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SUSTAINABLE FINANCIAL SYSTEMS AND GROWTH - AN ENQUIRY INTO DIGITIZATION

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ABSTRACT

The importance of financial systems to economic growth has become even more pronounced in recent years. 'Green Economy' is becoming a buzzword today. The ways and means by which financial systems are designed is one of the critical parts of efficient financial systems. In this paper the researcher tried to look at the Information and Communication Technology and Digitization aspect and its role in the sustainable financial system development and economic growth. Here the researcher would also like to raise an enquiry about the digitization as an 'agent of change' for sustainable systems development and economic growth. With the requirement of stable financial system, inclusive growth and sustainability has always been the important area for all the governments. Currently in India also everybody is concerned about inclusive growth. Here the researcher would like to raise a question that for sustainability and growth, can any country afford not to go digital. Digitization is going to play vital role in sustainable financial and economic models. Digitization is going to act 'agent of change' for any further reforms. Mobile revolution is going to support economic growth and mobiles are going to play vital role in sustainability.

Key words: - Digitization, economic growth, green economy, inclusive growth, sustainable financial system.

INTRODUCTION

The importance of financial systems to economic growth has become even more pronounced in recent years; yet, there is still surprisingly little agreement about how to define and measure their development. It is evident that there is very little known about the measures and definition itself.

‘Green Economy’ is becoming a buzzword today. Very recently The United Nations Environment Program (UNEP) started enquiry about the policies. This was to guide the global financial system transition to green economy. With the current frequent world financial GSII crisis, everybody is awakened about not only sound and stable system, but also sustainable systems.

The ways and means by which financial systems are designed are one of the very critical parts of efficient financial systems. The trust in the methodology leads to the long term sustainability of any system. An article in the ‘The Guardian’ on 23 January 2014 it is mentioned that “, without **reshaping the financial system**, there is little prospect of private capital driving the transition to a sustainable economy. More likely is that it will reinforce the problem by continuing to flow to carbon and natural resource intense investments.”

So again the stress on reshaping the financial systems is evident for sustainable economy and growth. UNEP recently has come out with the design considerations for the sustainable financial systems which are Regulatory Oversight, Responsibilities, Information, Incentives, Innovation, Risks, and Capital regulations. In this paper the researcher tried to look at the ICT and digitization aspect and its role in the sustainable financial system development and economic growth.

Here the researcher would also like to raise an **enquiry about the digitization as an ‘agent of change’ for sustainable systems development and economic growth**. Methodology for this research is used exploratory for asking the relevant question.

COMPONENTS AND SYSTEM APPROACH

It seems evident that after Von Bertalanffy the world started using the word system for everywhere where there are interdependency of components. Then it became fashion and practice to use system world everywhere.

Von Bertalanffy suggests that ‘...there exist models, principles, and laws that apply to generalised systems or their subclasses, irrespective of their particular kind, the nature of their component elements, and the relationships or "forces" between them. It seems legitimate to ask for a theory, not of systems of a more or less special kind, but of universal principles applying to systems in general.

As far as organizations and institutions are concerned, there can be four components which need to be tweaked to adjust the improved life of an organization. Bringing desired change to these four components which are **people, processes, structure and technology** becomes the critical area for all organizations and countries.

Whilst technology is playing vital role in growth and sustainability. Digitization of business processes are helping to bring in desired changes for improved efficiency.

RESEARCH METHODOLOGY

Research methodology adopted here was exploratory, descriptive and deductive while discussing the data available. The insights obtained here are through the deductive techniques. As there are many domains involved in the studies, the cross section of these domains is discussed while coming to discussions and conclusions.

FACTS AND DATA

If we look at the statistical data available about digital and internet users with all types of online transactions, we can see very clearly that the speed in which the users are accepting the online transactions is enormous. Use of electronic and digital technologies is increasing with very fast pace and all financial systems have to comply with the upcoming requirements and standards for online working.

Table – 1

Top 10 ECS transactions showing no. of users, volume and value for credit and debit in November 14¹

MUMBAI	M	R	031	893850	1677415014.70	2	086	424740	222	50877812.69
UWAHATI	GG	R	69	0019	04798471.10	5	7	9159	580	322436.70
ANGALORE	BB	R	92	00108	242555369.81	6	16	598911	103	78598880.46
ANPUR	KA	R	52	0614	29615798.00	3	6	28486	547	554991.92

¹ <http://www.rbi.org.in/scripts/NEFTView.aspx>

EW DELHI	NN	R	50	30000	2185382770.62	28	949488	42772960.12
UCKNOW	LL	P	12	731	1691565.00	10	82218	4617864.00
RIVANDRUM	TT	R	95	1046	94799450.63	30	12913	4571245.09
DORE	IIN	S	87	95	284861.79	2	99756	4099751.00
YDERABAD	HH	R	87	81246	107974394.72	9	226136	85431129.18
ANAJI	PP	S	21	28767	621030797.27	4	40746	965387.22

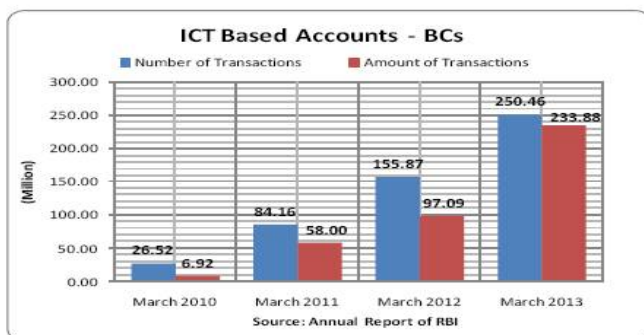
Same increasing number of users can be seen in NEFT and RTGS on RBI website².

Mobile banking again is one of the ever increasing phenomena in India (please see the table at the end)³.

Figure- 1

- In order to provide efficient and cost-effective banking services in the un-banked and remote corners of the country, RBI directed commercial banks to provide ICT based banking services – through BCs. These ICT enabled banking services have CBS connectivity to provide all banking services including deposit and withdrawal of money in the financially excluded regions.
- The number of ICT-based transactions through BCs increased from 26.52 million in March 2010 to 250.46 million in March 2013, while transactions amount increased steadily from Rs.6.92 billion to Rs.233.88billion during the same period (Chart 9).

Chart 9: ICT Based Accounts - BCs



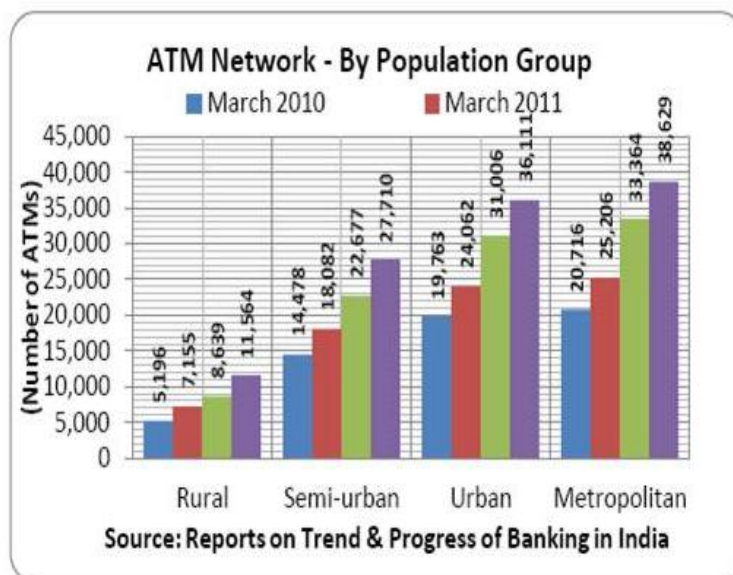
² ibid

³ <http://dbie.rbi.org.in/DBIE/dbie.rbi?site=statistics>

Figure II

- The total number of ATMs in rural India witnessed a CAGR of 30.6% during March 2010 to March 2013. The number of rural ATMs increased from 5,196 in March 2010 to 11,564 in March 2013 ([Chart 10](#)).

Chart 10: ATM Network – By Population Group



SUSTAINABILITY OF FINANCIAL SYSTEM AND INCLUSIVE GROWTH

With the requirement of stable financial system, inclusive growth and sustainability has always been the important area for all the governments. Currently in India also everybody is concerned about inclusive⁵ growth. **Here the researcher would like to raise a question that for sustainability and growth, can any country afford not to go digital.**

Digitization and ICT (Information and Communication Technology) is playing role in enabling the sustainable systems (of course it is also carrying inherent risks of the digitization) and also helping in growth. E-governance initiatives are the examples of use of digitization for inclusive growth. Today it seems that ICT is been used as catalyst for social and economic progress. There are few challenges which we need to address which are arising because of complexity of systems and the needs of an individual and implementation complexities.

⁴ http://www.rbi.org.in/scripts/BS_SpeechesView.aspx?Id=862

⁵ http://www.rbi.org.in/scripts/BS_SpeechesView.aspx?Id=862#C9

Scalability is one of the important aspects provided by the digitization for the sustainable systems. This is also enabling inclusive growth.

Emerging economies now represent 80 percent of worldwide mobile phone subscribers — most of whom are from lower incomes. This was quite an old report of 2009. In last five years it's gone exponentially high. Emerging economies are now more 'mobile' in nature. Digitization is at the center stage of financial transactions and networked economies.

TOOLS OF SUSTAINABLE GROWTH

There might be infinite possibilities of different tools and techniques for sustainability and growth, but here researcher will be addressing ICT as tools for financial system's sustainability and economic growth. Rather than going in the debate of whether its needed or not, we all have to agree that, we cannot afford not to go digital in system designs for sustainability and growth of any systems of the world.

If we look at the increasing number of digital transaction, it's growing very rapidly with uncontrolled speed. Most of the infrastructure requirements are becoming essential after the advent of internet and online working. It is also shown by researcher's that e-government maturity model is needed to see the e-readiness of the countries.

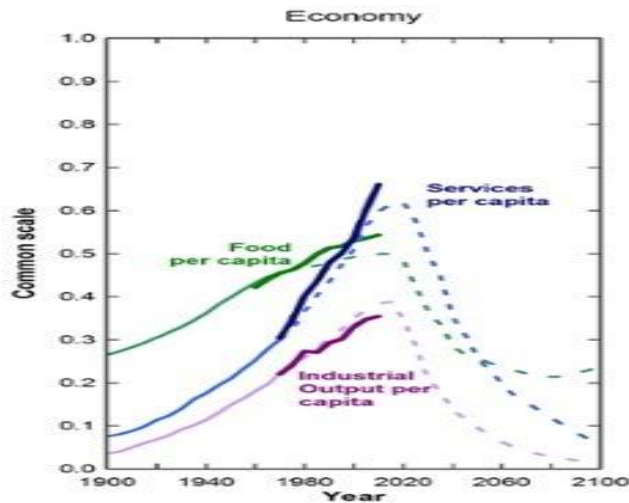
LIMITS TO GROWTH

After the original work of Donella and Dennis Meadows and the team as part of a computer simulation project by club of Rome in 1970's, people were trying to see the relevance of it in today's world. Surprisingly their predictions about a scenario of 'business-as-usual' were found correct after Dr. Graham Turner tested it with the current data. The results show that the world is tracking pretty closely to the Limits to Growth "business-as-usual" scenario.

The graphs show real-world data (first from the MIT work, then from research), plotted in a solid line. The dotted line shows the Limits to Growth "business-as-usual" scenario out to 2100. Up to 2010, the data is strikingly similar to the book's forecasts.

When we speak about the economic growth and system behavior, the graph is showing interesting results

Figure - III



Solid line: MIT, with new research in bold. Dotted line: Limits to Growth ‘business-as-usual’ scenario.

When we speak about sustainable growth, we just cannot ignore the predictions of this model and the work done by this team in 1970s. Limits to Growth work was done by a group of people called the Club of Rome. MIT Researchers including Donella and Dennis Meadows built a computer model to track the world’s economy and environment. They came out with World3 cutting edge computer model.

In this ambitious task, the team tracked industrialization, population, food, use of resources, and pollution. They modelled data up to 1970, and then developed a range of scenarios out to 2100, depending on whether humanity took serious action on environmental and resource issues. If that didn’t happen, the model predicted “overshoot and collapse” – in the economy, environment and population – before 2070. This was called the “business-as-usual” scenario.

The book’s central point, much criticized since, is that “the earth is finite” and the quest for unlimited growth in population, material goods etc. would eventually lead to a crash.

RESULTS AND FINDINGS

It is evident from the statistics and the data above that digitization is going to play important role in sustainable economic growth and inclusive financial systems. The speed of digitization is much higher every moment and is ever increasing.

When we look at the numbers of ECS, RTGS, NEFT, CREDIT CARDS and so on, it's increasing day by day. More and more people are adopting online transaction methodologies.

DISCUSSIONS AND CONCLUSIONS

Few points become evident from all the aspects above. There must be a systemic (not systematic) approach for sustainable financial model. Inclusive growth is going to be key result area for any developments. Digitization is going to play vital role in sustainable financial and economic models. Digitization is fading the boundaries of business processes. No countries can afford not to go digital for inclusive growth and sustainability.

Digitization is going to act as 'agent of change' for any further economic reforms including the considerations by UNEP. When we look at world in general and India in particular, mobile revolution is going to support economic growth and mobiles are going to play vital role in sustainability.

It is also prevalent that definitions of sustainable financial system and economic growth may be relative to the country depending upon the priorities. A systemic approach is required to be taken before we design and implement any further systems. The data and analysis shows the interesting trends in the future and these developments are happening without understanding 'limits to growth'. It is also evident that within the exponential, goal Seeking, S-shaped Growth, Oscillation, Growth with Overshoot and Overshoot and collapse modes of behaviour in dynamic systems, Overshoot and Collapse seems more evident with the above data. We have to be very careful in the stage of Smart cities and systems where we need to ask the question about 'live ability' in such Overshoot and Collapse conditions. System Dynamics approaches needs to be adopted for further system developments which deals with sustainability of systems in the world in general and India in Particular. Recent trends of inclusive growths modes need to be tested before they are implemented for further policy making. Holistic views needs to be applied understanding that no sustainability models in the world can work in isolation. The interdependency of the systems and subsystems which are connected and affecting on each other needs to be modelled before taking any policy decisions. Boundaries of the policy implementation needs to be discussed rigorously before taking any steps for further development. It seems that current policies and initiatives are serving immediate needs and not the long term goals.

The stakeholders also needs to look at the role of 'agents of change' and modifiers in the systems before being part of any systems henceforth. The sum of all equals to total, if this condition is true

mathematically, then the parts which makes the 'whole' needs to be understood from interdependency perspective. Endogenous and Exogenous variables need to be studied carefully for correlation ships before sustainability and inclusive growth policy makings.

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