

Research on the Impact of China Huawei ICT Network on Madagascar Security and Economic Development

BOREDISON Jack David

Abstract— The diplomatic relationship between China and Madagascar improves the economic, commercial and development exchanges of the two countries. The mutually beneficial cooperation of ICT network market established a huge potential framework of the Belt and Road Initiative cooperation. The mainly purpose of this study is examines the impact of China Huawei ICT (Information and Communications Technology) in Madagascar economic development and security advantages and challenges through the perspective and strategy Marketing with the One Belt and One Road (OBOR) initiative program. Technology security network plays an active role in the promotion of the Belt and Road international cooperation initiative and in the promotion of international economic and trade exchanges among countries. The subject will study the mechanism advantages and challenges impact of ICT network on the economic development relations between China and Madagascar by using the relevant theories and methods of marketing, behavioral science and mathematical statistics, which has theoretical and practical value. Based on the actual economic and network technology relations between China and Madagascar, this paper analyzes the importance influence of China Huawei investment cooperation for National Security and the economic development in Madagascar.

Index Terms— Huawei ICT network market, one Belt and one Road initiative, economic and security, Madagascar sustainable Development

I. INTRODUCTION

China and Madagascar have been experiencing smooth development of bilateral ties since they established diplomatic relations on November 6, 1972; Madagascar has had a trade relation with China for 56 years, after which the two countries signed several technical agreements. The first agreement, signed in 1963 and renewed several times, testifies to this.

The two sides exchanged views on various topics and agreed to enhance cooperation, in the framework of the ten cooperation programs of the FOCAC Johannesburg Forum (Forum on China-Africa Cooperation), in the areas of international trade. Investment, infrastructure, public development aid and human resources. Actually, The Belt and Road International Economic and development Cooperation Initiative has promoted the economic and development exchanges between China and

Madagascar. Communication and Technology marketing, also known as practical uses in China is a new way to exploit security networks, online communities, information, encyclopedias, or other Internet collaborative platforms for marketing, public relations, and customer service maintenance.

Over the past several years, China's e-commerce market has grown rapidly. The popularity of social media and the information shared on social media platforms have greatly helped consumers make better shopping decisions about products, brands, and services.

From the perspective of ICT network project for Madagascar security and economic development, the ten Cooperation Programs support funds of USD 60 billion announced by the Chinese Government at the Summit, the Malagasy Government would like to take advantage of this partnership to support its actions in the framework of the implementation of its development strategies defined in the National Development Plan (NDP) and this, through the growth sectors and priority projects of Madagascar.

Whether in the political, economic, cultural, educational or health spheres, cooperation between the two countries continues to strengthen, it always based on a strong friendship, equality and mutual respect.

China offers a wide range of high technology platforms to discuss issues of common interest of view to providing guidance and agreeing on a bilateral action plan to strengthen friendship and pragmatic cooperation between China and Madagascar for shared development, including social networking sites, online forum and discussion sites, blogging and micro-blogging sites, customer review sites, video sharing sites, instant messaging applications, and much more. Overall, this study is used to attend the research question as "How the ICT network system with the concept of Belt and Road Initiative contribute the development and security for Madagascar sustainable economic Development?", so this question research lead us to study this topic "**Research on the impact of China Huawei ICT network on Madagascar security and economic development**"

This paper is contained five chapters structured as follows:

The first chapter is an Introduction

The second chapter is Literature review

The third chapter is Research methodology

The fourth chapter is the Results and Discussions

The fifth chapter is Conclusion

II. LITERATURE REVIEW

Nowadays, marketing strategy for ICT network system has been developed in an integral element companies. Literally, there are limited principles of facts to lead a technology network system contents in existence. Successful these tools contents should contain at least one of the aforementioned critical success factors. Furthermore, managers can use these strategies for success factors to guide the creation and

evaluation network process for the security contents in Chinese and Malagasy market relation.

Generally, security network system has changed the world ever seen before, like for example, a national fiber network is currently being installed in Madagascar, while as of 2016. At Internet Solutions, it drives business and economic growth for local and international enterprises, individual countries, and whole geographic regions. This is why China Huawei continues to invest in ability to offer robust ICT infrastructure and services that connects global network operators, multinational enterprises and local. In fact, it's the one of the biggest network security system implanting in Madagascar for technology infrastructure expanding. Madagascar has established a national ICT policy in 2004 and the economic and social development policy of Madagascar Action Plan for 2007-2012, which promotes the expansion of ICT infrastructure and access in the country including the establishment of ICT centers in schools.

According to China internet Network Information Center, since in June 2016, there are about 710 million internet users, and 656 million people using internet on phone. Otherwise, this ICT infrastructure project is becoming more and more to be a part of lifestyle in China.

Overall, although ICT system is a successful business platform for marketing strategy and its strategic implantation infrastructure for development, promoting content sustainable development applications, capacity-building, and reviewing the institutional arrangements framework. And they converge when mobilized as resources for or employed as means in social change, a process that entails altering social patterns of a society, which can involve economic development, political progress, cultural change, social revolution, etc.

For Madagascar, a national optic fiber backbone is being implemented connecting the major cities, and Telma (TELEcom Malagasy) expects to invest an additional \$250 million to expand the backbone network from 5,000km to 11,000km by 2019. Wireless broadband access networks are being rolled out, enabling converged voice, data and entertainment services. Several Internet Service Providers are offering wireless broadband access.

III. RESEARCH METHODOLOGY

1. China Huawei and Madagascar Government Partnership

a) Huawei Corporate Introduction

Founded in 1987, Huawei is a leading global provider of information and communications technology (ICT) infrastructure and smart devices. It's committed to bringing digital to every person, home and organization for a fully connected, intelligent world. They have nearly 188,000 employees, and operate in more than 170 countries and regions, serving more than three billion people around the world.

Huawei's end-to-end portfolio of products, solutions and services are both competitive and secure. Through open collaboration with ecosystem partners, they create lasting value for their customers, working to empower people, enrich home life, and inspire innovation in organizations of all shapes and sizes. At Huawei, innovation focuses on customer needs. They invest heavily in basic research, concentrating on technological breakthroughs that drive the world forward.

Telecommunication Markets – China suffers from industrial over-production and market saturation in a variety of sectors, including textiles, footwear and electronics. This has necessitated entry into new markets. In addition, following the opening up of the domestic market, Chinese companies no longer have the market monopoly they once enjoyed and now need to expand into new markets.

China is an increasingly powerful player in global production networks (GPNs), in telecommunications it is involved in all stages of the value chain, including research and development; standard setting; design; manufacture; construction and management of networks for operators; and provision in China of a full range of telecommunications and Internet services, and applications.

b) Huawei Madagascar ICT Project

(1) PMP Microwave Solution

Madagascar government has a project to make Madagascar as a safety country. In the beginning, Madagascar government deployed camera and wi-fi in several sites like Antananarivo the capital. The camera ensured safety and security in the town. The camera system cannot dissociate of the server where the video stock, but part of the server can be used for devolved services for two years, and some database for video or transport or economy. Madagascar choose to cooperate with Huawei as the first partner for this project and then use microwave for the beginning of the extension of some cities like in Mahajanga, sainte Marie and Fort-Dauphin a survey has been done. For Antananarivo and Nosy Be, there is also camera and wi-fi free for the population.

Madagascar Government policy: The Ministry of Posts, Telecommunications and Digital Development is the sector policy-maker. It is supporting a number of projects to widen ICT infrastructure and use with China Huawei corporation partnership.

This includes as following lists:

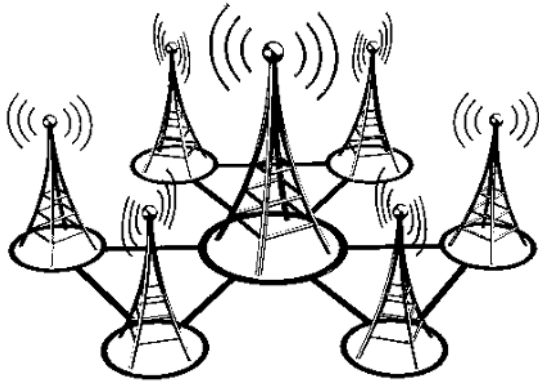
- (A) - Extending infrastructure to uncovered zones
- (B) Development of the Smart City Nosy Be
- (C) Deployment of so-called "digital window" computer labs in educational institutions;
- (D) Expanding the higher education research network and distributing tablet computers to schools.

The Authority for Regulation of Communications Technologies (ARTEC) in Madagascar replaced the previous regulator, the Malagasy Office of Studies and Regulation of Telecommunication, in 2015. The change broadens the regulatory portfolio to include (ICT) in addition to telecommunications. ARTEC regulates according to Law 2005-023 of 17 October 2005 revising Law 96-034 of 27 January 1997 on Institutional Reform of Telecommunications and ICT.

China Huawei Company will support the development of the ICT (Information and Communications Technology) sector in the Big Island Madagascar. It intends to create a series of projects for a more connected country.

(2) *Huawei transmission solution pylon*

Fig.1 transmission solution pylon



The industry large quantities tail sites access typically like video surveillance in safe city, demands the high efficient transmission solution with quick deployment, lower cost and plentiful bandwidth capabilities. Huawei unlicensed PMP (Point to Multi-point) microwave solution RTN510 presents the advantages of large bandwidth, strong anti-interference, environment adaptation, simple operation and maintenance, enhanced Ethernet, becomes the most suitable radio transmission solution for massive sites access. In addition, RTN510 could also support PTP (Point to Point) solution for long distance transmission after service aggregation.

(3) *Microwave RTN 510*

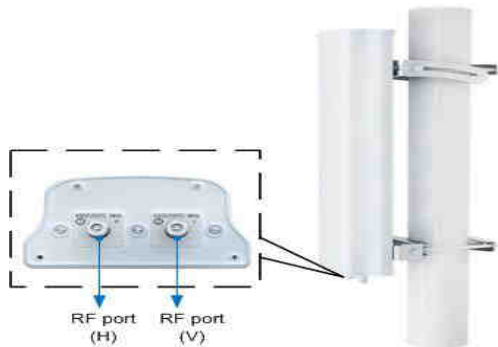


Fig. 2 Microwave RTN 510

Huawei RTN510 PMP (Point to Multi-point) network is networked by one AP (Access Point, including AP equipment and sector antenna) connecting with up to 32 RTs (Remote Terminals), and each AP could provide total max 750 Mbps capacity. For PTP (Point to Point) network, it adapts same AP as PMP while adding external directional antenna for long distance transmission, and it also support max. 750 Mbps capacity

(4) *“SMART NOSY BE”*

Named « Project Smart Nosy-Be », its realization was made by laying the first stone of the future pylon of 30m took place in the courtyard of the police station of Hell-city, Nosy-Be, in the presence of the authorities and group Huawei, the group that will implement the Smart Nosy-Be. In its first phase, this Presidential Smart Project Nosy-Be anticipate the establishment of a communication network for the police and gendarmerie, a surveillance structure made up inter alia of

cameras and a control room data center, as well as a Wi-fi network in the administrative district.

Nosy-Be will be the first "digital city" of Madagascar. After the passage of “Ile aux Parfums”, developing the technology continues with the introduction of new digital technologies. This project was initiated in order to strengthen infrastructure and improve local security. But, it is also involved in achieving the objective of "digital for all". Closely with the Chinese group Huawei and Urban town Nosy Be, the Malagasy State with this project also advance in the modernization of public administration on site.



“(a)” Video Surveillance Backhaul
Ultra large bandwidth, supporting smooth evolution Simple installation and maintenance, fast service deployment



“(b)” Campus Interconnection

Superior multi-service access capability to ensure different service quality
Super anti-interference in complex wireless environment



“(c)” Rural Broadband Coverage

Wide coverage to ensure reliable access of remote sites
Long-term stable working in rainy and dusty outdoor environment



“(d)” Roads Monitoring Backhaul

Linear deployment along the long distance roads. Long-term stable working in rainy and dusty outdoor environment

Fig. 3 Smart NOSY-BE Project plan
(5) SMART MADAGASCAR SAFE CITY”

Madagascar currently is striving to build a nation-wide Safe City Project, as evidenced by extensive deployment of a large number of video surveillance sites. Therefore, it is the PMP (Point to Multi-point) microwave solution that is required for efficiently resolving the problems occurring in site backhaul. Huawei is committed to continuously helping carriers build an efficient wireless transmission platform during the process of industry transformation. In the field of microwave transmission, Huawei has established in-depth partnership with more than 150 global industry customers and channel partners. The PMP (Point to Multi-point) microwave solution being launched today greatly improves the efficiency of site deployment and service transmission as a result of its high reliability, and will further promote the digitalization transformation process of the industry in the future. ICTs (information and communications technology) are the foundation of the digital age that will dramatically improve the social and economic development of Madagascar. Huawei will focus on improving ICT infrastructure in Madagascar; continuously introduce the latest technologies and solution so that Madagascar can become a regional ICT hub. Huawei hopes enhanced cooperation with Madagascar.



Fig. 4 ICT Safe City Project Madagascar

Requirements:

Over 80 chiefs of government would attend Organization International de la Francophonie Summit, Madagascar officially invited Huawei to build the safe city project for video surveillance.

Poor fiber resources for backhaul network especially in key and important areas.

Huawei Solution : Huawei delivered PMP microwave solution for HD video backhaul to command center. High definition video guarantees summit security.

2. SWOT ANALYSIS

In this section, we use SWOT strategy (Strengths, Weakness, Opportunities and Threats) to analyze China Huawei and Madagascar Ministry of Posts, Telecommunications and Digital Development in each branch activity for the success impact of ICT idea project partnership.

TABLE 1 SWOT analysis to Huawei and Madagascar MTDD activities project

SUBJECT	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
Huawei (China)	Competitive pricing High Quality product Technological innovation Global presence	Lack of Capital (Huawei is mostly stripped for cash) Less money to invest in marketing or branding	5G Technology (fastly innovation, advanced high tech) Bricks and mortar stores (able to improve its marketing and sales numbers) Strong marketing strategy	High competition (The consumer technology industry is fiercely competitive across the board) Rising labor and material costs (rise in Chinese labor costs is gradually increasing) Huawei's overhead
Madagascar Ministry of Posts, Telecommunications and Digital Development (MTDD)	Reliable law Independence Collegiality Intangible motivation Openness to cooperation Reliable authority	Politically unstable Lack of system of planning Limited authority	Willingness of government bodies to cooperate Creation of effective communication system Involvement of experts Motivation of civil society to cooperate	Political instability Weak image of the coordination committee Lack of support from the society organizations

3. Data Collection

The internet in China is exploding, fast transforming the country into a ravenous digital consumer society. As social media becomes an increasingly crucial marketing tool, so western companies must understand the key success factors to assert their own position

This period of strengthening economic output is helping to increase consumer spend on telecom services. These services are becoming cheaper as a result of intensifying competition between the main operators, including Orange Madagascar, Bharti Airtel (formerly Zain) and the incumbent telecom Telma.

Madagascar has significant potential as an ICT hub given its strategic location in the Indian Ocean. The challenge remains to address the wide divide in ICT access between urban and rural areas, which could be lessened by enhancing the utilization of universal access funds.

ICT sector share in Madagascar's GDP 2018

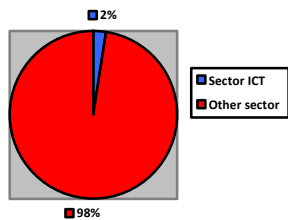


Fig.5 ICT sector in Madagascar GDP

Gross domestic product (GDP) is an economic indicator that measures the level of production in a country. It is defined as the total value of domestic production of goods and services in a given country in during a given year by resident agents within the national territory.

In Madagascar, the ICT sector contributed 2% to the national GDP during 2018.

4. Data Analysis

A. IMPACT OF HUAWEI ICT NETWORK ON MADAGASCAR DEVELOPMENT

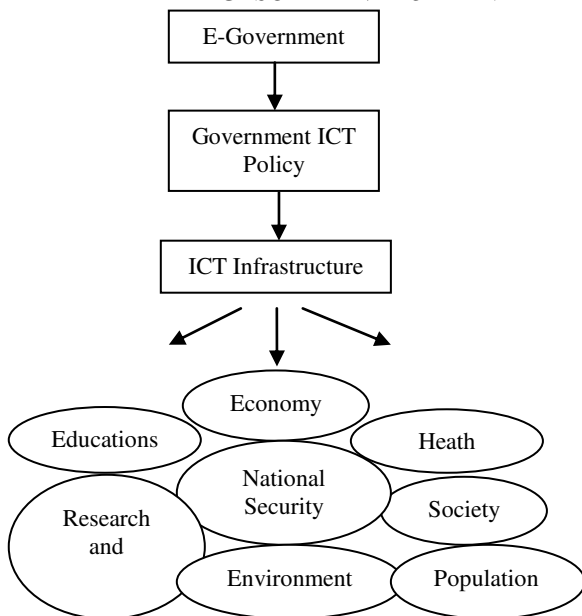


Fig.6 represents ICT sustainable development Goals in Madagascar

This project has succeed in improving access by residents to services that have transformed people day-to-day life, thus ICT product network system not only as a tool for creating jobs to the different regions of Madagascar, but also to improve the standard of living between urban and rural populations, and between disadvantaged groups and others.

Measuring the impacts of ICT services has therefore contributed to democratizing mobile telephony and the Internet access in Madagascar, and has especially had an impact on the economy. In the covered regions, there has been significant growth in the penetration of ICT services and has given more than two million Malagasy access to the benefits of new technologies. The access to information and communication ICT provides holds immense potential to raise the productivity and efficiency of many human activities.

At first on the National security side, China Huawei ICT equipment manufacturer intends to provide mobile phones interconnected by satellite to the police. Thus, the latter would no longer pass through a telecom operator. Indeed, the idea is to eliminate all earthly constraints and to be able to communicate anywhere and at any time.

For further more, Huawei plans to operate on several levels. On the program: the installation of a security network, consisting of surveillance cameras and telecommunication equipment. This innovative project aims to eradicate acts of banditry; all due to a security provided by advanced equipment.

As well as following lists are advantages impacts of ICT infrastructure installation network:

- Transformed people standard of living to improve access by residents to services between urban and rural populations
- Creating jobs to industries employee and companies to the different regions of Madagascar
- Contribution to democratizing mobile telephony and the Internet access in Madagascar
- Providing equipments mobile phones interconnected by satellite to the police in order to eliminate all earthly constraints to have access in communication freely.
- ICT equipments for security network to eradicate acts of banditry
- Global access to personal computers in urban also in rural areas and villages.

B. CHALLENGES HUAWEI FACES IN BUILDING ICT NETWORK IN MADAGASCAR

Madagascar is one of Africa countries as a reservoir of technological, social and environmental innovations due to ICT product installation. While in addition to the social challenge impacts of the expansion of mobile telephony, mobile payment, and Internet services, to connected ICT infrastructure includes ensuring all urban and rural areas has difficult to access to mobile telephony and the Internet in a number of very poor and remote areas of Madagascar, especially in urban and villages.

In fact, ICT infrastructure remains very limited investment within education institutions in Madagascar regions. There are seems to be limited budget for ICTs in education and limited donor funding support.

In a most of in regions, there is an increasingly young population wants to participate for a start-up creation contests. However the lack of communication strategy remains problematic to the regions for flowing information to better access to radio and TV services and also lack of funding. Entrepreneurs do not necessarily master all the tools

and methods. In addition, the media coverage leaves something to be desired.

For analyzing this problem furthermore, following lists are encounter challenges of ICT infrastructure installation network:

- High cost of mobile phone and international calls in some regions
- Difficult to access to mobile telephony and the Internet in a number of regions very poor and remote areas
- Limited investment within education institutions
- Lack of communication strategy for young people start-up
- Internet scale remain limited to address the wide divide in ICT access to International market
- Lack of technical accumulation for developing wider access to ICTs
- Price of standard living and power source raised
- Reduction of the Ariary institution

C. SOLUTION AND SUGGESTION

The measurement of the economic impacts of ICT project investment aimed to setting up ICT infrastructures, improving the quality of life and the efficiency of urban management among others.

More than 660 communities, most of them in rural areas, are now connected to ICT services. ICT skills indicate that a country's overall education level is closely related to its ICT education and training level. The ICT Sustainable development goals in Madagascar are facing challenges related to poverty, instability political, etc...

For the true success of ICT projects such as e-government would be one of most important requirements to have a strategy to enhance computer and internet penetration and reducing the high cost of mobile phone and international calls to each operator. Digital technologies provide solutions for more efficient ways to collect and analyze large sets of data with the help of big data analytical tools, which has wide-ranging implications.

Strategically, population standard-living is below of poverty line, so have to do an implementation and maintenance of ICT projects and needs some IT policies from the government. For the healthcare advantages impact and solutions, ICT infrastructure can improve health coverage, and provide access to affordable medicines and vaccines for all.

Digital access can help make healthcare access a lifelong right for every person in the country. For another case, research has found that people and organizations' ability to access and use ICT services is more likely to drive economic development than ICT education and skills.

This can increase productivity and innovation for a broad range of sectors and communities, and provide the real-time communications needed for rapid scaling of critical human-oriented services.

Therefore, in particular Madagascar as an Island should focus on improving the access and use of ICTs, increase investment in industry, innovation and infrastructure, promote industrial development, and enable people to enjoy the social and economic dividends brought about by ICT development and promote social equity development.

So for more research to discovering solutions and suggestions, below there are some lists:

- Raising quality and level of cooperation to other international operator
- Improving the access and use of ICTs, increase investment in industry, innovation and infrastructure, promote industrial development
- Promoting the development of the region ICT industry as the level
- Developing Internet equipments, digital equipments, and special equipments of ICT Improving operating efficiency; reducing operating costs Coordinately developing Four bases for the of ICT industry
- Supporting young intellectual property people desire to set up a start-up creation
- Developing wider access to mobile telephony and the Internet ICTs for regions very poor and remote areas
- Difficult to access to mobile telephony and the Internet in a number of
- Strengthening the investment of the technology and supporting the international ICT enterprises such as China Huawei
- Implementing a national strategy of intellectual for standard living stability and power source cost decrease
- Establishing major projects of an agricultural information platform and intelligent transport systems to enhance the social development of the national economy, for rising "Ariary" monetary value.
- Strengthening the government ICT policy plan, standardization, guidance, supervision, and services, to create a good external environment of the technology application
- Giving full play to enterprises in technological innovation
- Correctly handling the relationship between technology and market

RESULTS AND DISCUSSIONS

This study investigates the impact of ICT network system that affects national security in the country and for the development economic in Madagascar. The results show that China and Madagascar relationship and friendship is based not just only on trade but also on the ICT network system security (cloud computing, lines and wireless signals) by the contribution of China Huawei Corporation with Madagascar government. It further identifies the necessity to produce ICT specialists and adjust the security and economic system to encounter the requirements of the new generation ICT network. New information and communication technologies is a booming sector in Madagascar, and is becoming a key driving force for growth, drawing an increasing number of direct foreign investors to the island nation.

Our Madagascar government goal is to become the hub in the Indian Ocean, because Madagascar strategically located between Asia and the African continent. Madagascar is connected to neighboring islands and to Africa by two underwater fiber optic cables a third is under completion. These come in addition to the satellites delivering broadband and telephony services across the island. In this study, perceived usefulness ICT network project refers to the degree

to which Madagascar island perceive using high technology system for security and for development economic growth helpful and useful, particularly Sino-Malagasy deeply cooperation.

China is a leading global supplier of network equipment and handsets, and an exemplar of the widespread adoption of telecommunications and the Internet.

For this case, the research on Madagascar's economic relationship with China has thus far been more investigatory than analytical and especially the impacts of ICT network that increasing number of countries collaborate with China Huawei to set up network system to seek and share information and communication. Researchers have pointed out that network system enable countries growing number of training centers cater to a young people, digital-hungry population keen to learn and find a job in this sector, to freely and actively perform electronic set up system to burgeoning start-ups and digital development services .

After the Presidential election in Madagascar in 2013, the new government on 2 July 2014, Huawei Corporation Technologies became the first company in Madagascar to deploy 4G eLTE telecommunication system in the Sub-Saharan Africa region for the Ministry of Public Security.

Otherwise, about the development economic and security system, for the past three years the Malagasy government has been working with local authorities on programs to educate people in information and communication technologies.

National ICT Policy was developed by the Ministry of Telecommunications, Posts and Communication in collaboration with the United Nations Development Program (UNDP). The integration of Madagascar into the globalization process is stated as one of the government's priorities. The vision of the policy is for Madagascar to become a leader in providing high-quality ICT services system, which will accelerate the country's economic, social, security and cultural development.

The basic framework governing China's foreign aid in developing countries.

These principles are as follows:

1. China provides foreign aid always under the principles of equality and mutual benefits.
2. In providing aid, China does not impose any condition or claim any privilege.
3. China strives to release as much as possible the burden on benefit countries.
4. China aims to help beneficiary countries to gradually become independent and autonomous.
5. China strives to develop aid projects that require low investment but followed by quick results.
6. China provides equipment and materials of the highest quality it produces itself.
7. In providing technical assistance, China is committed to fully benefit from the staff of beneficiary countries of this technical knowledge.
8. Chinese experts are not allowed to submit any particular request or receive any favor whatsoever. From a theoretical viewpoint, the findings of this study contribute to work out a marketing plan ICT network system for strengthening the collaboration

of Malagasy market and Chinese market relations in several ways.

- 1) First, this study found that to investigate further more about ICT network impact of digital services and system network policy in Madagascar economics
- 2) To analysis the potential impacts of economic development and the opportunities of the internet network system which China offer to Madagascar
- 3) Evaluation of the potential risks and rewards on Economic development with One Belt and One Road (OBOR) initiative between China and Madagascar

For this section research we analyze as regards the resulting of ICT network system which independent of all other local telecommunications operators networks, ensures a private and secure communication channel for the Madagascar National Police.

In order to more understand the purpose for this research, we carried out the analysis of the possible impacts of ICT project with the One Belt and One Road the scope of high tech agreements and arrangements linking the two countries.

The overall objective in the network system sector is to establish an advance technology system suitable for ICT development and innovation for security and economic sustainable. This system facilitates the integration of new generations into the information society and technology. Therefore, the policy proposes the incorporation of ICTs into the country's national curriculum framework and promotes the notion of continuous training in ICTs as a tool for digital secure communication at all social levels.

CONCLUSION

Madagascar, considered one of the poorest countries in the world, has one of the highest speeds of broadband Internet in Africa and has a much faster average speed than some of the richest nations in the world, with 24.9 megabits per second, the speed of Madagascar's broadband is more than twice the world average. The number of mobile internet subscribers has grown from 20,000 seven years ago to 1, 5 million in Madagascar today, so that is the ambition of the Malagasy government that have set up their call centers and digital development services in the island. Not only does this mean that the African island nation has one of the fastest Internet speeds on the continent, but it ranks 22nd in the world, surpassing Canada, France or the United Kingdom.

The speed of broadband in Madagascar is the result of the East African submarine cable system (EASSy), 10,000 kilometers long. A submarine fiber optic cable that extends from Sudan to South Africa. In 2014, the country's largest Internet service provider, Telecom Malagasy, signed an agreement with Hong Kong Telecom's international operations division to achieve this. Madagascar is not the only country connected to the East African submarine cable system. The fiber optic cable must be connected to countries from South Africa to Sudan.

But despite what appears to be a technological advantage, Madagascar's high-speed Internet hardly serves its population. Only 13% of its 25 million inhabitants have access to electricity and only 2.1% of the population has access to the Internet. There are only 2.75 IP addresses per 1,000 people, compared to a global average of 558 per person.

China's "One Belt, One Road" project involves re-energizing trade channels from China to the rest of the world. Madagascar is among the sixty countries involved in this initiative valued at nearly \$ 10 billion. China is ready to join forces with Madagascar to make it a bridge between the Silk Road and the African continent.

Following the political crisis in 2009 in Madagascar with impact on national security, international reputation and decreasing foreign aid the Republic of Madagascar, and the country's international reputation was affected by a rapid decrease in foreign support and contributions former Minister of Interior Security opened negotiations to obtain a 4G eLTE platform for the National security.

Planned projects under the "OBOR" initiative include the creation of a Chinese-run special economic zone, the construction of a new highway between Antananarivo and Toamasina by China Communication Construction (CCC), and a deal with Huawei Corporation to develop an ICT network of closed-circuit cameras to improve security in Antananarivo. The two countries also agreed for China to construct a deep-water port in the bay of Narinda, on Madagascar's northwestern coast facing Mozambique, one of China's many massive rail and port investments across the African continent intended to improve connectivity between African producers and China.

As the geographically closest African country to China, with direct sea lanes to China across the Indian Ocean, Madagascar is a natural extension of the 21st Century Silk Road.

According to the Chinese Foreign Ministry, Madagascar will serve as "a bridge between the African continent and the Belt and Road Initiative."

In addition, the Chinese Silk Road initiative provides an important opportunity to enhance friendly cooperation between China and Madagascar. The Chinese side is ready to continue in this direction to help Madagascar create jobs, improve the living conditions of its people and reduce poverty, to enhance its geographical advantage and its natural resources to obtain the fruits of sustainable development.

This paper has presented the establishment for a marketing plan China Huawei ICT network system to Malagasy market partnership project under the cooperation of Chinese Silk Road initiative.

We hope that Madagascar, as an important country in Africa, which has favorable conditions such as good political relations and economic complementarily with China, will be able to benefit the best from these programs and that mutually beneficial cooperation between the two countries will greater progress. What if the Madagascar Island were to become the next Silicon Valley?

REFERENCES

- [1] Enterprise.Huawei.com Huawei technologies CO., LTD.212
- [2] Huawei Technologies Co., Ltd. 2018. All rights reserved
- [3] Dr RAZAFINDRAVONONA Jean Dr RAKOTOMANANA Eric Jean Mr RAJAABELINA Jimmy, « les impacts des relations d'investissement de chine madagascar », Equipe AERC Madagascar Octobre 2009
- [4] Ewan Sutherland, "China and Africa: Alternative Telecommunication Policies and Practices", Independent telecommunications policy analyst, Edinburgh; and Visiting Adjunct Professor, LINK Centre, University of the Witwatersrand, Johannesburg

- [5] Rana Umair Ashraf, Fujun Hou & Wasim Ahmad: "Understanding Continuance Intention to Use Social Media in China: The Roles of Personality Drivers, Hedonic Value, and Utilitarian Value", *International Journal of Human-Computer Interaction*, 2018, Pages 1216-1228.
- [6] *Eurasian Geography and Economics* · May 2012 DOI: 10.2747/1539-7216.53.3.400
- [7] Sarah Raine, "The Real Story of China in Africa China's African Challenges", Routledge. 20 Deborah Brautigam, *The Dragon's Gift.*, 2009, OUP Oxford
- [8] Dr Jing GU, «China's Private Enterprises in Africa and the Implications for African Development», *Institute of Development Studies, European Journal Development Research*, 2009, 21.4.,
- [9] Data-reportal digital 2019 in Madagascar
- [10] Malcolm Johnson, Mats Granryd, Luis Neves, Tao Jingwen, "ICT sustainable Development Goals Benchmark", 2019 Huawei reports
- [11] Schiller, Cornelia (2013) *China and Madagascar: engagement, perceptions, and developmental effects, "The Impact of Information and Communication Technologies on Developing Countries"*, PhD Thesis. SOAS, University of London *Australian Journal of Basic and Applied Sciences*, 5(9): 1066-1070, 2011 ISSN 1991-8178
- [12] Thierry E. Klein, Philippe Richard, "ICT Energy Challenges, Impact and Solutions" 19th International ICIN Conference - Innovations in Clouds, Internet and Networks - March 1-3, 2016, Paris
- [13] SURVEY OF ICT AND EDUCATION IN AFRICA: Madagascar Country Report Madagascar 1 - 10
- [14] Isaacs, Shafika, "Survey of ICT and Education in Africa" *InfoDev ICT and Education Series*. World Bank, Washington, DC. World Bank, April 2007, Madagascar Country Report. License: CC BY 3.0 IGO.
- [15] Isabelle Salabert; Frédéric Onof; Ericka Verly; Rolande Razakavoniarison; Haja Rasolofojaona, « Désenclavement par les TIC – Le réseau de cyber centres associatifs », *Réalisation ONG HETSIKA – Coopération décentralisée Nord-Pas de Calais Analanjirofo - partenariat fondation*, 23 Mars 2016- 09 Mai 2016, TELMA - 2011-2016.