



Impact of Software in Developing Countries/Oil Producing Economies

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ABSTRACT

Developing countries are usually regarded as 3rd world countries that are still emerging in terms of development. Some of these 3rd world countries also have the natural resources (Crude Oil) needed to produce petrol and other petrochemical products. Crude Oil is a very significant raw material that generates wealth for any country where it is found. But, the degree of wealth generated would eventually depend on what quantity is available and how efficient the production process is. This paper specifically seeks to highlight the possible impact of software in developing countries, it discusses some of the very best ways software could be used to create national cash flow, the study also pays attention to the impact of software in oil producing third world countries and how software could be used to improve the efficiency of oil production processes, from exploration to distribution.

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INTRODUCTION

Processes and Operations continue to change, every industry undergoes a substantial amount of revolution, and this change is progressive because people are looking for more efficient ways to get things done, ranging from office tasks, industrial operations to home utilities. People become creative when they are looking for a solution to a problem, challenge or a crude, inflexible process.

The idea of 'making life easier' is a concept so to speak, that has trended in the software industry for some years now, and it is a concept that has sponsored creativity in the industry. Holding to such concepts, developers literally scout for problems and challenges in everyday life, and then try to solve those by writing a software program that can address the issue. Personally, as a software developer, I enjoy writing codes to

solve real-world problems, there is nothing more comforting than the feeling one gets as a developer when you see people use and benefit from a software that was created by you.

Software, as it is, is a tool to drive development and economy when the right policies and learning capacity are in place. Mechanical devices used for large scale industrial productions rely on good software systems for their operability. War systems and nuclear warheads/nukes rely solely on software to run and navigate them at high speeds and transportation will soon solely depend on software with the advent of electrical and self-driving cars filling up the market.

Now the question is, how can a country utilize software for development and economic growth? well, the answer does not lie in government using



sophisticated software systems in government circles alone.

To benefit and use software to drive the economy, first, Software must be seen and perceived of as an asset, a tool that can be used to bring more money into the pocket of the country or the particular industry intending such.

SOFTWARE AS NATIONAL ASSET

You see, when you spend millions or thousands of dollars buying software that you only use and have to periodically pay for an upgrade, it becomes a liability on the government or the industry because it takes away money from the pocket of the industry/country.

Assets

According to Kiyosaki (1997), Asset is anything that has the capacity to put money in your pocket (p.48), that means that it does not take away money from you in the form of spending, upgrade, or maintenance. But that it has the ability to generate income and that it is self-sustaining, and still make you profit.

Liabilities

Liabilities are the killers of Nations and Economies, a liability, Kiyosaki (1997), defined a liability as anything that takes money away from your pocket (p.48). This money gone could be in the form of maintenance, upgrade, renewals etc. Liabilities should be reduced to the minimum in a developing economy.

SOFTWARE AS AN ASSET OR LIABILITY

In order to use Software as an asset in an organization, when you have a need, challenge or problem, while using a temporal solution, a team could be deployed to create the software needed to solve the issue. When the software is ready, it becomes a software product, which can be

sold to other companies or countries who have similar issues or are anticipating such. This way, you solved your problem, and you have the software serving as a product in the market that brings you money whenever there is a sale, talk less of the value the product is providing. So, rather than take money away from you, it brings money into the system. This is one-way software can be used as an asset.

Another way is to develop a system that enables young citizens who are interested in development to build the necessary capacity required to develop creative software products that will thrive in the market. Most of these products will serve as the foundation for startup companies that will generate revenue, locally and internationally, that was how Facebook and android started, for example, Facebook was a product built by someone first, which then became a company producing other software products that are useful to the world.

Software is one of the most spent-on resource in the international market, this is because of the way it is transforming economies and making industrial processes efficient and smart. Development of ingenious man power for any developing country such as Nigeria in the expertise of high level software skills is pertinent to the development of the country as a whole.

SOFTWARE APPLICATIONS IN OIL PRODUCING ECONOMIES:

Victoria (2015) Studied How Software Will Transform Global Society: Lifting the Developing World, in her study, she stated that: Enormous changes enabled by software will help millions of people in the developing world live healthier lives, bring new ideas to life, and participate in the global economy. (p.1).

Software is capable of introducing changes into the oil and gas industries,



changes across all the production processes, from exploration to distribution, software is capable of making efficient recruitment processes and ensure that the right skills are discovered where and when they need to be. There are different ways that Software could be useful to the oil and gas industries, the oil industry could leverage on the powerful processing of artificial intelligent systems to analyze geospatial data, so as to reduce geodetic ambiguities. The end result of this is that an AI could precisely pinpoint what point on the earth that should be drilled in order to avoid hindrances which may come as a result of Rocks or hard metals in the earth which human calculation might have failed to foresee.

IoT (Internet of Things) devices powered by Artificial intelligence and Machine Learning, could assume different forms and shapes including screws and nuts, they could be placed in pipelines since they transmit analogue signals, this would enable the devices send periodic analysis of the pipeline metal structure and tensile strength, based on which the Artificial intelligent central system would recommend a predictive maintenance using its predictive intelligence models. This could help to prevent fire outbreaks in pipelines as a result of corrosion, rust and other external atmospheric factors.

Fire outbreaks in Filling stations, oil retail stations and remote facilities could easily be monitored with drones which are powered by machine learning and are trained to recognize and even predict disaster before it occurs.

Machine Learning Powered sensors and micro-controllers, could be used in air vent rooms and underground fuel storage locations to detect the leakage of odorless gases that are highly flammable. These gases are so odorless that the human sense of smell cannot differentiate it from breathable air, but sensors that are trained to analyze

the structure of certain gases present in the atmosphere, could be used to detect such leakages so that caution could be taken before it escalates into a disaster.

These are just a few ways that software could be put to advantageous use in the oil and gas industry. An important advantage these applications hold over conventional processes in that these outlined applications all help to increase the security of oil producing processes, increase the efficiency with which oil exploration and discovery is being carried out, as well as save overall cost of production.

CONCLUSION

Concluding on this, The impact of Software in developing countries depends to a great extent on the ability of the country/industry to see Software as an asset, and thus use it as such, because it is only then that you would not only be solving a problem for yourself but would also be solving the same problem for other countries/ government/ industries and thus providing value and making money continuously from the product that once solved your problems.

All economies must adapt technology if they are to progress and make advancement, whether you produce the technology or not. If you did not produce it, you will have to buy it at a much high price, but if a government invested into that direction and produced such technology, then they would have it as an asset which both improves their own local efficiency and also makes them money by selling it to other oil producing nations and industries that would love to acquire same technology.

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