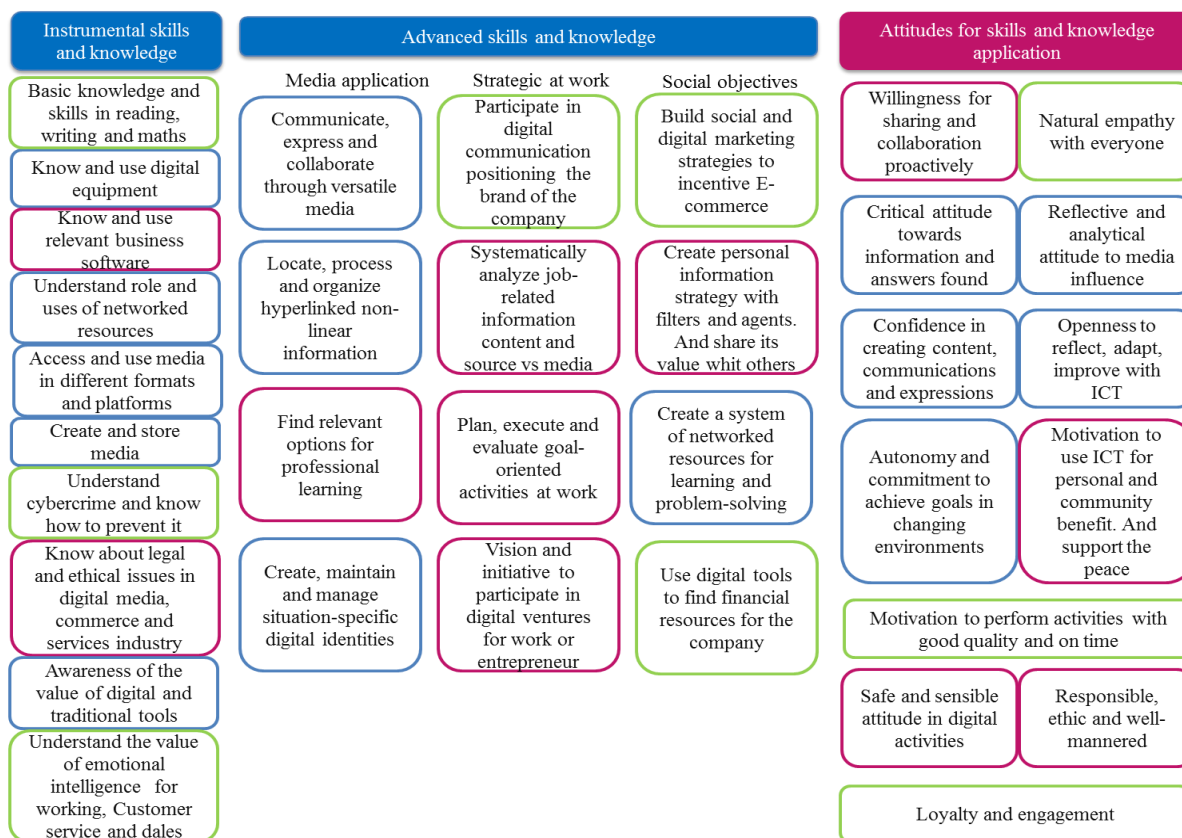


Figure 4: Knowledge, skills and attitude building blocks of DIGITCOMP Colombia

Instrumental skills and knowledge: Are the basic knowledge and abilities to use digital tools. Are a pre-requisite to develop advanced skills and to understand advanced concepts that would allow the students to have a good performance in digital environments. Without developing instrumental skills and knowledge as a first step it is not possible to develop digital competences.

Advanced skills and knowledge: “main areas that people should learn to apply in digital environments” (European Commission, 2011) for working and entrepreneur. These skills and knowledge are organized in a progressive order: ability to apply digital tools and media for specific tasks; strategic skills for benefiting from digital environments; integration of these digital aspects in digital environments for working and entrepreneur (European Commission, 2011)

Attitudes: values and intrinsic motivation to behave in certain way.

8. Internal Analysis

The internal examination of the NGO is done through the analysis of the value chain proposed for Michael E. Porter (1980). Aligned with the external analysis, this section will be focused in identifying the competitive advantage that the NGO has to obtain sustainable financial resources. The activities which add value to the institution are split into primary activities and support activities. **See figure 5.**

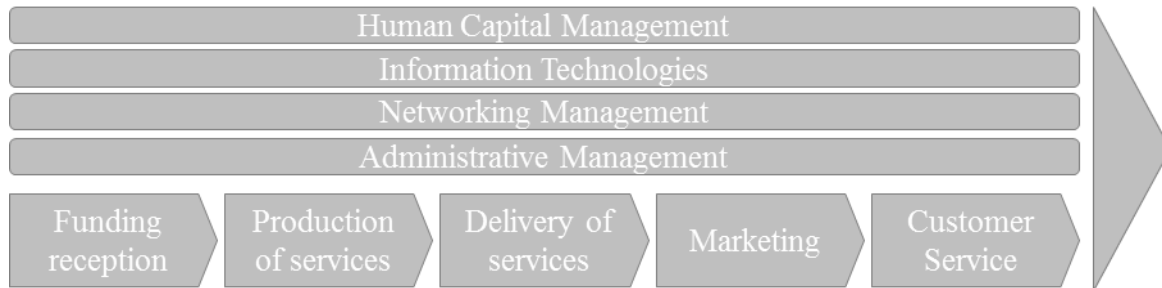


Figure 5: Value Chain of the NGO

8.1 Primary activities

Funding reception: The resources of the NGO will be provided for diverse public and private stakeholders who have different interest and expect different returns in exchange for their funding. Therefore, the most important activity is the control of the resources, registering in a proper software the amount of money or the value in Colombian pesos of the resources received identifying the stakeholder who provided it and the principal reason why is donating, in that sense the NGO can report the use of those resources in terms of the most relevant KPI's for each stakeholder. For instance, while a KPI reported to the MINTIC could be the number of social apps created for the students of the NGO a KPI reported to a big corporation could be the ROI of a social marketing campaign to improve its legitimacy in the country. Furthermore, in order to provide social trust and transparency, the NGO will publish online an annual accountability inform explaining the amount of money received, the use given to that money and the results obtained. The value of this activity is to provide trust and legitimacy to the NGO in order to build strong relationships with the stakeholders. To differentiate this activity with other NGOs it is important to maintain the KPI's and the countable information update to provide it to the donors every time they ask for it and present it in a friendly and understandable format, in the long-term a software must be acquire to automatize this function.

Production of services: It makes reference to the activities to be performed in the digital literacy process. The most important output of this activity is the level of development of the digital competence in the students which allow them to perform successfully in digital

working environments, reason why is vital to monitor the digital literacy methodology, evaluate the skills development of the students to analyze its impact and improve the weaknesses. The importance of this activity is to increase the know-how and value of the human capital, the most important resource when competing in the KPO sector. To differentiate the human capital from the other KPOs in Colombia, the NGO trains them in digital competences created for the European Commission, it creates a “brand-origin” psychological effect because in Colombia the European products are seen as a high quality standard. The digital literacy methodology is gamification, it is aligned with the newest trends of training and its effectiveness is proven for diverse researchers, it can give trust to the companies about the digital competences of the students and their engagement with digitalization processes. This activity differentiates the quality and expertise of the human capital which is going to provide the services

Delivery of services: It makes reference to the projects that the NGO will run for private companies. The most important functions in this activity are: Planning according to the needs of the clients, it will be done for a senior consultant and a student trained in digital competences. Execution: the student will be in charge of the implementation of the project with remote feedback of a senior consultant. The value of these actions are: to achieve the objectives of the projects to demonstrate its utility and incentivize the owners of MSMEs to hire long-term digital marketing services to the NGO. The first year the consulting services will be provided for free, after they notice that their profitability is increasing, they have the option to hire the service for a cheap fee calculated in base of their profits. The differentiation of the delivery of services of the NGO in comparison with the other KPOs is the cost due to the projects will be performed for students as a labor practice supported for retired consultants, it reduces the cost structure related with the human capital, permitting to offer better prices.

Marketing: It makes reference to the activities related to position positively the NGO in the mind of its stakeholders. The most important functions are the implementation of marketing programs or campaigns and the evaluation of its impact. The value of this activity is to legitimize the brand of the NGO, position its brand and build strong relationships with its stakeholders. The differentiation of this activity in the KPO sector is derived from its social purpose, the other companies in the KPO sector are companies with financial interests, however, the clients use to prefer hiring services that support social causes.

Customer service: It makes reference to the activities related to the communication with the client and the management of its satisfaction. The most important functions are: the effectiveness to attend the suggestions, questions or problems of the stakeholders, the management of loyalty programs and the decisions process customer-centered. The value of this activity is to create a long-term relationship with the stakeholders and to take decisions client-centered based on reliable data. The differentiation of this activity in the KPO sector is based on the tools and process to manage customer satisfactions and the innovation in loyalty programs. In Colombia the good service and empathy are part of the culture reason why is more a requirement to operate than a source of competitive advantage.

8.2 Support activities

Human capital management: are the activities related to the management of the workers. The NGO intends to provide KPO services for a low price and it is not possible to hire specialized professionals. Therefore, the most important activities of this area are: to effectively manage the knowledge, the development of the employees' competences and to engage the workers, the students and the freelance consultants with the purpose of the institution. The most expensive costs of KMOs is the payroll to specialized talent, since the NGO will provide its services with the students and specialized freelance professionals the costs for payroll will be less than its competitors.

Information technologies: are the activities related to the management of digital tools and devices. In the short-term the NGO will have the basic tools and software licenses provided for the government, mainly computers, tablets, internet connection and Microsoft office. However, in the long-term it is expected to have updated digital gadgets, advance software and apps that make more efficient the operation of the NGO derived from the development of the digital competences of the students. The competitive advantage in the KPO sector would be the know-how in the digital world, the capacity to develop IT strategies, the capacity to develop software and the opportunity to use it in its projects.

Networking management: The NGO has a business model which is based on the creation of networks, such as Airbnb, Uber and Facebook. A key activity is to build and manage the networks of the public and private corporative donors, MSMEs and freelance retired consultants. The value that creates this activity is to assure the key resources for the operation of the NGO. This activity reinforce the advantage of costs that the NGO has in comparison with its competitors due to it allows it to provide better prices to the clients.

Administrative management: are the activities performed for other support areas, such as, finance, legal, infrastructure, etc. Their function is to provide knowledge in their expertise to make more efficient the processes and the operation of the NGO. The advantage in comparison with other KPOs is the support that the government has to provide to the NGOs and the opportunity to use advance software in the activities of the company, both advantages provide efficiency and reduction of costs.

Summing up the value of each activity in the value chain gives as a result the competitive advantage of the company. According to the Bowman strategy clock which identifies the competitive advantage comparing the value perceived for the customers vs. the price perceived, it is possible to affirm that the NGO has a hybrid strategy because it has a low cost structure and its product, the methodology used and its business model are oriented to create differentiation. The hybrid strategy is the only successful route to increase the market share (Milla Gutiérrez, 2004)

9. Competitive analysis

The competitive analysis is based on the internal strengths and weaknesses of the company and the external opportunities and threats of the environment it operates.

The Internal capacity is characterized for integrating in its business model best and modern practices adapted for the competitiveness in the 21 century: obtaining key resources through networks, managing based on values, using gamification as a literacy methodology, enabling synergies of digital development in class to improve the efficiency of the business, client and human-centered culture, CRM, collaboration strategy to deliver differentiated products with a low cost structure. The weaknesses of the NGO in its implementation phase are produce for its lack of experience and lack of resources which imitates its independency and power to take decisions. It is expected to mitigate those weakness according to the experienced curve.

The external analysis evidences that the outsourcing services industry, which is where the NGO intends to obtain the most of its financial resources, is facing new opportunities to growth in the country. Due to the unique business model of the NGO some aspects can be seen as an opportunity or a threat. The most representative opportunities of the services industry is the public support to attract foreign investment summed to the lack of competitors that provide KPO services to the MSMEs. The most representative threats are the high

dependency on suppliers and clients during the implementation phase of the project because it increases the uncertainty on the environment challenging the management functions.

It is possible to conclude that the business plan builds for the NGO a hybrid competitive advantage which allow it to increases the market share in a sustainable way, moreover, the industry it operates in is giving opportunities to grow. The biggest challenge of the implementation phase are: to build and manage properly the networks and relationship with the key stakeholders, and to reduce the dependency that the NGO has to obtain key resources.

Strengths	Internal analysis	Weaknesses
<ul style="list-style-type: none"> • Transparent funding system and policy • gamification for digital literacy • DIGITCOMP with brand-origin effect • Low cost structure • Legitimate brand for its social purpose • People-client-centered culture • IT high capacity • Knowledge management focus • Loyalty programs • Sustainable business model 		<ul style="list-style-type: none"> • Uncertain amount of initial capital • Lack of experience • Lack of knowledge • Immature network • Inexperienced workers • Uncertain quality of key resources
Opportunities	External analysis	Threats
<ul style="list-style-type: none"> • PTP program • Growth in the outsourcing services sector • Foreign investment • Few competitors • MSMEs unattended for KPOs • 71% of MSMEs in the market share • No direct competitors • National Development plan • Vive Digital program • Constant technological disruption • High social support 		<ul style="list-style-type: none"> • Risk of low support of the government • Distrust in NGOs • MSMEs with low financial resources • Public institutions bureaucracy • Free substitute programs • High bargain power of suppliers • High bargain power of clients • Change of government • Recent economic deceleration

Figure 6: SWOT Analysis

10.Objectives

General Objective of the business plan: To create the guideline to build a digital competences NGO in Colombia adjusting the DIGCOMP model created for the European Commission to the Colombian contexts.

General objective of the NGO: To increase the use of ICT in Colombia: developing digital competencies in underprivileged youth, functioning with a sustainable business model and using an engaging digital literacy methodology

Specific objectives of the NGO

- To increase the probability of the students to find a job or be a digital entrepreneur reducing their probability to repeat the poorness cycle
- To increase the number of youth who feel interested in studying ICT majors
- To increase the number of companies which use ICT in their operations to increase efficiency and competitiveness
- To increase the number of digital entrepreneurship

11. Development strategy

11.1 Mission

The Digital Competences School is a Non-profit organization in Colombia which trains underprivileged youth in danger of digital exclusion from 18 to 22 years old in digital competences. As a result of its actions the NGO aims to increase the use of the ICT in the country and obtain its benefits in the political, economic and social aspects including increasing of employability, digital entrepreneurship, breaking poorness cycle, among others. The NGO is financed for its partners in the public sector, private funds and the payment for the provision of HR and Marketing outsourcing services to private companies.

11.2 Vision

To be recognized as a high quality digital competences NGO which provides to the society skilled professionals who: have an excellent performance in digital environments, solve business and social issues using ICT and are digital leaders/entrepreneurs.

11.3 Values

- ✚ Transparency ethics: “If you cannot tell it do not do it”
- ✚ Service: “Treat the others how you want to be treated”
- ✚ Creative diversion: “Creativity is the intelligence having fun”
- ✚ Critic: “Find something and know how to use it are totally different things”
- ✚ Initiative: “do not leave for tomorrow what you can do today”

11.4 Strategy

According to the objectives, mission, vision and values of the school and the characteristics of the environment around it, the initial strategy of development will be Collaboration. It is the most suitable strategy to the first phase of the project due to the initial investment to implement the school is higher than the initial capital. The collaboration strategy increases the effectiveness in the use of resources and will allow the organization to acquire resources that the school would not be able to afford by its own, furthermore, the risk of the resource sharing is low (Kearns, 2000). It does not mean it would be the development strategy during all the lifecycle of the school, when it can generate enough revenues to sustain by its own, the strategy would be more focused on the horizontal growing to expand around the country and in a long term to other countries in South America. The main goal of the resource sharing is to save money and benefit the school and their partners using synergies. The agreements that the school will look for are oriented to share resources of people, equipment, infrastructure, information and other benefits from existing programs of the government.

In Colombia there is no other organization with the same characteristics. Its creation is based on the review of best practices in the market, remote talks with NGO directors during volunteering periods, personal experience as a member of a family who owns a MSME and professional experience in HR business consulting in Colombia.

11.5 The business model

See **ANNEX 12. CANVAS**, gives a first inside of: the key partners, activities and resources of the NGO, the value proposition for its stakeholders, the relationship that must have with each client, the channels to communicate with them, the target of clients and the financial analysis of the cost structure and the income resources. Each aspect is deepened in the section of the definition of implementation policies.

Key partners: Are the governmental institutions whose public functions, purposes and objectives are leverage for projects like this one and the national and international companies or universities which feel interested in supporting this cause. They are key partners of the NGO for different reasons:

The partnership with MINTIC and MEN is important to legitimate the NGO: Colombia is a country with a high rate of fraud and cybercrime. 7 of 10 companies have been victims of fraud (KPMG, 2013) the companies affected for cybercrime is the 83% and one of the biggest reason is the high staff turnover (Kroll, 2015-2016) reason why Colombians do not

use to rely easily in people or unknown companies. The sponsorship of public institutions will give trust to the people and the companies to give funds and hire its services

The partnership with national and international universities is important to obtain human talent: The company's performance is the result of its workers performance. Competent and well train human capital is vital but expensive. To reduce the cost of good talent the NGO will work with junior permanent staff and senior volunteers. Some universities require their students to perform social service as a part of their curricula, students with a high level of digital competence, especially engineers or international students from developed countries can add value doing a volunteering program in the NGO.

The partnership with public institutions like MINTIC, the Social Prosperity Administrative Department and Bancóldex is important to obtain operational resources: Those public institutions have programs to donate digital gadgets and tools, build infrastructure, give financial assistance and credits to invest in development of MSMEs, among others. The main goal of the NGO is to obtain those resources before starting with the classes to provide a good quality service with a moderate amount of initial capital.

The partnership with companies in the private sector is important to obtain financial resources: This NGO will provide to the private companies outsourcing services in Social Marketing, Digital Marketing and Human Resources for a low-cost. It is important that they feel interest in hiring the service and obtain their loyalty.

Key activities: Throughout the initial three years implementation of the NGO the strongest effort is managerial. As expressed in the competitive analysis, during the implementation of the project the most important activity is to build and manage the networks and relationships with stakeholders, see **ANNEX 13. Chronogram of activities**. In the planning phase it is evidenced that the critical activities are the ones related to the consecution of resources for the operability of the NGO.

Key resources are: financial resources to acquire the other resources. Talented human capital resources to perform the functions of the school. The digital literacy training program which is the tool to develop the digital competences of the students. An adequate infrastructure that guarantee the students will acquire the competences defined in the model.

Value proposition: It varies depending on the target. For the state the value proposition is to be a partner in achieving its socioeconomic goals with private resources. For the big

corporations the value proposition is to provide two services for the price of one due to the NGO legitimize them through RSC for its financial support and provide them digital marketing services. For the MSMEs the value proposition is to digitalize their business, increase their clients, size and profits for free during one year and for a small fee after it.

Relationship with clients: The NGO is a service provider to all its stakeholders, therefore the good service and a long-term relationship building process is vital. According to Foster, 2013 to build good relationship with the clients it is important to be patient, get to know the industry and the characteristics of the client, be aware of the impact of decisions, treat every client as the most important one, respond promptly, open multiple communication channels and summarize agreements (Forbes, 2013). Although the relationship guidelines apply to all the stakeholders the role of the NGO is different in each case: With the public institutions and universities is a partner to achieve social objectives, with the private business is a supplier of services which increase their Return on Investment, and with the students is an educative institution which help them to find labor opportunities.

Target and channels: Stakeholders are divided into 7 groups, their interest in the project is different and the persons of each target have sociodemographic dissimilarities, it must be taken into account to elaborate the messages and select the most suitable channels of communications, the groups are: public institutions, private big companies, MSMEs, International universities and students association, national universities, society and students. The channels chosen to communicate with the stakeholders follow a BTL strategy because it is cheaper and it is target oriented. It includes Personal meetings, printed reports, physical and digital POP material, e-mails, social media, mobile national and international calls, videoconference tools, software in the cloud, web page, engines position and workshops in strategic places. The marketing policy section explains the concepts deeply and related.

Cost structure and Income sources: The cost structure of the school is integrated for fixed and variable costs derived from its management and operation. The highest cost in the implementation phase is the administrative personnel in charge of the communication and coordination of the agreements with the public institutions. The income resources in the implementation phase of the NGO are received from the public sector and private donors. The finance policy and financial evaluation sections explain the concepts deeply.

12. Definition of implementation policies

It is important to anticipate and prepare the organization for the administrative effects of the collaborative structure defining who gets what, when, why and how (Kearns, 2000). The implementation phase of the NGO will follow a development strategy of collaborative resource sharing, reason why the policies are created for the period of one year and it should be adapted according to the changes in the context. It is important to mention that the final version of the digital competences model is defined in the description of the product of the marketing policy; it could be modified too according to the characteristics of the environment.

12.1 Marketing policy

The marketing policy is the most important tool of the NGO because it sets and manage its relationship with the stakeholders. Since the implementation phase will be financed for private and public institutions, the marketing policy is framed in the 8Ps of the marketing mix proposed for companies that deliver B2B services, including: Price, Product, Place Promotion, People, Physical evidence, Process and Productivity (Crane, 2013)

The main objectives of the marketing policy are:

- To position the NGO positively in the mind of its stakeholders
- To be known as an institution built to improve social and economic issues
- To be recognized for delivering a good quality service and innovative methods of working

12.1.1 Product

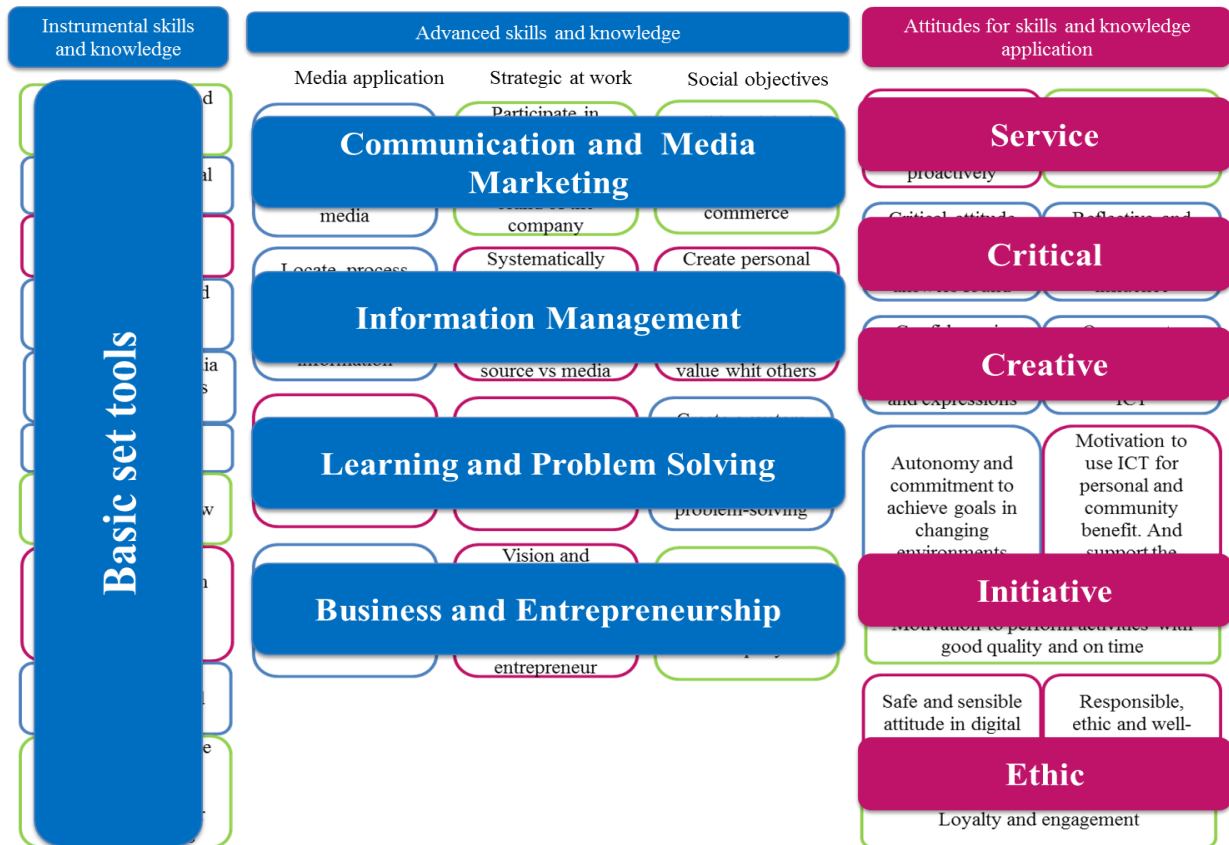


Figure 7: DIGITCOMP Colombia

The product of the NGO is the Digital competence model resulting from the literature review and the market analysis. Grouping the concepts logically it is possible to obtain clusters backed up as digital competences areas. As a result the digital competences model is composed for 5 competences areas and 5 attitudes. Figure 7 present the cluster grouping of the building blocks.

For its posterior application and implementation in an educative environment the 5 digital competences areas are divided into digital competences. Each digital competence has three proficiency levels applied to the commercial and services sector. The 5 attitudes are transversal to all the competences because are the motivators to perform and behave. The description of the model:

1. Basic set tools: skills and knowledge needed to operate, understand and have the ability to use ICT media for working or entrepreneur in the services and commercial industries in Colombia. It includes the awareness of the existence and understanding of the basic use of tools, such as using a mouse, turn on a computer or unblock a tablet, and more advance skills

to identify opportunities, and awareness of the ICT operation in the working sector. The basic tools is a prerequisite to be able to develop digital competences.

Digital Competences:

1.1 Awareness of the existing ICT tools: To know about the existing ICT tools in their market and its benefits

A-Foundation(personal)	B- Intermediate(work)	C-Advanced (social)
I can name few digital tools and gadgets in the market	I recognize why the digital tools are important for working	I can explain and aware others the importance of the ICT and its use

1.2 Use the tools for working: To link business and industry knowledge with the use of ICT

A-Foundation(personal)	B- Intermediate(work)	C-Advanced (social)
I recognize the relationship between some theories and how I can use it in digital environments	I can use ICT applying the concepts I know about management, entrepreneurship and legal frameworks.	I can help others combining my knowledge in management, entrepreneurship, the commerce and services industry with my skills to use ICT

2. Communication and Media Marketing: skills and knowledge to express and communicate each message in the suitable type of media format adapted to the target audience of the message. Capability to position a brand in their clients mind through digital media. Ability to combine traditional media and digital tools to build social and digital marketing strategies. Ability to participate in E-commerce.

Digital Competences:

2.1 Communicate and share information and content: To communicate through digital devices, to share with others the location and content of information and knowledge, to be proactive in the spreading of news, content and resources.

A-Foundation(personal)	B- Intermediate(work)	C-Advanced (social)
I can use ICT devices to communicate and share information with others	I can participate in social networking sites and online communities, where I pass on or share knowledge, content and information with important stakeholders for the company.	I can create valuable knowledge through the exchange of information, content and resources with others in online communities, networks and collaboration platforms.

2.2. Managing digital identity and positioning: To create, adapt and manage one or multiple digital identities, to be able to protect the companies' e-reputation, to deal with the data that one produces through several accounts and applications and to position the company brand

A-Foundation(personal)	B- Intermediate(work)	C-Advanced (social)
I am aware of the benefits and risks related to digital identity and e-reputation.	I can shape and protects the companies e-reputation to position it positively in the peoples mind and keep track of the digital footprint	I can manage several digital accounts according to the context and purpose. I use the brand position I built to cause a positive social impact.

2.3 Developing integrating and re-elaborating: To create creative content in different ICT formats including multimedia. To modify, refine and mash-up existing content and information to create new having into account citation practices and copy right

A-Foundation(personal)	B- Intermediate(work)	C-Advanced (social)
I can create simple digital content and make basic changes to the content that others have produced having into account citation practices and copy right.	I can edit, refine and modify the content I or others have produced in different formats, including multimedia having into account the corporate image of the company, citation practices and copy right.	I can mash-up existing items of content to create new ones. I can produce digital content in different formats, platforms and environments. I can use a variety of digital tools for creating original multimedia outputs and teach others to do it.

2.4 Programming: To apply settings, program modification, program applications, software, devices, to understand the principles of programming, to understand what is behind a program.

A-Foundation(personal)	B- Intermediate(work)	C-Advanced (social)
I can modify some simple function of software and applications (apply basic settings).	I can apply several modifications to software and applications (advanced settings, basic program modifications).	I can interfere with (open) programs, modify, change or write source code, I can code and program in several languages, I understand the systems and functions that are behind programs.

2.5 Marketing: to create social marketing strategy for increasing legitimacy. To create digital marketing strategy to increase market share and sales. To combine traditional and digital channels for marketing campaigns according to the objective of the messages, target and availability

A-Foundation(personal)	B- Intermediate(work)	C-Advanced (social)
I can create marketing campaigns combining traditional and ICT channels according to its purpose	I can create social and digital strategies to increase the legitimacy, market share and sales of the company	I can teach others how to create social and digital strategies to increase the legitimacy, market share and sales of the company

2.6 E-commerce: to take advantage of ICT in the points of sales (Beacon, NFC, QR), use ICT for payments and financial transactions, use ICT to manage inventories and logistics, digitalize the commercial network management, use smartphones for sales (ICEMD-ESIC, 2015)

A-Foundation(personal)	B- Intermediate(work)	C-Advanced (social)
I can use ICT for payments and financial transactions and to manage inventories and logistics preventing cybercrime.	I can use and implement ICT to digitalize the commercial network management. I can take advantage of ICT to improve customer experience and customer service.	I can increase sales through the use and implementation of ICT.

3. Information Management: skills and knowledge to locate critically process and organize information for working purposes. Capability to evaluate and synthesize information and select the proper media to present it. Develop personal information systems to keeping update with relevant information build knowledge and share it with others.

Digital Competences:

3.1 Browsing, searching and filtering: To access and search for online information, to articulate information needs, to find relevant information, to select resources effectively, to navigate between online sources, to create personal information strategies

A-Foundation(personal)	B- Intermediate(work)	C-Advanced (social)
I can do some online searches through search engines. I know that different search engines can provide different results.	I can browse the internet for information and I can search for information online. I can articulate my information needs and I can select the appropriate information. I use RSS to obtain relevant information for the company.	I can use and teach others a wide range of search strategies when searching for information and browsing on the Internet. I can filter and monitor the information I receive. I know whom to follow in online information sharing places.

3.2 Evaluating information: To gather, process, understand and critically evaluate information

A-Foundation(personal)	B- Intermediate(work)	C-Advanced (social)
I know that not all online information is reliable.	I can compare different information sources valuable for the companies operation	I am critical about the information I find and I can cross-check and assess its validity and credibility.

3.3 Storing and retrieving information: To manipulate and store information and content for easier retrieval, to organize information and data

A-Foundation(personal)	B- Intermediate(work)	C-Advanced (social)
I know how to save files and content (e.g. texts, pictures, music, videos, and web pages). I know how to go back to the content I have saved.	I can save, store or tag files, content and information, I have my own storing strategy But I can adapt it to the storing strategy of the company/project I work for. I can retrieve and manage the information and content I or others have saved or stored.	I am proactive proposing ICT methods and tools to organize common files, content, and information relevant for a group of people. I can deploy and a set of strategies for retrieving the content I or others have organized and stored.

4. Learning and Problem Solving: skills and knowledge to benefit from the digital tools and media for professional self-learning and problem solving. Capability to plan, execute and evaluate individual performance in the self-learning process and the resolution of problems. Capability to create a collaborative system of networked resources.

Digital Competences:

4.1 Identify digital competence gaps: To understand where own competence needs to be improved or updated, to support others in the development of their digital competence, to keep up-to-date with new developments.

A-Foundation(personal)	B- Intermediate(work)	C-Advanced (social)
I have some basic knowledge, but I am aware of my limits when using technologies.	I know how to learn to do something new with current or new technologies. I frequently update my digital competence according to the company needs and the technological trends of the sector.	I teach others my self-learning methods.

4.2 Solve technical problems: To identify possible technical problems and solve them (from trouble-shooting to solving more complex problems).

A-Foundation(personal)	B- Intermediate(work)	C-Advanced (social)
I can ask for targeted support and assistance when technologies do not work or when using a new device, program or application.	I can solve easy problems that arise when technologies do not work.	I can solve a wide-range of problems that arise from the use of technology and help others to solve their ICT problems.

4.3 Identify needs and technological responses: To assess own needs in terms of resources, tools and competence development, to match needs with possible solutions, adapting tools to personal needs, to critically evaluate possible solutions and digital tools

A-Foundation(personal)	B- Intermediate(work)	C-Advanced (social)
I can use some technologies to solve problems, but for limited tasks. I can make decisions when choosing a digital tool for a routine practice.	I understand what technology can do for the company and what it cannot. I can solve a non-routine tasks by exploring technological possibilities. I can select appropriate tools according to the purpose and I can evaluate its effectiveness.	I can make informed decisions when choosing a tool, device, application, software or service for the task I am not familiar with. I am aware of new technological developments. I understand how new tools work and operate. I can critically evaluate which tool serves better for working companies and social campaigns purposes

5. Business and Entrepreneurship: skills and knowledge to participate in digital initiatives of the environment. Vision to take advantage of opportunities in the digital world to entrepreneur or to obtain benefits for the business. Capability to use digital tools to find financial resources for the company.

Digital Competences:

5.1 Safety: To protect own devices and to understand online risks and threats, to know about safety and security measures. To understand common terms of service, active protection of personal data, understanding other people privacy, to protect self from online fraud and threats and cyber bullying

A-Foundation(personal)	B- Intermediate(work)	C-Advanced (social)
I can use basic steps to	I know how to protect	I frequently update security

protect my devices (for instance: using anti-viruses, passwords, etc.). I know that I can only share certain types of information online.	corporate digital devices, I update my security strategies. I can protect online privacy. I have basic knowledge of how corporate data is collected and used.	strategies. I can take action when the device is under threat. I often change the default privacy settings of online services to enhance protection. I have an informed and wide understanding of privacy issues and I know how corporate data is collected and used.
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5.2 Participation and collaboration. Consulting and management insides: To seek and participate in digital initiatives, to obtain financial resources derived from the use of ICT.

A-Foundation(personal)	B- Intermediate(work)	C-Advanced (social)
To know and fulfill requirements to participate in projects/initiatives which can increase its profitability.	To locate and participate in projects or ICT initiatives which can increase the profitability of the company/project.	To successfully participate in ICT contests and initiatives obtaining financial resources.

Service attitude: people oriented attitude to treat everyone with empathy. Motivation to help, share and collaborate to everyone with a positive attitude

Critical attitude: consciousness about the diverse quality of information found online. Awareness of the reliability and pertinence of certain media and sources and digital tools for their tasks.

Creative attitude: motivation to be an active participant and producer in digital environments. Openness to learn, adapt and invent using ICT.

Initiative attitude: auto motivation to achieve goals in changing environments using ICT for personal and community benefit. Awareness to perform activities with good quality and on time. Inspiration to aware people about ICT benefits and to use the competences to help others and seek for the peace of the country.

Ethic attitude: awareness to behave transparent, respectful, well mannered, loyal and preventive in digital environments.

12.1.2 Price

The pricing strategy should be aligned with the initial hybrid strategy of the NGO, therefore, to gain market share a low price would be charged for all the services. The pricing formula includes the costs of the project team plus the profit margin expected:

Cost consultant 1 per hour * number of hours in the project + Cost consultant n per hour * number of hours in the project + profit margin = Final price. (1)

According to the Ley 50 de 1990, Art. 20 Colombians are allowed to work 48 hours per week and 8 hours per day from Monday to Saturday. The calculations of price are made having into account the minimum salary for 2016: 689.455 COP monthly, 22.981,83 COP daily and 2.872,73 COP hour and supposing the TRM between the Colombian Peso (COP) and the Euro (EU) is: 3.000 COP = 1 EU.

Minimum salary	Colombian Peso (COP)	Euro (EU)
Per month	689.455	229,9
Per day	22.981,83	7,7
Per hour	2.872,73	0,96

Table 2: Minimum Salary Colombia 2016

The price of the portfolio of services offered for the NGO varies depending on the financial capacity of the clients:

1. The price for providing marketing services to big private corporations is composed for the expected profit margin per project in the initial phase which will be 50% and the cost per hour of the project team composed for one student in labor practice and a free-lance consultant.

Cost student (cost*time) + cost expert consultant (cost*time) + (cost student + cost expert consultant)*40% =Price (2)

In that case the prices would be:

$$\begin{aligned} \text{Price (1 month)} &= \text{student } (2.155*160) + \text{consultant } (20.000* 30) + 50\% \text{ margin} \\ &= 1.244.800 \text{ COP} = 415 \text{ EU} \end{aligned}$$

2. The price for providing information about the students of the school for their recruiting and selection process and perform a pre selection of candidates according with their requirements will be one minimum salary if they hire the person: 689.455 COP = 229,9 EU.

3. The price for providing digital consulting services to the MSMEs will be free for one year. According to the owners who participated in the In-depth interviews the maximum price they would pay for digital outsourcing services is related to the extra income they obtain for it, therefore the price for this service is calculated having into account the ROC estimated:

$$\begin{aligned} \text{Monthly invested capital in the project: payment trainee (2.155 COP*80h) + payment} \\ \text{consultant (20.000 COP*10h) + cost of training the trainee (265.334 COP)} \\ \\ =656.067 \text{ COP} \end{aligned}$$

According with the conclusions of the literature review the monthly ROC of the consulting companies could varied from 5% to 33%, in a realistic scenario the ROC could be 15%, therefore the price for the service will be:

$$\begin{aligned} \text{Investment} + (\text{investment}) * \text{ROC expected} = \text{price}(3) \\ \\ = \text{investment } 656.067 + (656.067) * 15\% = 754.477 \text{ COP} = 251 \text{ EU.} \end{aligned}$$

12.1.3 Place

The objective of the NGO is to operate in all the departments of the country, specially the poorest ones. However, the headquarter will be in Bogotá due to the key public and private donors are highly concentrated in the capital. The neighborhood “Santa fê” is one of the poorest ones, there are a lot of families with low resources to send their youth to the university and it is close to the downtown where the most of the public institutions have their offices. Furthermore, the investment of the government in parks and schools in the neighbor provides the infrastructure needed for the gamification methodology which is going to be used for the literacy process.

In the first phase, the main idea would be to use the installations of one of the public schools of the neighbor:

- COLEGIO ANTONIO JOSE URIBE
- COLEGIO AULAS COLOMBIANAS SAN LUIS
- COLEGIO EL VERJON
- COLEGIO EXTERNADO NACIONAL CAMILO TORRES
- COLEGIO JORGE SOTO DEL CORRAL
- COLEGIO LOS PINOS
- COLEGIO MANUEL ELKIN PATARROYO
- COLEGIO POLICARPA SALAVARRIETA

In the long term the main objective is to open centers in other locations in Bogotá and in other departments of the country.

12.1.4 Promotion

The promotion will follow a pull strategy using BTL media which is cheap and reach specific publics. Since the NGO has diverse stakeholders it is important to adapt the messages and the communication channels according to the target and the objective of the communication. The following matrix describes the promotion strategy in the implementation phase.

Target	Objective of communication	Better channel
Public institutions	<ul style="list-style-type: none"> . To sell the idea of the NGO . To ask for resources . To inform achievements 	<ul style="list-style-type: none"> . Personal meetings using digital software and tools to cause more impact when presenting.
Private big companies	<ul style="list-style-type: none"> . To sell services . To inform objectives achieved . To inform KPIs of improvements . To position the NGO in their mind 	<ul style="list-style-type: none"> . Personal meetings using digital software and tools to cause more impact when presenting. . Emailing, wordpress, RRSS and POP material
MSMEs	<ul style="list-style-type: none"> . To aware them about benefits of ICT . To invite them to participate in the program . To inform KPIs of improvements . To position the NGO in their mind 	<ul style="list-style-type: none"> . Personal meetings using digital software and tools to cause more impact when presenting . POP material with success cases of ICT in MSMEs . Email with portfolio of services . Conferences
International Institutions	<ul style="list-style-type: none"> . To present the project . To ask for support . To include the NGO in their volunteering programs lists 	<ul style="list-style-type: none"> . Online communities, social innovation portals, email, blogs, forums and networks.
National universities	<ul style="list-style-type: none"> . To present the project . To ask for support . To include the NGO in their volunteering programs lists 	<ul style="list-style-type: none"> . Personal meetings . Emails and POP material . Conferences . RRSS
Society	<ul style="list-style-type: none"> . To legitimize the NGO . To inform its services and activities for the society . To position the brand in their mind 	<ul style="list-style-type: none"> . Social media, blogs, online forums, communities, portals, RRSS. . Messages in diverse multimedia formats . Workshops, fairs and activities . A
Students	<ul style="list-style-type: none"> . To present the NGO . To inform advantages, methodology and enrollment process 	<ul style="list-style-type: none"> . Fairs in public parks, POP material in poor neighbors, voice marketing

Table 3: Communication matrix

12.1.5 People

In order to be aligned with the values of the NGO the people who work for the institution must be serviceable, critic, creative, proactive and transparent and they should have the skills and knowledge required for the position. Since the financial capacity of the NGO in its implementation phase is uncertain the salaries are low, therefore, its workers must have an intrinsic motivation to work and perform well, they should feel passion for helping people through the social Innovation.

The expected profiles in the company are: Young talent to feel more interested to work for a startup than a big corporation, interns of universities who want to do social internships as a requirement of their curricular program, national and international volunteers, retired workers who want to do sporadic and flexible projects.

12.1.6 Physical environment

The appearance of the assets of the NGO must be aligned with the image it wants to inspire. In the initial phase there are needed just to kind of classrooms:



	<p>The first one:</p> <p>It is the space where the students will have theoretical classes. There must be enough space to move the chairs according to the topic and the activities of gamification to be perform in each session.</p>
	<p>The second one:</p> <p>Is a creative space where the students will go to do their assignments or to thing about new ideas. It must be colorful and have the digital tools and devices they need to develop their ideas.</p>

Figure 8: NGO Physical environment

The creative concepts to design the logo of the NGO are based in the fields it is working in: Technology, social innovation and education for youth. Figure 9. Shows two options of logos that integrates those concepts through the usage of the blue color that is the traditional in the

IT companies, the pink color that represents the kindness of social innovation causes and the image that represents the knowledge and the students.



Figure 9: Optional Logos for the NGO

12.1.7 Process

Each business has different characteristics and challenges, reason why the services provided must be adapted to their specific needs. The common cycle to deliver KPO services is defined for the process of the relationship client-supplier (Asociación Española de Empresas de Consultoría, 2008). the NGO will perform the following process when providing a service:

1. Identification of the need. The customer make a requirement or the workers of the school make a proposal based on the characteristics of the business. The need should be related with the services that the school provide.
2. Specifications. The client and the school agree on the characteristics of the service establishing the scope, approach, methodology, objectives, assumptions, projects management, calendar, the price of the project and the responsible to obtain extra- resources that could be needed.
3. Selection of student. According to the characteristics of the project the school will choose the student who is more suitable to it according to the grade of development of his/her competences.
4. Contract. The formalization of the service will be make though the signature of a formal contract between the client and the school and it should contain all the specifications of the project set in the step 2 plus the especial clauses that may apply.
5. Service. The project is implemented, during this period of time the management efforts must be strong to; guarantee success during the planning, coordination, and evaluation phases of the project; monitor the cost, quality and accomplishment of the calendar; supervise the performance of the student; and develop a closer relationship with the client.

6. End. The last phase or the relationship client-school could be continued for two types of endings. For one hand, the closure of the project represents the end of the contract between the client and the school because the project is complete or because both parts agree on finish it. For the other hand, there could be a continuation of the project which means that the client want to hire other project derived from the previous one and this cycle would be repeated.

12.1.8 Productivity

In order to increase productivity and improve the quality of the service a selection of KPIs are set in the activities of the value chain:

Primary activities:

Funding reception:

- Transparency perception
- Time to answer the accountability petitions of the donors

Production of services:

- Evaluation results of the students
- Number of new digital ideas
- Number of digital innovations

Delivery of services:

- Number of corporations interested in hiring services for second time
- Number of MSMEs interested in hiring services
- Number of recurrent clients
- Number of partners

Marketing:

- Perception of the NGO of the stakeholders
- Attendance rate to the events organized for the NGO
- Number of followers in social networks
- Number of visits in the web page
- Number of shares of the campaigns or posts of the NGO

Customer service:

- . Number of complains and claims
- . Answer time to the stakeholders
- . Satisfaction rate of the stakeholders

Support activities:

Human capital management:

- . Happiness rate of the employees
- . Innovation rate of employees
- . Knowledge retention strategies, tools

Information technologies:

- . Security rate of identity and information
- . Number of computers and digital tools
- . Number of new software

Networking management:

- . Number of partners
- . Satisfaction of partners

Administrative management:

- . Time to answer internal petitions

12.2 Technology policy

The digital gadgets, computers and tablets; the software licenses, Microsoft office, design programs and business case simulators; and internet connection to be used in the implementation phase of the NGO are expected to be donated for the Ministry of technology as part of their Vive Digital Plan. In the implementation phase it is probable that the number of students is more than the gadgets available reason why it is important to build a technology policy which regulates its use.

There are three main purposes to use ICT in the school: for classes, for creating and for working. When the classes requires computes it is booked automatically, however when the students want to use it for creative initiatives or to work in the corporations or MSMEs projects they need to book it a week before. It is important to track who use which gadget in which time in case of damage or cybercrime.

The following principles apply when all the students or the employees are working with ICT:

Email: all the students will have an institutional email which must be used only for institutional purposes. Confidential information must be encrypted and send with a clear message that says that information is confidential

Internet: only trustable, legal and decent web sites must be visited, it is not possible to write in social networks, posts or forums comments or opinions that damage the image of the institution. All the files download must be analyzed for the antivirus before open it. When using information found online it is important to do the reference.

Working tools: The employees who have their own computer are allowed to take it home, under their responsibility. If they want to work at home without the risk of carrying the computer in the street, they are allowed to upload the information in the cloud so they can use it in other locations.

Computers: for each 4 courses there must be one computer room with 26 computers, 25 for the students and 1 for the professor. Each trainee will have one computer to work during the traineeship. Free-lance consultants must use their own computer.

Safety: all the students and workers of the NGO are responsible of the digital devices they are using and the confidential information of their clients.

The people who are discovered doing unethical actions with the technological resources of the school will be fired- expelled from the institution, reported to the police and demanded for the crimes that correspond.

12.3 Organization policy

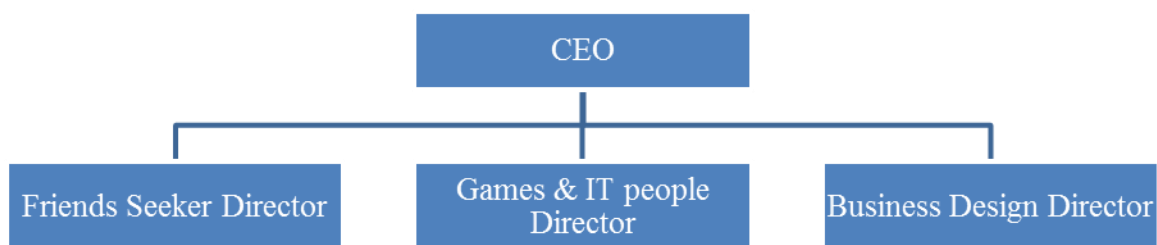


Figure 10: NGO Chart

The implementation phase will be performed for four full time directives and the volunteers who feel interested in participating of the project. Each directive has an important role to start with the operation of the NGO.

The Chief Excellence Officer (CEO) is the person in charge of: managing the business, adding value in the key activities, generating a competitive advantage, and achieving the objectives, mission and vision of the NGO. His/hers functions are: To plan the strategy, to coordinate the Directors in its implementation, to take important decisions, to define operational improvements, to define marketing and positioning guidelines, to manage the relationships with stakeholders (Partners, employees, society), to create leadership and a culture based in the corporate values through the example and to control the financial resources.

The Friends Seeker Director is the responsible of the external relationships with the donors and clients. Is in charge of making deals with the public institutions to obtain resources for the operation of the NGO and selling services to the corporations and MSMEs. His/hers functions are: To present the institutions to the potential partners-clients, to manage the relationship, to supervise the execution of the projects to assure a good quality service and to perform marketing campaign that position positively the brand.

The Games & IT people Director has two roles. For one hand, is the responsible for managing the academic operations, the digital literacy process and the methodology, for the other hand, is in charge of managing the Human Talent and IT areas. His/hers functions in the academic area are: To set the digital literacy strategy and methodology, to give the guidelines about best practices and trends in digital literacy process, to manage the use of gamification, to evaluate the quality and impacts of the courses and perform improvements. His/her functions in the administrative area are: to transfer the academic knowledge to the operations of the NGO, training the workers in digital competences, defining ICT policies, managing the transformational initiatives in human capital and building the corporative culture based on the values established in the model.

The Business Design Director is the responsible to manage the administrative operations, such as finance, legal, buys and infrastructure. His/ Her functions are: to define policies of the administrative departments, to supervise the workers and perform improvements.

The resource sharing collaborative strategy requires an additional administrative oversight. A Collaboration Committee composed for all the directors mentioned before and a representative of the public donors must be established in the implementation phase: to share the information that impacts the project, to take important decisions, and to coordinate the

activities that affect all the partners. The committee should have at least a monthly reunion and write in a minute all the agreements and decisions taken.

In the implementation phase of the NGO the rewards will be low in order to minimize costs. The directors will receive as a payment the equivalent of a business analyst in the KPO sector: 1.800.000 COP = 600 EU. To increase the perception of value for working in the institution there will be a monthly benefit given to the employees and the volunteers. The portfolio of benefits includes outdoor activities, cash bonuses, discounts in certain shops and invitation to important academic events or parties. Moreover, the institution will be recognized for be flexible in the working time and helping the workers and volunteers to solve personal problems.

12.4 Finance policy

The finance policy defines the main founding sources to implement and guarantee the sustainability of the NGO and explains the plan and assumptions to take into account to manage it.

1.1.1 Financing sources:

As described previously the financial structure of the NGO will be different in the implementation phase and the sustainability phase. In the implementation phase the financial resources will be acquired for the governmental programs that support NGOs that support the national development plan. In the sustainability phase, the financial resources will be generated for providing: social and digital marketing services to big corporations, HR recruiting assistance to national and international companies and digital consulting services to MSMEs.

1.1.2 Cost structure and investment:

For the nature of the NGO the cost structure is composed mainly for variable cost because it varies depending on its operations and the demand of the services. The direct costs are: class materials, office materials, employees (teachers, consultants, administrative), incentives for the employees and the volunteers, networking expenses, communication and publicity and other costs.

The initial investment will be derived for industry property rights to protect the intellectual property of the school, Microsoft licenses, the computers, the tablets, digital games to use in the gamified classes and the adaptation of a design thinking space. During the operation of the NGO the other important investments are related to the acquisition of more computers,

tablets and licenses due to the increasing of students and in the long term the acquisitions of software to make more efficient and control the amount of information and knowledge generated.

1.1.3 Assumptions:

The assumptions taken into account to build the financial previsions from 2017 to 2020 correspond to:

1.1.3.1 Academic semester

Program duration: the students will acquire the 5 digital competences in 4 semesters and 1 year of traineeship. It means the program will be finish in 3 years. Each trainee will work in two projects per year.

Capacity of students: In Colombia there are two calendars to start studying, calendar A are the courses that start on January and calendar B are the courses that start on August. The NGO will open the first course in 2018a and each semester a maximum of 25 students will be admitted per course. Since 2018a to 2020b there will be only one course per semester, in 2021a there will be 2 courses per semester.

Students per semester	2018a	2018b	2019a	2019b	2020a	2020b	2021a	2021b	2022a	2022b	2023a	2023b
1st semester	25	25	25	25	25	25	50	50	50	50	50	50
2nd semester	0	25	25	25	25	25	25	50	50	50	50	50
3th semester	0	0	25	25	25	25	25	25	50	50	50	50
4th semester	0	0	0	25	25	25	25	25	25	50	50	50
total students per semster	25	50	75	100	100	100	125	150	175	200	200	200
total students per year	50		100		100		150		200		200	
total courses	1	2	3	4	4	4	5	6	7	8	8	8
trainees per semestre	0	0	0	0	25	25	25	25	25	25	50	50
trainees per year					50		50		50		100	
total projects (two per trainee)					100		100		100		200	

Table 4. students per course per semester

1.1.3.2 People turnover

Trainees: are the students who successfully approved the previous 4th semesters. To complete the curricular program they must do an internship during one year

Consultants: are experienced free-lance consultants who will perform managerial functions including guiding the trainees in the implementation of the projects.

Administrative personnel: It makes reference to the CEO and the three managers mentioned in the organization policy.

Teachers: Each teacher will be responsible for a maximum of 4 courses.

People	2018	2019	2020	2021	2022	2023
Nº of students	50	100	100	150	200	200
Nº of trainees	0	0	50	50	50	100
Nº of consultants	0	0	7	7	7	13
Nº of Admin personnel	4	4	4	4	4	4
Nº of teachers	1	2	2	3	3	4

Table 5. Assumptions people turnover

1.1.3.3 Working time and payment

Trainees: their contract is framed in the “Contrato de aprendizaje SENA” (Ley 789, 2002) which stipulates that the trainees should receive an economic support equivalent to the 75% of the minimum salary but it is not considered a salary according to the Ley 115 de 1994 (Artículo 189) it means they will earn 2.155 per hour and it will increase aligned with the inflation and the contract is full time, 8 hours per day.

Consultants: Their dedication per projects is 10 hours and the payment will be 20.000 COP.

Administrative personnel: They are the only workers with a permanent full time contract. They will work 160 hours per month and earn 1.800.000 COP, the amount will increase yearly according to the inflation.

Teachers: A teacher will be assigned to maximum 4 courses, the duration of each course will be 3 hours and the payment per hour will be 10.000 COP

Working time & payment	2018	2019	2020	2021	2022	2023
hours of total trainees (full time)	0	0	96.000	96.000	96.000	192.000
hours of total consultants (10h per project)	0	0	12.000	12.000	12.000	24.000
hours of Admin personnel (full time)	92.160	92.160	92.160	92.160	92.160	92.160
hours of total teachers - (3 h per class)	720	1.680	1.920	2.640	3.600	3.840
per trainee per hour	0	0	2.155	2.220	2.286	2.355
per consultants per hour	0	0	20.000	20.600	21.218	21.855
per Admin employee per month	1.800.000	1.854.000	1.909.620	1.966.909	2.025.916	2.086.693
per teacher per hour	10.000	10.300	10.609	10.927	11.255	11.593

Table 6. working time and payment

1.1.3.4 Other assumptions

The computers will be donated for the MINTIC. There must be 1 computer room for 4 every courses; there must be 26 computers 25 for the students and 1 for the professors. Each trainee would have their own laptop.

The average inflation in the country is 3%

The TRM taken into account is 1EU = 3000 COP

othes	2018	2019	2020	2021	2022	2023
Nº of computer rooms	1	2	2	3	4	4
Nº of computer available	26	52	52	78	104	104
Nº of computers to buy	30	26	50	26	26	50
Depreciation computers (linear 6 years)-COP	5.000.000	8.666.667	25.000.000	17.333.333	21.666.667	50.000.000
Depreciation computers - EU	1.667	2.889	8.333	5.778	7.222	16.667
Inflation	3%	3%	3%	3%	3%	3%

Table 7.other assumptions

The initial market share is calculated based on a linear analysis of the companies assuming that all the KPO companies in the Colombian market (292) will have the same quantity of clients, however, because of the added value of the NGO it will gain market share from other companies depending of the service offered:

Type of client	Type of service	Total available clients in the Colombian market	Market share per competitor	Market share NGO gain for its added value	Total market share 2018
Big companies	CRS-HR	1.600	5	10%	165
SMEs	Digital-HR	56.000	192	30%	16.992
Micro	Digital-HR	1.542.400	5.282	50%	776.482
Total market share					793.639

Table 8.marketshare

The growth in the market share will be driven for the productive capacity of the school and the amount of students in the trainee period.

13.Implementation requirements

In order to implement this business plan it is important to assure the success in the following key activities:

- To obtain the initial capital and resources: the plan A is to build a network of public partners to obtain their sponsorship, financing and key assets to function. If more resources are needed it is necessary to build a network of private partners with the corporations in Colombia which could be interested in supporting the NGO. The first presentations of the business plan will be done in companies known for supporting social innovation in the ICT sector, such as HP, Microsoft, IBM, everis.
- In the case the initial capital is not enough the plan B will be to look for international financial resources: presenting the business plan to companies interested in penetrate the market in South America, NGOs which look for the development in developing countries and donors who invest in social innovation startups. The last option will be to ask for a credit to Bancoldex which finance the MSMEs in the country for a low interest.
- To define the digital literacy process based on gamification: It is mentioned that the digital literacy process will be based on the gamification theory but it is not deeply explain, therefore, it is important to structure the methodology, built the curricula of courses, the program, the levels and contents
- To hire the directors mentioned before and adjust the business plan: Since the business plan is design according to the PEST conditions of 2016 it could exist important changes that offers new opportunities or new threats to the implementation of the NGO, therefore the directors must adapt the strategy and the policies according to the new facts.

14.Financial evaluation

The financial evaluation presents the forecasting tools to evaluate the financial health of the organization in the first six years of its operation. It is based on the assumptions presented in the financial policy.

1.1.3.5 Forecast of the investment

It shows the investment in fixed assets, the pre-opening expenses and the working capital required to start the operation of the NGO. Due to the yearly milestones of the business plan, there is an incremental investment in software and computers the first six years derived from the growing projection of the number of students enrolled and the number projects sold.

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Forecast of investment(COP)	2018	2019	2020	2021	2022	2023
Intangible assets						
Industry property rights	64.000	226.000	226.000	226.000	226.000	226.000
(+)Total Software licenses	32.700.000	2.340.000	4.500.000	2.340.000	2.340.000	28.980.000
(-)software CRM						4.480.000
(-)software Microsft digital prof	2.700.000	2.340.000	4.500.000	2.340.000	2.340.000	4.500.000
(-)software Gamification	30.000.000					
(-) software transparency						20.000.000
Total Intangible assets	32.764.000	2.566.000	4.726.000	2.566.000	2.566.000	29.206.000
Tangible assets						
Computers	30.000.000	26.000.000	50.000.000	26.000.000	26.000.000	50.000.000
Tablets	4.250.000		500.000	500.000	1.000.000	1.000.000
Games	10.000.000					
Design thinking space	15.000.000					
Total tangible assets	59.250.000	26.000.000	50.500.000	26.500.000	27.000.000	51.000.000
Total investment	92.014.000	28.566.000	55.226.000	29.066.000	29.566.000	80.206.000

Forecast of investment(EU)	2018	2019	2020	2021	2022	2023
Intangible assets						
Industry property rights	21	75	75	75	75	75
(+)Total Software licenses	10.900	780	1.500	780	780	9.660
(-)software CRM	-	-	-	-	-	1.493
(-)software Microsft digital prof	900	780	1.500	780	780	1.500
(-)software Gamification	10.000	-	-	-	-	-
(-) software transparency	-	-	-	-	-	6.667
Total Intangible assets	10.921	855	1.575	855	855	9.735
Tangible assets						
Computers	10.000	8.667	16.667	8.667	8.667	16.667
Tablets	1.417	-	167	167	333	333
Games	3.333	-	-	-	-	-
Design thinking space	5.000	-	-	-	-	-
Total tangible assets	19.750	8.667	16.833	8.833	9.000	17.000
Total investment	30.671	9.522	18.409	9.689	9.855	26.735

Table 9. Forecast of investment in Colombian Peso (COP) and Euro (EU)

As showed in the table 9. Forecast of investment, the tangible and intangible assets of the NGO correspond to the technology required to give the lessons to the students and deliver the outsourcing services to the companies. It is expected that the MINTIC provide the hardware and the software needed to the NGO and that the MEN habilitate an existing public school to perform the lessons.

1.1.3.6 Forecast of costs

The forecast of costs represents the expected expenses derived from the operation of the NGO. Due to the nature of the company its costs are highly related with the volume of the production of services. The table presents the data classifying the costs in: fixed costs, which

do not vary according to the volume of activity; and variable costs, which vary according to the students enrolled and the projects sold.

Forecast of costs (COP)	2018	2019	2020	2021	2022	2023
variable costs						
Classes materials	1.300.000	1.339.000	1.379.170	1.420.545	1.463.161	1.507.056
Teachers	7.200.000	17.304.000	20.369.280	28.847.993	40.518.317	44.516.124
Consultants	-	-	240.000.000	247.200.000	254.616.000	524.508.960
Trainees	-	-	206.880.000	213.086.400	219.478.992	452.126.724
Total variable costs	8.500.000	18.643.000	468.628.450	490.554.938	516.076.471	1.022.658.864
Fixed costs						
Office materials	1.300.000	1.339.000	1.379.170	1.420.545	1.463.161	1.507.056
Admin. Employees	86.400.000	88.992.000	91.661.760	94.411.613	97.243.961	100.161.280
Networking expenses	12.000.000	12.360.000	12.730.800	13.112.724	13.506.106	13.911.289
Communication & publicity	12.000.000	12.360.000	12.730.800	13.112.724	13.506.106	13.911.289
Total fixed costs	111.700.000	115.051.000	118.502.530	122.057.606	125.719.334	129.490.914
Total costs	120.200.000	133.694.000	587.130.980	612.612.544	641.795.805	1.152.149.778

Forecast of costs (EU)	2018	2019	2020	2021	2022	2023
variable costs						
Classes materials	433	446	460	474	488	502
Teachers	2.400	5.768	6.790	9.616	13.506	14.839
Consultants	-	-	80.000	82.400	84.872	174.836
Trainees	-	-	68.960	71.029	73.160	150.709
Total variable costs	2.833	6.214	156.209	163.518	172.025	340.886
Fixed costs						
Office materials	433	446	460	474	488	502
Admin. Employees	28.800	29.664	30.554	31.471	32.415	33.387
Networking expenses	4.000	4.120	4.244	4.371	4.502	4.637
Communication & publicity	4.000	4.120	4.244	4.371	4.502	4.637
Total fixed costs	37.233	38.350	39.501	40.686	41.906	43.164
Total costs	40.067	44.565	195.710	204.204	213.932	384.050

Table 10. Forecast of costs in Colombian Peso (COP) and Euro (EU)

As showed in the table 10. Forecast of costs, in 2018 and 2019 the most representative costs are more related with the organization and promotion of the companies than with the production of services, however, since the 2020 the NGO would start providing consulting services, which increases the variable cost of personnel to respond to the demand of projects. As the NGO is expected to have a high demand, new courses will be opened often which requires the acquisition of new resources.

1.1.3.7 Forecast of incomes

The forecast of incomes presents the evolution of the profits during the first six years of the NGO. It shows the evolution of sales for the three services provided for the NGO: digital marketing, HR and digital consulting services. The expected market share was analyzed top-down, see table 8. Market share, having into account the universe of possible clients in the country, the number of competitors in the market and the growing rate of the industry.

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forecast of incomes(COP)	2018	2019	2020	2021	2022	2023
Digital marketing	-	-	164.176.397	169.101.689	217.718.424	448.499.954
Units sold	-	-	20	20	25	50
Growth rate						
Unit price per year	7.737.600	7.969.728	8.208.820	8.455.084	8.708.737	8.969.999
HR recruiting assistance	-	-	3.657.214	6.027.089	9.311.852	11.989.010
Units sold	-	-	5	8	12	15
Growth rate						
Unit price	689.455	710.139	731.443	753.386	775.988	799.267
Digital consulting	-	-	-	878.182.823	747.808.933	1.935.448.697
Units sold	-	-	-	80	75	150
Growth rate						
Unit price	9.053.720	7.822.461	13.032.722	10.977.285	9.970.786	12.902.991
operational incomes	-	-	167.833.611	1.053.311.600	974.839.209	2.395.937.661
Donations public	192.214.000	136.260.000	608.556.980			
Donations private	20.000.000	26.000.000	33.800.000	43.940.000	57.122.000	74.258.600
Total Incomes	212.214.000	162.260.000	810.190.591	1.097.251.600	1.031.961.209	2.470.196.261

forecast of incomes (EU)	2018	2019	2020	2021	2022	2023
Digital marketing	-	-	54.725	56.367	72.573	149.500
Units sold	-	-	20	20	25	50
Growth rate						
Unit price per year	2.579	2.657	2.736	2.818	2.903	2.990
HR recruiting assistance	-	-	1.219	2.009	3.104	3.996
Units sold	-	-	5	8	12	15
Growth rate						
Unit price	230	237	244	251	259	266
Digital consulting	-	-	-	292.728	249.270	645.150
Units sold	-	-	-	80	75	150
Growth rate						
Unit price	3.018	2.607	4.344	3.659	3.324	4.301
operational incomes	-	-	55.945	351.104	324.946	798.646
Donations public	64.071	45.420	202.852	-	-	-
Donations private	6.667	8.667	11.267	14.647	19.041	24.753
Total Incomes	70.738	54.087	270.064	365.751	343.987	823.399

Table 11. Forecast of incomes in Colombian Peso (COP) and Euro (EU)

In table 11. Forecast of incomes it is possible to observe that during the first three years of the operation of the NGO the public donations sustain the business. In 2020 the first trainees will be assigned to their projects; 20 paid projects in big companies and 80 non-paid projects to MSMEs due to the first year is provided for free. Since 2021 the NGO will be sustainable by its own selling the services of digital marketing, HR and digital consulting.

1.1.3.8 Forecast of working capital

The working capital is calculated assuming a constant percentage of the incomes. The total investment increases with the growth of the incomes due to that capital must be available if the business requires it. The bigger the business the more investment in working capital.

Forecast of working capital (COP)	2018	2019	2020	2021	2022	2023
Investment in Working Capital	212.214.000	162.260.000	810.190.591	1.097.251.600	1.031.961.209	2.470.196.261
	5%	5%	5%	5%	5%	5%
Total	10.610.700	8.113.000	40.509.530	54.862.580	51.598.060	123.509.813

Forecast of working capital (EU)	2018	2019	2020	2021	2022	2023
Investment in Working Capital	70.738	54.087	270.064	365.751	343.987	823.399
	5%	5%	5%	5%	5%	5%
Total	3.537	2.704	13.503	18.288	17.199	41.170

Table 12. forecast of working capital in Colombian Peso (COP) and Euro (EU)

1.1.3.9 Forecast of cash flow

The forecast of cash flow represents the incomes and outcomes of capital that the NGO will have the first six years of its operation.

Operating cash flow (COP)	2018	2019	2020	2021	2022	2023
Total Cash in	212.214.000	162.260.000	810.190.591	1.097.251.600	1.031.961.209	2.470.196.261
Total Cash out	120.200.000	133.694.000	587.130.980	612.612.544	641.795.805	1.152.149.778
Change in Working Capital	10.610.700	8.113.000	40.509.530	54.862.580	51.598.060	123.509.813
Cash flow	81.403.300	20.453.000	182.550.081	429.776.476	338.567.344	1.194.536.669

Operating cash flow (EU)	2018	2019	2020	2021	2022	2023
Total Cash in	70.738	54.087	270.064	365.751	343.987	823.399
Total Cash out	40.067	44.565	195.710	204.204	213.932	384.050
Change in Working Capital	3.537	2.704	13.503	18.288	17.199	41.170
Cash flow	27.134	6.818	60.850	143.259	112.856	398.179

Table 13. Forecast of cash flow in Colombian Peso (COP) and Euro (EU)

As shown in the table 13. Forecast of cash flow, the incomes of the NGO will be higher than the outcomes. A positive cash flow shows the financial health and liquidity of the company. It is evidenced that the first two years the cash flow is low due to the NGO will be sustained for donations of the public sector which just covers the costs. Since 2021 the cash flows increases because of the consulting services provided to the private sector.

1.1.3.10 Forecast of income statement

It is the analysis of the forecast of incomes and outcomes of the NGO in order to find the net income expected for the company which represents the money earned during the year.

Forecast Income Statement (COP)	2018	2019	2020	2021	2022	2023
Services delivered	-	-	167.833.611	1.053.311.600	974.839.209	2.395.937.661
Donations	212.214.000	162.260.000	642.356.980	43.940.000	57.122.000	74.258.600
Total Revenues	212.214.000	162.260.000	810.190.591	1.097.251.600	1.031.961.209	2.470.196.261
Other Variable Expenses (ESS)	8.500.000	18.643.000	468.628.450	490.554.938	516.076.471	1.022.658.864
Gross Margin	203.714.000	143.617.000	341.562.141	606.696.662	515.884.738	1.447.537.396
ESS - Fixed Expenses	111.700.000	115.051.000	118.502.530	122.057.606	125.719.334	129.490.914
EBITDA	92.014.000	28.566.000	223.059.611	484.639.056	390.165.404	1.318.046.482
Depreciations	5.000.000	8.666.667	25.000.000	17.333.333	21.666.667	50.000.000
EBIT	87.014.000	19.899.333	198.059.611	467.305.723	368.498.738	1.268.046.482
Tax	-	-	-	-	-	-
NET INCOME	87.014.000	19.899.333	198.059.611	467.305.723	368.498.738	1.268.046.482

Forecast Income Statement (EU)	2018	2019	2020	2021	2022	2023
Services delivered	-	-	55.945	351.104	324.946	798.646
Donations	70.738	54.087	214.119	14.647	19.041	24.753
Total Revenues	70.738	54.087	270.064	365.751	343.987	823.399
Other Variable Expenses (ESS)	2.833	6.214	156.209	163.518	172.025	340.886
Gross Margin	67.905	47.872	113.854	202.232	171.962	482.512
ESS - Fixed Expenses	37.233	38.350	39.501	40.686	41.906	43.164
EBITDA	30.671	9.522	74.353	161.546	130.055	439.349
Depreciations	1.667	2.889	8.333	5.778	7.222	16.667
EBIT	29.005	6.633	66.020	155.769	122.833	422.682
Tax	-	-	-	-	-	-
NET INCOME	29.005	6.633	66.020	155.769	122.833	422.682

Table 14. Forecast of the Income statement in Colombian Peso (COP) and Euro (EU)

In the income statement it is possible to notice that: in the 2023 the computers bought in 2018 would be completely depreciated and that the NGO as a non-profit organization is exempt to pay taxes what saves it the 33% of the EBIT.

The net income presents variation during the first six years: the first two years it is low due to there is not a stable income, only donations from the public sector to cover the initial investment and the operational costs. In 2020 increases due to it is the first year that the NGO will provide consulting services however it will be provided for free to the MSMEs. In 2021 the net income is almost the double because after evidencing positive results the MSMEs would acquire and pay for the service. In 2022 The income decreases due to the price of the consulting services for the MSMEs is bound with the cost of training the students, since in 2022 there is not planned a representative investment, the price is lower, therefore the incomes too.

1.1.3.11 Project evaluation

Due to the social nature of the NGO and its alignment with the National Development Plan the principal investor of this project is the government, mainly the MINTIC and the MEN. Therefore, the project evaluation do not consist in proving the profitability of the project based in the increasing of incomes of the partners as is use to in the private sector. Since the government has a standardized budget to achieve its objectives, their main interest and the

added value of this project is based in the efficiency to achieve the social objective with less financial resources. See table 15.

Institution	Program description	Investment per year	Investment in the NGO	Savings
MINTIC	Training SMEs owners in digital competences	1.2 million EU	> 312.344 EU (26%) budget of the program	91% per year 74% per project
MEN	Train talent in working skills, including digital competences (SENA)	570 million EU	> 312.344 EU (0.055%) budget of the program	99% per year and per project

Table 15. Project evaluation

MINTIC has spent 3.550 million COP = 1.2 million EU training owners of MSMEs in digital competences (MINTIC, 2016), MEN has 40.6 billion COP=13.5 million EU to invest in education during 2016 and has a budget of 1.8 billion COP= 570 million EU for the SENA to train talent to work in productive activities for the social, economic and technological development (SENA, 2016). The investment in the NGO will be 937 million COP= 312.344 EU for educating youth in digital competence, provide MSMEs the knowledge to be digital competent, increase digital literacy, break the cycle of poorness of the students with a business model that requires the only requires the 26% of the amount invested in the training provided for the MINTIC to MSMEs, 0,0023% of the education budget for education in one year and represents the 0,055% of the investment done in the SENA for training people in skills for working.

With the implementation of this business plan, the MINTIC will save 74% of the total cost of providing digital competences. The SENA will spend only 0.055% of its budget in training digital competences, the 99% can be used to train other competences for working.

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16. Annex

ANNEX 1. Digital Competences Timeline

1960	1985	1990	1997
← Mastery Phase		Application Phase	Reflective phase Beginning digital skills phase →
Emphasis placed on thorough knowledge of how computer operate and how to program the device	Computer became a tool to be used in conjunction with software applications. Beginning of mass application and usage of digital technology	Realization that effective and efficient use of digital technology is conditional not only to the mastery of technical skills, but also to deployment of complex cognitive, evaluative and reflective skills.	

Source: (WDM-Consultants, 2011) Adapted from Martin & Grudziecki, DigEuLit: Concepts and Tools for Digital Literacy Development, 2006

ANNEX 2. Digital Literacy definitions

Concepts	Definitions	Sources
Literacy	the knowledge and skills that will enable citizens to function in an increasingly technological world.	(OECD, 2009a, p. 4 Annex B)
Literacy	a person's ability to effectively and creatively use and communicate information	(Jones-Kavalier & Flannigan, 2006, p. 9)
Basic or core literacies	learning how to read, how to write, and how to perform simple numeracy tasks necessary in everyday life.	(UNESCO, 2008, p. 4)
Computer literacy	the set of skills, attitudes and knowledge necessary to understand and operate the basic functions of information and communications technologies, including devices and tools	(UNESCO, 2008, p. 54)
ICT literacy	The Panel identified six processes that they see as critical components of ICT Literacy: ... to access, manage, integrate and evaluate information, construct new knowledge and communicate with others ICT focus on new ways of learning, communicating and handling information	(OECD, 2009a, p. 13) (OECD, 2009a, p. 4 Annexe B)
ICT literacy	ICT literacy is the interest, attitude and ability of individuals to appropriately use digital technology and communication tools to access, manage, integrate and evaluate information, construct new knowledge, and communicate with others in order to participate effectively in society	(Van Joolingen, 2003, p. 5)
Information Literacy	Information Literacy encompasses knowledge of one's information concerns and needs, and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand.	(UNESCO, 2003, p. 1); (UNESCO, 2008, p. 63)

Information Literacy	the set of skills, attitudes and knowledge necessary to know when information is needed to help solve a problem or make a decision, how to articulate that information need in searchable terms and language, then search efficiently for the information, retrieve it, interpret and understand it, organize it, evaluate its credibility and authenticity, assess its relevance, communicate it to others if necessary, then utilize it to accomplish bottom-line purposes; Information Literacy is closely allied to learning to learn , and to critical thinking	(UNESCO, 2008, p. 53)
Digital Literacy	Is the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers	(Gilster, 1997, p. 1)
Digital Literacy	The skills required to achieve digital competence, the confident and critical use of ICT for work, leisure, learning and communication	(European Ministerial e-Inclusion Conference, 2008 , p. 4)
Digital Literacy	the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers. The concept of literacy goes beyond simply being able to read; it has always meant the ability to read with meaning, and to understand. It is the fundamental act of cognition. Digital literacy likewise extends the boundaries of definition.	(Gilster, 1997, pp. 1, 2)
Digital Literacy	According to Gilster (1997) ... digital literacy is about mastering ideas, not keystrokes ... It is cognition of what you see on the computer screen when you use a network medium... Not only must you acquire the skill of finding things, you must also acquire the ability to use these things in your life. ...	(Bawden, 2001, p. 21)
Digital Literacy	includes photo-visual literacy; reproduction literacy; branching literacy; information literacy; and socio-emotional literacy	(Eshet-Alkalai, 2004, p. 93)
Digital Literacy	the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyses and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others, in the context of specific life situations, in order to enable constructive social action; and to reflect upon this process	(Martin & Grudziecki, 2006, p. 255)
Digital literacy	the ability to appreciate the potential of ICT to support innovation in industrial, business and creative processes. Learners need to gain the confidence, skills, and discrimination to adopt ICT in appropriate ways. Digital literacy is seen as a 'life skill' in the same way as literacy and numeracy.	(Martin & Grudziecki, 2006, p. 254)
Digital Literacy	the confident and critical use of Information Communication Technology (ICT) for work, leisure and communication. It is underpinned by basic ICT skills: the	(Demunter, 2006, p. 2)

	use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate via the Internet.	
Media literacy	the set of skills, attitudes and knowledge necessary to understand and utilize various kinds of mediums and formats in which information is communicated from a sender to a receiver, such as images, sound, and video, and whether as a transaction between individuals, or as a mass transaction between a single sender and many receivers, or, vice-versa	(UNESCO, 2008, p. 54)
Media literacy	the knowledge needed to use old and new media technology to having a critical relationship to media content ... media literacy implies having access to the media, understanding the media and creating/expressing oneself using the media	(UNESCO, 2008, p. 6)
Media literacy	Interdisciplinary by nature,... media literacy is seen to consist of a series of communication competencies, including the ability to access, analyze, evaluate and communicate information in a variety of forms including print and non-print messages.	(Martin & Grudziecki, 2006, p. 252)

Source: (WDM-Consultants, 2011)

ANNEX 3. List of reviewed digital competences models

NAME	CREATOR
Digital Skills in the Canadian Workplace	(WDM-Consultants, 2011)
Defining 21 st century skills	(ATCS,2010)
Digital literacies	(JISC,2012)
Digital skills for the XXI century for millennial	(OCDE, 2010)
Competency- Based Human Resources Model	(Klett)
Leadership model	LIDlearning,2014
Digital Competence Index	IED, 2015
Top 10 skills	World Economic Forum, 2014
Digital skills	Roca Salvatella,20014
Building skills for the future	Rockefeller Foundation, 2013
Digital skills	GOON UK
KATA	ISDI,2014

ANNEX 4- Governmental laws, policies, plans and programs to leverage ICT development in Colombia

Data-Category	Name	Objective
1994 - Policy	National Policy of science and Technology 1994-1998, Conpes 2739.	To develop the capacity to use informatics and the computers for education.
1998 - Plan	National Development plan 1998-2002: Change to build peace	To improve the infrastructure of telecommunications to reach the peace and increase competitiveness
1999 - Program	Computers to educate,	To collect and condition computers to

	Conpes 3063	give it to public educational institutions
2000 - program	Connectivity Agenda: jump to the internet. Conpes 3072	To increase the ICT usability
2002 - Policy	Policy of social telecommunications. Conpes 3171	To reduce the Gap of access and massif the telecommunications services
2006 – Plan	National Development Plan 2006- 2010: development for all	To achieve digital inclusion through the programs of access and use the ICT as transversal development motor of the state
2007 - Plan	Colombian Vision, Centenary 2019	To build the right infrastructure for the development and develop capabilities to the use of the ICT
2009 – Law	Law 1341	Renovation of the Ministry of Information and Communication Technologies to massif and guaranty the use of ICT.
2009 - Law	Law 1286	Renovation of the Science, Technology and Innovation System
2010 - Law	Law of libraries 1379	Public libraries must guarantee access to the internet and digital literacy as basic services
2010 - Plan	Vive Digital 2010-2014	To mastiff internet accessibility
2014 – Plan	Vive Digital 2014-2018	To develop apps that supports to decrease inequality and improves transparency
Source: own elaboration supported in (Barón & Gómez, 2012)		

ANNEX 5. CANVAS

Key Partners: *Public Institutions: We want them to legitimize and give resources to the NGO *Private Institutions: All companies interested to be part of the program. We want them to finance the project. *National and international Universities: We want them to provide knowledge, expertise and volunteers. AIESEC	Key activities: *Manage the implementation *Communicate the project and make agreements to obtain resources with public institutions *Obtain financial resources Key Resources: *Financial *Human Capital: people, knowledge *Digital literacy program and methodology *Infrastructure *Digital Competences Model	Value proposition: *Product adapted to the Colombian needs (Digital competences model) *Innovative Digital literacy process based in gamification *Innovative business model *Opportunity to the MSMES to obtain consulting services	Relationship with clients: *Public institutions: partner *Private institutions: suppliers *Students: Educative institution Channels: BTL: Personal meetings, physical and digital POP material, e-mails, social media, videoconference tools, the cloud, web page, workshops, among others.	Target: *Public institutions *Private big companies *MSMEs *International universities and students association *National universities *Society *Students
Costs structure: *The cost are related to the operability of the school: payment to professors, payment to administrative employees, infrastructure and equipment costs, teaching material and administrative expenses.		Income sources: *Financial payments from the private sector *Fundraisings: from national and international donors *Social program of public institutions		

ANNEX 6. Chronogram of activities

- Digital competences that are suitable for SMSEs

Profile of the business

Q1: How many employees are working in the company?

Q2: Which is your position?

Q3: Which is your gender?

Q4: How long have the business been operating?

Q5: Which is the business impact? Local, regional, international...

Q6: What kind of business is it? Own, SAS...

Profile of the sector and business strategy

Q7: In which sector operates the business? Concretely, What is its activity?

Q8: Which are the main challenges of the sector?

Q9: What is the strategy of the business to deal with the challenges? Concrete actions.

Q10: Which are the main challenges to grow the business?

ICT use in the business

Q11: Do you use ICT in your business?

- If yes:

Q12: Why do you use ICT?

Q13: Detail how do you use the ICT in different areas, activities of the business? Sells, HR, inventory..

Q14: Who is in charge of using the ICT?

- If no:

Q15: Why do not you use ICT?

Q16: If you were interested in using ICT. Which one will you use? Why?

Knowledge and awareness about digital competences

Q17: When I say Digital Competence, what is the first thing that comes to your mind? Which images, words, sensations? Why? *Tell them the definition

Q18: Do you have digital competences? Why do you consider it/would you like to develop it?

Q19: Do your employees have digital competences? Why? Would you invest in developing digital competences in them?

Competences valued in the MSMEs

Q20: Which are the attitudes that you appreciate the most in your employees?

Q21: Which digital knowledge is important to achieve your business strategy?

Q22: Which digital skills are important to achieve your business strategy?

Motivations to support NGO

Q23: What will motivate you to hire employees with digital competences?

Q24: Which benefits could you obtain hiring employees with digital competences? Imagine that an expert in digital competences goes to your company to work for free for a while, what would you like him/her to do? Which impacts would you like to have?

Q25: If the expert shows he/she has increased the profitability of your business, would you hire the services permanently? Why? How much would you pay for it?

Q26: Which are the main barriers to train you and your employees in digital competences?

Q27: Do you know any other institution which train digital competences? Have you been part of the program? Why?

Visualization of the future

Q28: How do you imagine your company in 10 years if you start using ICT today?

Q29: Aligned with the previous answer. Describe the characteristics of your employees in 10 years.

ANNEX 9. Profile of the interviewed

#	Name of the interviewed	Position	Gender	Company	Sector	Size	years SMSE	kind	Impact
P 1	Carlos Jimenez	Owner	Male	Eurolibros	Commercial	Mic.	22	Own	Local
P 2	Hector Vargas	Owner	Male	Lubrihell	Commercial	Mic	33	Own	Local
P 3	Gabriel Vargas	Owner	Male	Vartin	Commercial	Mic.	16	Own	Local
P 4	Cenedy Lizcano	Owner	Female	Pvmel	Commercial	Sm.	20	Own	Local
P 5	Gloria Amaya	Owner	Female	Guepetto	Commercial	Mic.	10	Own	Local
P 6	Alejandro Pérez	Owner	Male	Proyectos y diseños	Commercial	Me.	36	Own	Local
P 7	Eduardo Sánchez	Owner	Male	Financiera SV	Commercial	Mic.	30	Own	Local
P 8	Daniel Rodríguez	Owner	Male	Etnico	Commercial	Mic.	5	Own	Local

P 9	Carolina Cifuentes	Owner	Female	CifSegur	Commercial	Mic.	10	Own	Local
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*Mic= Microcompany (1 to 10 employees)

*Sm= Small company (11 to 50 employees)

*Me= Medium company (51 to 100 employees)

ANNEX 10. Association of categories

Relation of Categories Matrix							
CATEGORIES	Business profile	Business strategy	ICT use of the business	Knowledge and awareness ICT	Competences valued	Support NGO	Future with ICT
Business profile		No relation	No relation	No relation	No relation	No relation	No relation
Business strategy			Related.*	Related*	No relation	Related*	No related*
ICT use of the business				No relation*	No relation	No relation	No related*
Knowledge and awareness ICT					Related*	No relation*	Related*
Competences valued						Related*	Related*
Support NGO							Related*
Future with ICT							

*The relation or not relation generated a main conclusion documented in the report categories

Cluster	Words of the interviewed
The managers which objective is to grow think that it is important to use digital devices at work. They use IT tools to: increase the number of clients, control their stock, pay their bills and taxes, improve their customer service and position their brand.	<p>“There are difficulties in the market because the competence is lowering their prices and we are doing it too to do not lose our customers. However, in this moment we are altering our strategy to differentiate our service and avoid the actual competence in the books market, we are doing exclusive alliances with our suppliers and enlarging the target building a web page for our company”- Carlos Jimenez</p> <p>“My business started with my bachelor dissertation, I want to grow and export more products to international markets, the challenge is to find new customers abroad and to obtain their trust in a young company”-Daniel Rodriguez</p> <p>“Despite the competitive industry and the economy of the country I</p>

	<p>would like to grow opening new stores” Cenedy Lizcano “I would like to position the brand of my company to increase its sales and open stores all around the country, however to achieve it I need to have more financial resources which are hard to find” Gloria Amaya “We are looking to be at the forefront, look for new markets and exploit the positioning of my brand. To do that I am increasing professional talent and being updated about the technological development” Alejandro Perez</p>
<p>2. The owners whose strategy is more focused in the stability than in the growing of the business showed less interested in using digital devices. Some of them do not have an internet connection in their stores because they consider it is not necessary for their type of business. They preserve their stability offering a good service to their common and frequent clients which relationship is based on loyalty and personal affection.</p>	<p>“In my business the biggest challenge is to find and retain trustable clients. The rise in the interest rate of the banks is increasing the number of loans that people ask me for. I have limited financial resources then the challenge is to choose the right customers and lend them the money. I prefer to give loans to referenced people not to someone who contacted me online” Eduardo Sánchez “I have loyal clients, the daily routine at work is always the same, I try to keep my clients happy with a good service and my business solvency healthy always looking for the breakpoint between the accounts receivable and the warehouse inventory. My business is very stable and I only want to keep the stability”- Hector Vargas “Nowadays the industry in which I am working in is really competitive and affected for the inflation, the fall in oil prices, the valuation of the dollar and the increasing inflation. With this market conditions my principal worry is the stability of the company to give an excellent service to the current customers, and maintain a constant communication with them so they will buy me more and reference me to other potential clients. I do not need internet because my clients do not use computer, in my industry we work with references”- Gabriel Vargas “I try to increase the number of clients having alliances with a lot of insurance companies and always offering the best option to the needs of my clients. My challenge is to keep attending my clients and the ones they reference me with. All days I am visiting clients, my capacity is full”- Carolina Cifuentes.</p>
<p>3. The main tactics that the Micro-SMEs are using to achieve their objectives are: to provide a better service to their clients and to increase their sales, with actions on-line or off-line</p>	<p>“We want to be closer to our customers and give them a better service with the creation of an online platform that is under construction nowadays” Carlos Jimenez “I am always calling my customers to know if they need something and I use to give them a good services, gifts and discounts in special dates”- Hector Vargas “The slogan of my company is: the services our presentation letter, I think the empathy with the customers is the most important”- Gabriel Vargas “We want the clients to be part of our company, we like to feel like a family, we treat them like sons, on special dates like San Valentin, woman’s day, etc. we send them e-mails congratulating them”- Cenedy “I am working with the social networks to increase positioning and sales”-Gloria Amaya</p>

<p>The interview assure they have digital competences, however they do not know its meaning and do not evidence its observable behaviors. In despite of their lack of knowledge the owners of MSMEs with a growing strategy are aware of its importance and would like to develop digital competences.</p>	<p>“I have digital competences because in my company we acquired the computers 10 years ago, I try to learn the most important aspects of it...Digital competence is to know how to use the computer” – Carlos Jimenez</p> <p>“I have digital competence because I am an electronic engineer and all days I have to use it, it is important for the success of the business”- Alejandro Perez</p> <p>“I think digital competence is to be able and be competent using the technology (...) I think it is important to do the inventory, therefore if the demand increase with would be more dependent of the technology”- Cenedy</p> <p>I think I have digital competences because I read and see news about the new technology, I do not have a computer in my business but I am starting to think it is important if I want my company to grow” – Gabriel Vargas</p>
<p>All the interview use at least one personal digital tool or gadget to work, but they do not feel interest in training their current employees in digital competences because their functions are too operative. For the other hand, they think an external person who possesses digital skills could help them to improve their business and sales</p>	<p>“I think the employees have enough digital competences because they know how to use the computer, to develop the new web page we contracted an external company which is doing it...an external person with digital competence could give a breath to our ideas and organize the administrative part of the company”-Carlos Jimenez</p> <p>“My employees do not need digital competences because we just use the computers to control the inventories, I never thought about doing marketing to attract more clients, probably it could be a good idea to hire someone to do it”-Hector Vargas</p> <p>“The employees have digital competences, we make them to learn the basics about technology, however they are concentrated in the operation...now I think I need a person with digital skills more oriented to the marketing and commercial tasks”- Cenedy</p>
<p>All the interviewed know about the free programs of the government to train digital skills. However, none of them have attended to it because they do not have time or because they think they already have developed their digital competences</p>	<p>“The Cámara the Comercio has some programs to develop digital skills...I have not attended because I think I have enough digital competences and I use all my time in the daily operation of the company”-Eduardo Sanchez</p> <p>“I know the SENA has some programs to train digital competences, I have not attended, I do not have time and I think I do not need it for my business”-Gabriel Vargas</p> <p>“I know the Cámara the Comercio offers some workshops, I have not gone because I do not have time and because I think I am good developing those skills by my own, I learnt who to use the internet and the social networks by myself”-Gloria Amaya</p> <p>“I am young I know how to use digital devices for the things I need to use it or I ask my daughter for help, I do not have time to attend workshops” –Carolina Cifuentes</p> <p>“I know the SENA has some courses... I do not go because I did a degree in IT then I feel I have digital competences”-Alejandro Perez</p>
<p>The owners of the</p>	<p>“I like my employees to be loyal, dedicated and work with personal</p>

<p>MSMEs value the most the employees who have attitudes which demonstrates: commitment with the company (responsibility, collaboration, loyalty, transparency, innovation, entrepreneurial) , empathy with the customers (sympathy, happiness, good service, disposition) and self-development (self-learning, interest and open mind)</p>	<p>motivation” –Carlos Jimenez “The most important in my business is the honesty and transparency because of the sensitive information we work with” Eduardo Sanchez “If they are results oriented and have an entrepreneurial attitude they will be success in my company”-Daniel Rodriguez “Loyal, honest and committed to deliver a good service to the customers”-Hector Vargas “A good employee is collaborative and efficient when is engage with the company, then he will use all his knowledge and experience for the service of the company. I appreciate when they are happy at work, when they treat well the customers and suppliers and when they give me new ideas ”-Gabriel Vargas “We value the wish for learning and the use of new knowledge to achieve the objectives of the company”-Cenedy “Transparency, results oriented, loyalty, sympathy” –Gloria Amaya “Collaboration, loyalty and proactivity to learn and propose new ideas”-Carolina Cifuentes “Responsibility and initiative to develop new ideas about software or solutions that the company could develop”-Alejandro Perez</p>
<p>10. The interviewed consider that a digital competent person should have basic skills to use digital devices and tools, likewise, the person must have knowledge about marketing to exploit the most those digital skills and increase sells</p>	<p>“We will hire a person to manage the new web page, however I think all the employees should know how to interact with it and how to use it so they can align their work and objectives with initiatives online” –Carlos Jimenez “The employees should have the skills to use and solve the technical problems of digital devices, also help the clients with the problems they could face...when working with digital tools they should think about the customer, offer them the right information in the right way and make them easier their life”- Eduardo Sanchez “The most important is to do not lose a sale, therefore, the employees must combine their ability to use the inventory software system and their knowledge about the product so in case we do not have a product, they are available to offer a substitutive product to the client” –Hector Vargas “The most important skill is to know really well the business and how to apply the technology to it and to know how to use basic and advanced digital tools to communicate effectively with the client” – Daniel Rodriguez “I think it is important to have depth knowledge about the technology to use it to communicate better with the clients, attend their requirements fast and to make more efficient the logistic process with our supplier to buy products with a high turnover” Gabriel Vargas “I think the employees should have basic skills to use the computer and the internet to manage the inventory and communicate with the clients” –Cenedy “The most important skill to develop is the self-learning to assimilate and exploit new technologies to increase sales”- Carolina Cifuentes “I think I should have digital skills to use engines to investigate my</p>

	<p>target and obtain the knowledge to develop on-line marketing strategies to passionate my brand in their mind” –Gloria Amaya “The most important for me is that the employees know to use digital tools but been responsible, if they know how to use Facebook I want them to promote positively the brand of the company, not to use it all the time for leisure in working hours”-Alejandro Perez</p>
<p>11. If the interviewed would hire an employee with digital competences they would expect him/her to use the available digital gadgets and tools in the company to achieve its objectives following their current strategy</p>	<p>“I want my company to grow but I would like to organize the administrative procedures first with the help of ICT technologies”- Carlos Jimenez “The most important for me is to have a close relationship with my clients and control of the finances of the company, therefore, I would like to use digital gadgets to control the customers and the finances”- Eduardo Sanchez “I did not think about implementing ICT technologies in my company, if I have an expert working for my company I would like him/her to give me ideas about what to do, how to do it and why it is a good idea”- Hector Vargas “I need help of the technology to have a better relationship with current and potential clients abroad”-Daniel Rodriguez “I would like the expert in IT to tell me how can I have more revenues with less work... how to increase sales with the internet”- Gabriel Vargas “I need more technology to control the inventory and to have more contact with international markets”-Cenedy “I would like help to position better the brand, to assure that the campaigns I do online are understood for the pregnant women (my target)”-Gloria Amaya “I would like to have a control of my clients, the information about their preferences, the moment they could need an insurance and the information about new offers of the insurance companies”-Carolina Cifuentes “I would like someone who improve the software we use and new ideas to use more technologies in other processes of the company”-Alejandro Perez</p>
<p>12. Despite the owners of the MSMEs have different strategies they all are looking for stability. They think that if they hire new professionals with digital competences today in ten years their business will be bigger and more stable</p>	<p>The technology is changing constantly, therefore, I need start hiring persons with digital skills to keep the company updated. My company suffered a lot with the creation of the internet, Wikipedia, Amazon, etc. If I do not want to lose more market share I need to change at the rhythm of the technology and I am working on it now”- Carlos Jimenez “The digital competences are absolutely important for my company, if I know how to take advantage of it I am sure my company will grow and export fruits to many international markets”- Daniel Rodriguez “Now that I see the importance of the internet I think I need to hire at least one employee who starts using digital tools to improve the company and be bigger in 10 years”-Gabriel Vargas “My company has grown the last years, one of the reasons is the</p>

	<p>implementation of new technologies, I believe in the benefits of technology therefore I know if we chose the right digital strategy we will continue growing”- Cenedy</p> <p>“If I hire someone to teach me how to use better the internet I imagine Guepetto been recognized for a lot of people, positioned as a high quality brand and looking for international markets”- Gloria Amaya</p> <p>“With more workers using digital tools and gadgets I imagine the company bigger in human talent but smaller in infrastructure, because the most could work at home and it reduces fixed costs” - Alejandro Perez</p>
<p>13. The owners of SMEs are afraid of training their employees in digital competences and lose them because they are better train and can obtain a better job in other company or because they can copy their business in a digital version.</p>	<p>“The only one who needs to develop digital competences it’s me, the other workers are too operative. Moreover, they are young and could steal my idea because it is a basket with golden eggs”- Gloria Amaya</p> <p>“If I train my employees in digital skills they will increase their value and are going to be more demanded in the labor market for big companies, if I train them they will go to a place with a better salary” Carlos Jimenez</p> <p>“The turnover of employees in the business is really high, it is difficult to find a loyal employee, the last worker I hired is the owner of the business which is in front of mine, he is now selling the same products and offering better prices to my clients”-Gabriel Vargas</p> <p>“The employees do not need more skills than the ones they have today to do their functions, they cannot know more than the boss”- Hector Vargas</p>
<p>The interviewed feel interest in the proposal of the NGO only if the student has the suitable competences to increase the profitability of the business, the position of the company in the market or improve productivity. They would start paying for services only after evidencing after those results because they do not want extra costs.</p>	<p>“The biggest barrier in the consulting sector is to find talented workers”- Alejandro Perez</p> <p>“My business is a basket of golden eggs but I cannot grow more because I do not have the financial resources to do it”- Gloria Amaya</p> <p>“I would like to grow more and attend more clients but my capacity is full and I do not have money to hire other person”- Carolina Cifuentes</p> <p>“The lack of financial support of the government and the amount of taxes that the entrepreneurs has to pay decrease the returns and the possibility to invest the money in strategically actions” –Daniel Rodriguez.</p> <p>“The employees in my company only do what they have to do, there is no one innovating” –Carlos Jimenez</p>

ANNX 11. Conceptualization of inputs for adaptation of DIGCOMP to Colombia

I. First conceptualization

Literature review	PEST analysis	In-depth interviews	Market Analysis
Digital competence: set of knowledge, skills and attitudes (Learning domains) suitable when using digital tools and gadgets (Tools), performing tasks and creating strategies (competences areas) effectively, creatively and ethically (models) to work in digital environments or be a digital entrepreneur (purpose)	Political differences: Europe: intercultural communication Colombia: social-oriented values. Increase awareness and knowledge to use ICT	Strategies to grow: increasing clients and sales controlling stock, use on-line transactions, improve customer service, position brand, marketing online and of line. Profitability, positioning and sales	Orientate model to the commercial and services sector 71% of the market
Digital literacy: process of teaching the youth the meanings of the digital codes, allowing them to understand digital information, communicate through ICT environments and achieve bottom-line business purposes	Economic differences: Europe: Focus in innovation Colombia: Focus in analytical adaptation of ICT. Focus in work and employability for competences 1,2 ,3.	Strategies stability: relationships based on personal affection. Need awareness and updates in ICT benefits.	Attitudes: Social-oriented, empathy, respectful Auto motivation, interest proactivity Engagement with the NGO Initiative to propose Well mannered
Building blogs of the model: Information literacy Media literacy ICT literacy Internet literacy	Social differences: Europe: social integration, HR better trained Colombia: Peace agreement. Main focus in social equity. Orient social the advance level of competences 1,2,3.	Valued attitudes: commitment with the company (responsibility, collaboration, loyalty, transparency, innovation, entrepreneurial) , empathy with the customers (sympathy, happiness, good service, disposition) and self-development (self-learning, interest and	Consulting skills Flexibility Analytical thinking problem solving Communication Time management Self-learning Quality Service oriented profitability seeker

		open mind)	
	Technological difference: Europe: Innovation Colombia: Use, challenges in safety and awareness to use ICT. Reinforce competences 4 and 5.	Skills: basic ones to use digital tools and devices Combined with: Knowledge: marketing and sales automation of tasks	Knowledge PTP program-English Language: spelling, good words. *Students: basic or non-knowledge and skills, possible traumas for violence and poorness

II. Second conceptualization

Conclusion			
Attitude	Skills	Knowledge	Related competences
Ethic Social-oriented Reconciliation(peace) Preventive Empathic Curiosity Commitment Respectful Interest Proactivity Loyalty Initiative Well-mannered	Communicative Customer service Brand positioning Combine analogic-digital worlds Self-development Use digital tools and devices Creativity	Information Media ICT Internet Safety Increasing clients Inventory control Finance Marketing and sales automation of tasks Commercial and services industry Legal framework Spanish –English Emotional intelligence	Technology user Digital vision Entrepreneurship Digital Marketing Social Marketing E-commerce Flexibility Analytical thinking Problem solving Communication Time management Self-learning Quality People oriented profitability seeker Leadership

ANNEX 12. Research studies that influenced the structuring of DIGCOMP

A. Based on reviewing several authors, Bawden (2008) drew together a model that includes four main elements of digital literacy, summarised in Figure 3. The **underpinnings** give the basic skill sets which must be present, together with **background knowledge**, which gives the necessary understanding of the way in which digital and non-digital information is created and communicated, and of the various forms of resources which result. **Competences** are basically those elements of digital literacy proposed by Gilster (1997). **Attitudes and perspectives** reflect the ultimate purpose of digital literacy to help each person learn what is necessary for their particular situation, with an understanding of sensible and correct behaviour in the digital environment. The model proposed in this report makes use of a similar structure of obligatory instrumental elements, several essential skills elements supporting each other, and finally crucial attitudes for effective application of the skills in digital environments.

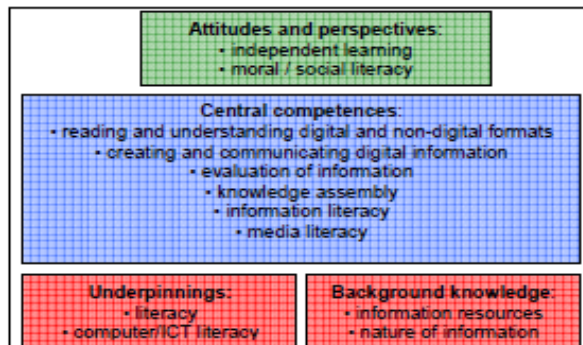


Figure 3 : Digital literacy elements from Bawden (2008).

B. The DigEULit project developed a conceptual model and a framework approach and tools for digital competence (Martin & Grudziecki, 2006). These authors highlighted that digital literacy cannot be certified with a standardized diploma, but must be mapped onto the situation of the individual, using a personal development profile. They suggest three stages of development, as illustrated in Figure 4: **digital competence**, **digital usage**, and **digital transformation**. These levels describe the need for all people to have

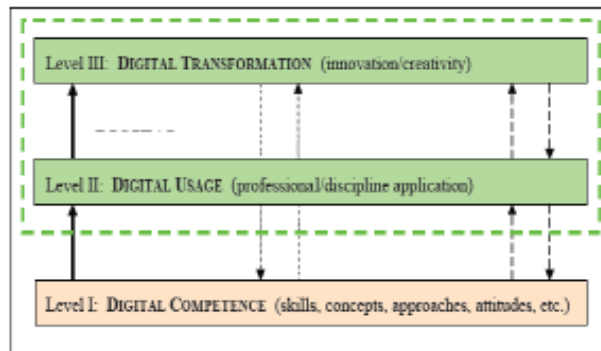


Figure 4 : Digital literacy stages by Martin & Grudziecki (2006).

generic digital competence, on top of which they should develop their personal digital usage for professional and other specific purposes. This also leads to innovation and enables creativity through digital transformation in processes and activities at the individual and societal level. The model proposed in this report has a similar emphasis on considering personal application of digital competence as an important element to be developed on the basis of generic skills.

C. Van Deursen (2010) developed and validated a model for internet skills with four main categories, listed in order of increasing complexity: **operational skills** for using internet browsers, search engines and forms; **formal internet skills** for navigating in the internet and maintaining a sense of location; **information internet skills** for locating, selecting and evaluating information; and **strategic information skills** for successful goal-oriented activities in the internet. The information and strategic skills also include critical and goal-oriented attitudes in their application. In their model, they concentrated on networked information skills. Therefore, it is not directly comparable to overall digital competence, as it is lacking, for example, media creation, communication and collaboration. However, it elaborates on one important element of digital competence and provides useful viewpoints. The model proposed in this report takes note of Van Deursen’s differentiation between medium-related and content-related skills and the research results obtained in testing the model.

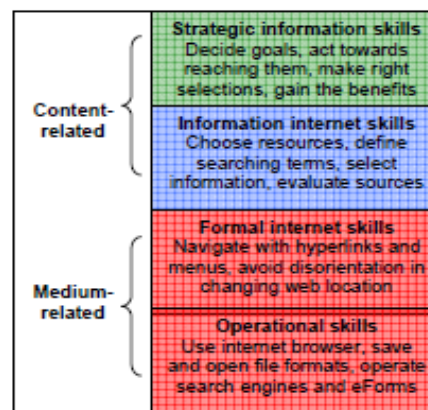


Figure 5 : Summary of the Internet skills definition of van Deursen (2010).