

INTELLIGENCE, WISDOM AND INTUITION: RELEVANCE TO MANAGEMENT

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Intelligence Vs Wisdom:

As individual human beings, we cannot separate ourselves from the physical, social and cultural environment, for we are the product of such environment in our thinking, feeling and actions. The ability to interact with the given environment in an effective and efficient manner is a function of several variables of which the most important one is our cognitive competence. The main concept associated with the cognitive competence is intelligence. A global definition, though not comprehensive, of intelligence is the ability to adjust well with the demands of the environment. Intelligence is not the end product or a substance to be observed or measured, but a construct – assumption on the existence of something—based on our observations of certain behavioural symptoms such as solving a problem, judgement based on conclusions derived from data/information etc. Basic processes underlying such behaviour include identification, discrimination, classification, association, deductive reasoning, inductive reasoning, and abstract reasoning. Strengthening these processes through education and experience will definitely improve intelligence, unless you hold the view that things that one cannot explain are the gift or curse of some external agency. Invocation to the position of the stars at the time of birth, inborn speciality of the person, heredity, after effect of one's karma of previous birth or even the God Almighty belongs to such unexplainable external agency.

Intelligence as a global concept has been questioned by many. The global concept implies that every action/behaviour of an individual reflect the degree of intelligence as it is a general factor affecting every action of the person. There are some tasks or problems which need some special ability in addition to the general ability. A person may be very good in verbal – written and/ or oral—ability, but not so in numerical /mathematical ability or in geometric/ spatial ability. This two factor theory of intelligence (Spearman, 1950) was extended to a three factor theory by Thorndike (1926) by saying there are three distinctive intelligence—Concrete intelligence, Abstract intelligence and Social intelligence—based on specific components. Other psychologists (Thurstone, 1947; Guilford, 1967) ventured to put forward more than three, implying multiple factors as components of cognitive competence. The method they adopted was statistical factor analysis for isolating the components or factors that constitute intelligence. Things did not stop at this level; why take only the cognitive side? Is there not intelligence on cognitive and affective /emotional side? Thorndike (1926) had mentioned social intelligence. Goleman (1995) popularised the term 'Emotional Intelligence' to focus attention on the emotional and social side of human behaviour. 'Emotional intelligence' as a concept lacks specificity and clarity, for the scope of the concept is too comprehensive to include many personality dispositions/traits. Yet, the concept is welcome, for it is from confusion we come to clarity; it is from general we reach to specifics. Whether it is cognitive, social or emotional or the total personality of an individual, one common thing in intelligence is the abilities—abilities to adjust well to the demands of the situation.

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Rs. 500/- D.D. drawn in favour of
"Palghat Management Association",
Payable at Palakkad

**For SUBSCRIPTION :
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Management House, Marutharod,
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- Mg. Editor



What about 'Wisdom'? Is it a part of Intelligence? There are people with high intelligence, average intelligence and low intelligence. Shall we not say that there are people with high wisdom, average wisdom and low wisdom? Yes, we can, provided we can measure wisdom by its degree variations. Intelligence was measured for the first time by Alfred Binet (Binet, A and Simon, T., 1916, 1983) a French psychologist for the purpose of differentiating good students from mentally backward students. His method was simple and straightforward. What the students of 8th standard as group can do (dealing with tasks, problems and situation-- not informational knowledge), if done by a student in the 6th or 7th standard, he/she is higher in intelligence compared to his own classmates and a student of 9th or 10th standard who cannot do better than the 8th standard, he/she is certainly is much lower in intelligence. The Mental Age measured in terms of the standard at a given level divided by the Chronological Age of the child and then multiplied by 100 to express the score in per cent is the measure of I.Q or Intelligence quotient. After 18 or 20 years of chronological age, C.A has no relevance on the assumption that mental age or intelligence is steady for a long period after 20 when the organism attains maturity of the development of the brain. The person may become wise and more knowledgeable, but not more intelligent. I.Q. is not intelligence, but a measure of intelligence by a ratio of mental age and chronological age. We need a nominator and a denominator for working out the ratio. Multiplication by 100 is only for a standard for comparison. In spite of this logic of measurement for determining the standard for comparison, the term 'Quotient' has become so popular to the extent of adding it even to some qualitative descriptions, such as emotional quotient, social quotient, spiritual quotient etc. Journalistic popularity of some idea dilutes the academic rigour of scientific concepts. The language of science is different from journalistic writings for the layman. Invariant meaning of a term is the hall mark of science and variant meaning is the beauty of art. Science attempts at identifying the unity among diversities and art looks at the beauty of diversities. One should be extremely careful in the use of terms and language in science. Mathematics is the best example of avoiding confusion by the language it uses for expressing the ideas.

If 'Wisdom' has an operational definition for its measurement and we agree on such a definition, then we may talk about high wisdom, average wisdom and even a 'Wisdom Quotient' (W.Q). But, the problem is its definition and nature. Carl Rogers once remarked that you cannot use any criterion for evaluating creativity, for creativity by its very nature is a deviation from the commonly accepted criteria. Similarly wisdom is unique to one's own personal experience and its distribution is not normal for working out any standard. Wisdom is basically an inductive process of personal generalisation from one's own personal experience on the purpose and philosophy of life. It is a distillation process of life experience. A businessman of long experience in his business life of great success and grand failures may have something to say on the secret of success in business. He never learned this from schools and colleges or by reading books written by successful people. He has arrived at this from his own experience and that awareness is his wisdom. Sometimes intelligence may help in making that wisdom logical and analytical; but not always. There is intelligence in wisdom, but there is no wisdom in intelligence. People who travelled widely to observe and experience the life of others, people who had the experience of suffering for a cause are likely to be wise. We can learn a lot from such people to become a better person, a better manager or a better businessman. Quantification and measurement is possible if adequate persons in a particular field in life are available and the concept of wisdom is amenable for an operational definition. This is a challenging field of study for the faculty in B-Schools or even for other academic disciplines.

Wisdom Vs Intuition:

Wisdom of a person is revealed by a statement of profound truth that he/she has realized from life experiences of great success or grand failures. We often quote some person primarily based on such statements by their wisdom. Intuition, on the other hand, is not a statement but a special gift of the person to take quick decision under several situations. If you ask the question why he has taken such a decision, the person may not be able to give an explanation by logical reasoning or by intellectual analysis. He may respond in terms of a gut feeling he experienced at the time of decision making. It is a special gift that he/she experienced in critical situations. This explanation does not satisfy our intellect. There must be some psychological ability or factors in the intuition process, unknown to the person concerned. The phenomenon is associated with the

decision making process – not on the final product of decision arrived at, but on the decision making process itself. One possible explanation is as follows:

G.W. Allport (1937), a famous Psychologist from Harvard University, coined the term 'Functional autonomy' to describe a situation where in a trait/ behavioural disposition attains a self power to cause its consequences without being aware of that self power as the cause. The person has learned it from past experiences and was aware of the process at the initial stages before it became a functional autonomy. This is also possible in decision making process: identification and specification of the problem, generating all possible alternatives, analysis of each alternative, tentative selection of one of the alternatives, potential advantages and pitfalls of the tentative selection and final selection of an alternative as his/her decision. When this process is practiced a number of times and in different situations, his/her decision making process may attain a functional autonomy. Next time when the person takes a decision without going the normal process of decision making, we may get a feeling that his/her spontaneous decision was intuitive. The intellectual analysis was there in the earlier stages, but not now for each and every problem situation. In other words, the intuitive decision is the product of earlier conscious decisions based on analysis, but now it is spontaneous and quick to give the impression that it is a special gift of the person. It is not confined to decision making alone; experience in solving a series of problems earlier may result in quick problem solving behaviour in new situations, though the earlier problems were different.

To summarise: intelligence is cognitive competence; wisdom is realization of a profound truth by one's own life experiences and intuition is the spontaneous decision making capability. There is no need to invoke the power of an unknown external agency as an explanation of the observed phenomena, for the origin of everything related to behaviour is one's own life experiences resulting in spontaneous recovery or functional autonomy.

Role of Knowledge in Intelligence, Wisdom and Intuition:

In the history of mankind, there has been an attempt to place knowledge at the apex as an all pervading attribute in human excellence in intelligence, wisdom and intuition. A learned man is a knowledgeable man; an intelligent man is a knowledgeable man; a wise man is a knowledgeable man and so on. All knowledgeable men are intelligent; hut, it does not imply that all intelligent men are knowledgeable men. Similarly, all wise men are knowledgeable men does not imply that all knowledgeable men are wise. There are many men in this world who are intelligent, but without any formal education, a certificate on their knowledge. And so is the case with men of wisdom; knowledgeable, but not wise.

Knowledge had three dimensions: Factual informational knowledge, theoretical / conceptual knowledge and procedural /application knowledge. Knowledge is essential for everything, whether it is acquired by formal educational system or by personal experience by exposure to several life situations. But, to consider it as the cause of everything else is not logical. Sometimes, it is the consequence rather than the cause. A person high in academic achievement/ scholarship is certainly intelligent, for without a higher level of intelligence, the person cannot reach that level. However, this does not imply that absence of high educational achievement will deny the presence of high level of intelligence. There are many who are very intelligent but not interested in studies imposed by a formal system of education. What I am stressing is that the concepts of knowledge, intelligent, wisdom and intuition are distinct and not superimposing over the other, though there could be high or low positive correlations among them. Many definitions of these concepts are highly contaminated by the presence of knowledge; intelligence is defined in terms of knowledge; wisdom is defined in terms of knowledge; intuition is defined in terms of knowledge. This article is primarily written with the objective of clarifying the concepts, distinct from the knowledge web.

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Tail piece: What others have opined on the subject.

Onintelligence:

1. "The ability to carry on abstract thinking." L. M. Terman.
2. ". . . the ability to undertake activities that are characterized by (1) difficulty, (2) complexity, (3) abstractness, (4) economy, (5) adaptedness to goal, (6) social value, and (7) the emergence of originals, and to maintain such activities under conditions that demand a concentration of energy and a resistance to emotional forces." Stoddard.
3. "Ability to adapt oneself adequately to relatively new situations in life." R. Pinter.
4. "Intelligence is a general factor that runs through all types of performance." A. Jensen.
5. "Intelligence is the ability to learn, exercise judgment, and be imaginative." J. Huarte.
6. ". . . adjustment or adaptation of the individual to his total environment, or limited aspects thereof . . . the capacity to reorganize one's behaviour patterns so as to act more effectively and more appropriately in novel situations . . . the ability to learn . . . the extent to which a person is educable . . . the ability to carry on abstract thinking . . . the effective use of concepts and symbols in dealing with a problem to be solved . . ." W. Freeman.
7. "The capacity to learn or to profit by experience." W. F. Dearborn.
8. "A global concept that involves an individual's ability to act purposefully, thinks rationally, and deals effectively with the environment." D. Wechsler.
9. "Intelligence, considered as a mental trait, is the capacity to make impulses focal at their early, unfinished stage of formation. Intelligence is therefore the capacity for abstraction, which is an inhibitory process." L. L. Thurstone. (1924).
10. "We shall use the term 'intelligence' to mean the ability of an organism to solve new problems . . ." W. V. Bingham. (1937).
11. "Intelligence is not a single, unitary ability, but rather a composite of several functions. The term denotes that combination of abilities required for survival and advancement within a particular culture." A. Anastasi. (1992).
8. "Intelligence is the ability to solve problems, or to create products, that are valued within one or more cultural settings." H. Gardner (1993).
9. "Intelligence is the ability to use optimally limited resources – including time – to achieve goals." R. Kurzweil (2000).
14. ". . . that facet of mind underlying our capacity to think, to solve novel problems, to reason and to have knowledge of the world." M. Anderson (2006).

15. "Intelligence measures an agent's ability to achieve goals in a wide range of environments." S. Legg and M. Hutter (2006).
16. "Achieving complex goals in complex environments" B. Goertzel (2006).

On Wisdom:

1. Wisdom in Hinduism is knowing oneself as the truth, basis for the entire Creation, i.e., of *Shristi*. In other words, wisdom simply means a person with [Self-awareness](#) as the one who witnesses the entire creation in all its facets and forms. Further it means realization that an individual through right conduct and right living over an unspecified period comes to realize their true relationship with the creation and the [Paramatma](#) who rules it
2. Knowing others is intelligence;
knowing yourself is true wisdom.
Mastering others is strength;
Mastering yourself is true power. – Tao Te Ching.
3. "The capacity, the desire, and the active endeavour to realize what is of value in life, for oneself and others." ~ [Nicholas Maxwell](#).
4. "Wisdom is an understanding of what is important, where this understating informs a (wise) person's thought or action." ~ [Robert Nozick](#), 1990.
5. "The application of successful intelligence and creativity as mediated by values toward the achievement of a common good." ~ [Robert Sternberg](#), 2003.
6. "To know that you know what you know, and that you do not know what you do not know, that is true wisdom." ~ [Confucius](#).
7. "Knowledge of means to good ends" ~ [John Kekes](#) ¹⁹⁸³
8. "Wisdom is that understanding which is essential to living the best life" ~ Richard Garrett
9. "Wisdom is nothing more than the vision of things as they are, the vision of the cosmos as it is in the light of reason." ~ [Pierre Hadot](#) ²⁰⁰⁶
10. "Wisdom is the highest expression of self-development and future consciousness. It is the continually evolving understanding of and fascination with the big picture of life, of what is important, ethical, and meaningful, and the desire and creative capacity to apply this understanding to enhance the well being of life, both for oneself and others." ~ Tom Lombardo, ²⁰¹¹
11. "Practical wisdom consists in the capacities needed to make good judgments about what matters in life and to bring one's actions into accord, insofar as this is in one's control." ~ The Rosewood Report, 2010



On Intuition:

1. “a natural ability or power that makes it possible to know something without any proof or evidence : a feeling that guides a person to act a certain way without fully understanding why -- something that is known or understood without proof or evidence”—Merriam Dictionary.
2. “Intuition is always right in at least two important ways; It is always in response to something; it always has your best interest at heart” — [Gavin de Becker](#).
3. “Intuition is a sense of knowing how to act spontaneously, without needing to know why.” — [Sylvia Clare](#).
4. “Intuition is the clear conception of the whole at once”. – Johann Kaspar Lavater.
5. “Intuition comes very close to clairvoyance; it appears to be the extrasensory perception of reality”. – Alexis Carrel.
6. “Intuition is the supra-logic that cuts out all the routine processes of thought and leaps straight from the problem to the answer”. – Robert Graves.
7. **“An ability to understand or know something immediately based on your feelings rather than facts: Often there's no clear evidence one way or the other and you just have to base your judgment on intuition”** --. *Cambridge English Dictionary*.



(Continued from page no 6) deciding factor compared with the “life cycle costs”. The fitting of the trap and control valve assembly was what interested us while carrying out annual maintenance of comparatively older plants. We decided on the quick inter change of a trap valve assembly with standardized fitting and the emergency replacement of a leaking condensate fitting with a new fitting with the necessary accessories became an affair of a few minutes duration.

I was interested by the heat transfer characteristics of the Cooling Tower with the timber variety with the mechanical constituent of the fan coupled motor assembly that we are having in our Arishtam Plant. If sufficient air velocity is available in the site, the operational efficiency of the tower with sufficient Wet and Dry Bulb Temperature range is surpassed hardly by any other equipment. We were having the requirement of overhauling the structure with new timber structure and a new fan. We enquired far and wide since the original manufacturer had closed shop years ago. We finally came upon one supplier from across the state borders who was lured with the promise of more opportunities in future

and it was a tight rope walk for me personally as the workers deputed by the supplier were a lazy and irresponsible lot. However with a lot of pressure and cajoling we finally got the refurbishing of the tower done. A zero leakage plant is a process engineer's dream and this, with aging plants and older equipment is near to impossible to achieve.

While proposals for a new pharma plant more on the lines of modern medicine plants was under progress at our Mysore site, we tried for some revolutionary ideas in the clean room standards of the process area. But costs involved and some individual preferences by our engineering head at that time put some stumbling blocks on our proposals.

However, looking back at the pace of reforms that are a result of the demands put on the manufacturing sector, particularly of indigenous medicinal and pharma industry (Schedule T by the AYUSH standards) in India, we feel the trials and tribulations with the silver linings on the technological front bring worries and solace simultaneously since future is bright with newer possibilities and expectations equally with the industry and the regulatory body. Hopefully, future bodes abundant new opportunities.





PRESSURE VESSELS, STEAM ENGINEERING AND THE PROCESS ENGINEER – A NATURAL EVOLUTION: SOME INTROSPECTION BY AN OLD TIMER

*A. Ramesh

The heat transfer and heating in the process industry holds continuous challenges for the inquisitive engineer on many counts – stop leaks, heat losses and maximum extraction of condensate water with minimum heat loss poses continuous challenges – be it with efficient trapping, effective insulation materials and methods, hot exposed pipes losing valuable heat energy to environment etc. The quest for minimum losses leads one to the newer and untested frontiers : we stumbled on to the concept of nano insulation coatings while looking for energy conservation in the newer and hitherto unexplored domains. Accordingly we enquired and had first hand exposure to the technology at one of the major paper manufacturing companies in Tamil Nadu. However, we were discouraged by the exorbitant cost of the nano paint. It was being used for high heat exposed parts of heat transfer equipments like nose cones, pipes of air pre heaters etc. We were disappointed but happy to see technology creating new and exciting results.

The drive to extract that last ounce of energy from the already stretched conservation program see companies resort to newer and untested technology but we were a bit apprehensive since the proposals we receive each day with the proposed improvements are often beyond our reasonable imagination and beliefs. It is one such instant when one premier steam engineering equipment manufacturer claimed that we could achieve savings to the tune of double digit percentages while we were struggling for a decent 2-3% savings with conventional technology. We were interested but dismayed by the project cost of proposed retrofittings.

The newer boilers that use solid and biomass fuels are while less efficient when compared with traditional fuel oil fired packaged units are vastly more economical in operation costs, even with manual feeding of fuels like biomass briquettes and the like. But the maintenance costs of older units with the membrane technology are spiraling upwards, often exponentially. We are having one 6000kgs per hour steam generating capacity boiler of Thermax make, which require a major reconditioning of refractory walls and furnace that require minor repairs once in a half yearly frequency and teardown and rebuilding of the walls in the annual maintenance and test that is statutorily carried out in the presence of the Factories and Boilers Department Authorities. Some operational aspects however lend

credence to the absurd Murphy's Law that states that “If something will go wrong, it will definitely go wrong”. We were having a typical failure of the ID Fan, with the motor getting burnt once in 3 months immediately on functioning. Being a 30KW Induction motor, local expertise on rewinding were not satisfactory. We finally zeroed in on the root causes including frequent stop start sequence of the fan that was due to the peculiar nature of operation of the steam demand from the plants. With sufficient preparedness and attention of the boiler attendants, particularly in the peak demand hours, we are able to manage.

I had opted for heat transfer equipment design while in college and the prescribed text was “Process Heat Transfer” by D Q Kern. However in actual experience the problems encountered by a process and steam engineer are varied in nature and complexity particularly on the maintenance front. While one could score marks by designing a coil with a factor of safety more than 2 and get away with it in the theory papers, we are forced to use a schedule 5 or 10(schedules beyond 20 are unheard of, in commercial pipes) of SS 304 or 316, often one is forced to abandon strength or sturdiness with longer periods of life to the Korean or other imported materials that some OEM Suppliers usually are willing to provide for the pressure vessels that they supply commercially. All these, coupled with MS Jackets with some moisture spreading to the insulation(earlier all glasswool, mercifully nowadays we have recourse to blankets of rockwool or synthetic material with ease and longer user friendly attributes!) that silently eats on the jacket and one is left with a virtual steam and condensate sieve of sorts. Presently most suppliers are fed up with these typical cost saving measures and are bold enough to quote for suitable SS Jackets.

The efficient trapping is many a process man's nightmare, what with the wiredrawing and consequent loss of valuable heat losses by an inefficient or improper selection of the traps that were installed in the earlier periods of the older plants when basic cost of the trap was more of a
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THE DEPOSITS, CREDITS AND NON PERFORMING ASSETS (NPA) OF SCHEDULED COMMERCIAL BANKS IN INDIA

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Introduction

The evolution of banking can be traced back in the era of early times of Human History. It was in existence in one form or other in ancient times. In ancient Greece, the famous temples such as Ephesus, Delphi and Olympia were used as the depositories of surplus funds of people in 2000 BC. Prehistoric Hindu scriptures provide enough evidence of the existence of money lending business in India. It was in existence in Vedic period. The bank of Venice which started in Italy is said to be the oldest banking institution in the world. The bank of Barcelona was on the track in 1401 and the bank of Genoa in 1407. The Bank of Amsterdam was launched in 1609. The writings of Manu and Kautilya contained the reference to banking. The Mahajans, Shroffs and Sahukars etc were engaged in banking business. The East India Company launched a few commercial banks on modern lines. The first Indian bank named Bank of Hindustan was started in 1770 at Calcutta. Later on, East India Company started three presidency banks with government participation. These banks are bank of Calcutta, bank of Bombay and the bank of Madras. Later all these banks were amalgamated and the imperial bank came into existence in 1865. A number of banks failed during the first half of the twentieth century. This insisted the need for an institution to regulate and control the banking industry in the country. As a result, the Reserve bank of India was established in 1935. During the First World War (1914–1918) through the end of the Second World War (1939–1945), and two years thereafter until the independence of India were challenging for Indian banking. The years of the First World War were turbulent, and it took its toll with banks simply collapsing despite the Indian economy gaining indirect boost due to war related economic activities. At least 94 banks in India failed between 1913 and 1918. The imperial bank was nationalised in 1955 and renamed it as State Bank of India. Fourteen banks were nationalised in June 1969 and it was a revolution in the history of banking industry of India. Six more commercial banks were nationalised in 1980.

A bank is a financial institution which deals with money and credit. It accepts deposits and lends money to those who are need of it. A scheduled bank is a bank which is included in the second schedule of the Reserve Bank of India Act 1934. The Indian banking sector is broadly classified into scheduled banks and non-scheduled banks. The scheduled banks are those which are included under the 2nd Schedule of the Reserve Bank of India Act, 1934.

The scheduled banks are further classified into: nationalised banks; State Bank of India and its associates; Regional Rural Banks (RRBs) ; Foreign banks; and other Indian private sector banks. . At present there are 164 scheduled commercial banks in India.

In the early 1990s, the then government embarked on a policy of liberalization, licensing a small number of private banks. These came to be known as *New Generation techsavvy banks*, and included Global Trust Bank (the first of such new generation banks to be set up), which later amalgamated with Oriental Bank of Commerce, UTI Bank (since renamed Axis Bank), ICICI Bank and HDFC Bank. This move, along with the rapid growth in the economy of India, revitalised the banking sector in India, which has seen rapid growth with strong contribution from all the three sectors of banks, namely, government banks, private banks and foreign banks. The next stage for the Indian banking has been set up with the proposed relaxation in the norms for foreign direct investment, where all foreign investors in banks may be given voting rights which could exceed the present cap of 10% at present. It has gone up to 74% with some restrictions. The new wave ushered in a modern outlook and techsavvy methods of working for traditional banks. All this led to the retail boom in India. People demanded more from their banks and received more.

By 2013 the Indian Banking Industry employed 1,175,149 employees and had a total of 109,811 branches in India and 171 branches abroad and manages an aggregate deposit of ₹67504.54 billion (US\$1.0 trillion or €1.0 trillion) and bank credit of ₹52604.59 billion (US\$790 billion or €780 billion). The net profit of the banks operating in India was ₹1027.51 billion (US\$16 billion or €15 billion) against a turnover of ₹9148.59 billion (US\$140 billion or €140 billion) for the financial year 2012-13. The total number of automated teller machines (ATMs) installed in India by various banks as of end June 2012 was 99,218. The new private sector banks in India have the most ATMs, followed by offsite ATMs belonging to SBI and its subsidiaries and then by nationalised banks and foreign banks, while onsite is highest for the nationalised banks of India. Physical as well as virtual expansion of banking through mobile banking, internet banking, tele banking, biometric and mobile ATMs is taking place since last decade and has gained momentum in last few years.

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Pradhan Mantri Jan Dhan Yojana English: Prime Minister's People Money Scheme) is a scheme for comprehensive financial inclusion launched by the Prime Minister of India, in 2014. Run by Department of Financial Services, Ministry of Finance, on the inauguration day, 1.5 Crore (15 million) bank accounts were opened under this scheme. By 15 July 2015, 16.92 crore accounts were opened, with around ₹20288.37 crore (US\$3.1 billion) were deposited under the scheme, which also has an option for opening new bank accounts with zero balance.

Significance of the study

The world economy is closely integrating into one economy. So every country requires a healthy financial sector, which is necessary to meet the challenges of globalisation. In this context, commercial banks are also having an important role in the economic development of a nation. It provides financial resources for the growth of the industrialisation. Apart from this, they perform a large volume of services for the smooth functioning of the economic system of the country. A country cannot develop without developing the banking structure of that country. The banks inculcate the habits of saving among the people direct the resources to productive purposes. So banks can play a very important role for the sustainable economic development of the nation.

The one of the important functions of the commercial bank is to attract deposits from every class and from every source. Lending of money is the another major important function of the commercial bank, after keeping certain percentage of deposits as cash reserve the balance is given as loans and advances. The credit deposit ratio of the bank is very important indicator for assessing the performance of the bank.

Statement of the problem/Rationale of the Study

After nationalisation the role of scheduled commercial banks is very high among the masses of India. The population groups of India can be generally divided into Rural, Semi urban, Urban and Metropolitan. These four groups highly different in the needs, resources, attitudes, living styles etc so how far banks especially the major group of banking in India- the scheduled commercial banks are feeling when it discharges one of the primary functions of banking i.e., deposit mobilisation. One of the channels of cultivating the banking habits among the people is saving bank deposits, how far commercial banks are progressing in the cultivation of banking habits among the people of India. The credit needs of the people are very high now days, the people of India more or less shifted to spending more than earnings especially during festival season, marriage occasion, house construction, purchase of vehicles etc. In order to meet the money gap between what they have and what they have to spent, they have to go for the money lenders, Non banking financial companies, New generation banks, Gold loans and scheduled commercial

banks. So how far, the credit disbursement of scheduled commercial banks are progressing among the various population groups i.e., Rural, Semi urban, Urban and Metropolitan groups of India.

The limiting factor or problem factor for the banks in the disbursement of the credit is in the case of non-performing assets. The various banking groups such as Scheduled commercial banks, Public sector banks, Old private sector banks, new private sector banks and foreign banks in India are all have Non-Performing assets .Which sector have high and low levels of gross and net non performing assets is a very important factor in the performance of the banks. The various industries in India are depending banking sector- especially scheduled commercial banks for their credit needs. The progressive dependence to the credits needs by the different industry is different and varies from industry to industry. The self help groups are progressing in different parts of the India, how far they depends the scheduled commercial banks for direct and indirect assistance is one of the relevant question especially the self help groups are helping and thus empowering millions of the people especially women.

Objectives of the Study

1. To analyse the growth of deposit mobilisation of scheduled commercial banks among the various population groups.
2. To analyse the growth of credit disbursement of scheduled commercial banks among the various population groups.
3. To analyses the Industry wise deployment of gross bank credit in India
4. To assess the progressive growth of saving bank deposits among the scheduled commercial banks in India.
5. To analyse the gross and net non-performing assets of the different banking groups in India especially scheduled commercial banks.
6. To assess the direct and refinance assistance of scheduled commercial banks with the self help groups in India.

Research Methodology

The study primarily depends on the secondary data collected and published by the central bank of India i.e., Reserve Bank of India. Appropriate tools and techniques are used for the study. The period of the study is from 2004-05 to 2014-15. The study focus on the credit, deposits, gross and net NPA, industry wise credit deployment and bank assistance to self help groups etc

Limitation of the study

This study focus on the performance of scheduled commercial banks and data collected from reserve bank of



India consists of data up to 31st march 2015, since that data dealt is national statistics and data collection through primary sources is almost impossible the performance of scheduled commercial banks after 31st march 2015 is not considered here.

Analysis

Deposits of Scheduled Commercial Banks-Population Group

The deposits of scheduled commercial banks is divided into four population groups i.e., Rural, Semi urban, Urban and

Metro. The growth of Deposits among rural people and semi urban people are around four times but at the same time Urban deposits shows more than five times and metro deposits around six times during the time span of 2004-2014. The share of rural deposits to total deposits and the share of semi urban deposits to total deposits show a declining trend but at the same time urban deposits are almost stagnant. The share of deposits among metros to total deposits shows a steady increasing trend.

Table 1, Deposits of Scheduled Commercial Banks-Population Group (Amount in Rs Billion)

Year	Rural	Growth %	Share %	Semi Urban	Growth %	Share %	Urban	Growth %	Share %	Metro	Growth %	Share %	Total Deposits
2004-05	1950.82	100	13	2682.17	100	18	3303	100	22	7176.79	100	47	15112.74
2005-06	2131.04	109	12	2956.85	110	17	3748.9	114	21	8631.34	120	49	17468.14
2006-07	2260.61	116	11	3022.13	113	14	4308.1	130	21	11320.9	158	54	20911.74
2007-08	2530.14	130	10	3573.95	133	14	5325.9	161	21	14540.4	203	56	25970.44
2008-09	3034.23	156	9	4302.8	160	13	6577	199	20	18585.4	259	57	32499.46
2009-10	3639.1	187	9	5297.58	198	14	8229.1	249	21	22054	307	56	39219.81
2010-11	4203.38	215	9	6140.47	229	13	9449.9	286	21	25816.5	360	57	45610.29
2011-12	4932.66	253	9	7168.31	267	13	11105	336	21	30689.4	428	57	53895.51
2012-13	5731.86	294	9	8425.45	314	14	12726	385	21	33899.2	472	56	60782.44
2013-14	6698.89	343	10	9791.94	365	14	14970	453	21	38665.3	539	55	70126.21
2014-15	7871.51	403	10	11410.8	425	14	17140	519	22	43134.8	601	54	79567.21

Source: RBI Statistics

Overall deposits among four population groups shows more than four times growth on an average but share to total deposits –Rural and Semi Urban area in an declining trend, urban area in a stagnant trend only at the same time metro deposits shows an increasing trend.

Credit/Advances of Scheduled Commercial Banks-Population Group

The credit/advances of scheduled commercial banks based on population groups such as Rural, Semi Urban, Urban and

Metro are concerned; the rural credit shows more than five times growth at the same time, semi urban credit shows more than six times. The urban area also shows six times growth at the same time metro credit shows more than eight times growth during the study period of 2004-05 to 2014-15.

The share of Rural credit towards total credit is declining and in the case of semi urban area, Urban area too it shows a declining trend. The share of metro credit to total credit shows an increasing trend throughout the study period.

Table 2, Credit/Advances of Scheduled Commercial Banks-Population Group (Amount in Rs Billion)

Year	Rural	Growth %	Share %	Semi Urban	Growth %	Share %	Urban	Growth %	Share %	Metro	Growth %	Share %	Total Credit
2004-05	1099.1	100	12	1148.7	100	13	1699.7	100	19	4855.6	100	55	8803.12
2005-06	1604.8	146	14	1428.4	124	12	2123	125	18	6368.5	131	55	11524.7
2006-07	1994.2	181	13	1747.9	152	12	2763.7	163	18	8632.6	178	57	15138.4
2007-08	2357	214	12	2127.5	185	11	3501.9	206	18	11484	237	59	19471
2008-09	3231.3	294	13	2560	223	11	4305.9	253	18	14073	290	58	24170.1
2009-10	3096.3	282	11	3110.9	271	11	4985.7	293	18	17284	356	61	28477.1
2010-11	3851.5	350	12	3678.6	320	11	5936.2	349	18	19985	412	60	33451.7
2011-12	3924.5	357	10	4519.9	393	11	7795.2	459	19	24517	505	60	40756.5
2012-13	4422.1	402	9	5282.9	460	11	8548.7	503	18	29779	613	62	48032.7
2013-14	5239.7	477	9	6756.5	588	12	9877.6	581	18	33379	687	60	55253.2
2014-15	5667.1	516	9	7177.6	625	11	10615	624	17	39361	811	63	62820.8

Source: RBI Statistics

The population group metro have more than eight times growth during the study period 2004-05 to 2014-15 which is more than other three groups i.e., Rural -5 times, Semi Urban and Urban-more than 6 times. The share of specific group to total credit- Only metro credit shows an increasing trend and all others reveal a declining trend.

Savings Deposits with Commercial Banks

The Savings deposits with commercial banks consists of Indian Banks and Foreign banks. The Indian banks showed around five times increase during the period of 2004-05 to 2014-15. The share wise of Indian bank deposits with total deposits also showing slow but steady increasing trend.

The saving bank deposits with foreign banks also showed three times (Approx) increase but foreign banks share to total deposits shows a declining trend during the period 2004-05 to 2014-15.

Table 3, Savings Deposits with Commercial Banks (Amount in Rs Billion)

Year	Indian Banks	Growth %	Share %	Foreign Banks	Growth %	Share %	Total
2004-05	4435.73	100	96.7	150.45	100	3.3	4586.18
2005-06	5563.03	125	96.7	188.27	125	3.3	5751.30
2006-07	6505.28	147	96.8	218.39	145	3.2	6723.67
2007-08	7471.89	168	96.8	250.93	167	3.2	7722.82
2008-09	8740.46	197	97.0	269.21	179	3.0	9009.67
2009-10	11011.71	248	96.9	355.04	236	3.1	11366.76
2010-11	13396.54	302	97.3	376.34	250	2.7	13772.88
2011-12	15010.18	338	97.5	381.59	254	2.5	15391.77
2012-13	17163.15	387	97.8	384.21	255	2.2	17547.36
2013-14	19650.51	443	98.0	403.90	268	2.0	20054.41
2014-15	21788.47	491	98.2	410.45	273	1.8	22198.92

Source: RBI Statistics

Table 4, Gross and Net NPAs of Scheduled Commercial banks –Group Wise

Year	Gross and Net NPA of Scheduled Commercial Banks Group Wise									
	Scheduled Commercial Banks		Public Sector Banks		Old Private sector banks		New Private Sector Banks		Foreign Banks in India	
	% Gross Advances	% Net Advances	% Gross Advances	% Net Advances	% Gross Advances	% Net Advances	% Gross Advances	% Net Advances	% Gross Advances	% Net Advances
2002-03	8.8	4.0	9.4	4.5	8.9	5.2	7.6	1.5	5.3	1.7
2003-04	7.2	2.8	7.8	3.1	7.6	3.8	5.0	1.7	4.6	1.5
2004-05	5.2	2.0	5.5	2.1	6.0	2.7	3.6	1.9	2.8	0.8
2005-06	3.3	1.2	3.6	1.3	4.4	1.7	1.7	0.8	1.9	0.8
2006-07	2.5	1.0	2.7	1.1	3.1	1.0	1.9	1.0	1.8	0.7
2007-08	2.3	1.0	2.2	1.0	2.3	0.7	2.5	1.2	1.8	0.8
2008-09	2.3	1.1	2.0	0.9	2.4	0.9	3.1	1.4	3.8	1.8
2009-10	2.4	1.1	2.2	1.1	2.3	0.8	2.9	1.1	4.3	1.8
2010-11	2.5	1.1	2.4	1.2	1.9	0.5	2.7	0.6	2.5	0.6
2011-12	3.1	1.3	3.3	1.5	1.8	0.6	2.2	0.4	2.7	0.6
2012-13	3.2	1.7	3.6	2.0	1.9	0.7	1.8	0.4	3.0	1.0
2013-14	3.8	2.1	4.4	2.6	1.9	0.7	1.8	0.7	3.9	1.1

Source: RBI Statistics

The Non-Performing Assets (NPA) as a percentage of gross advances and as a percentage of net advances are analysed here. The Commercial Banks are grouped as Scheduled commercial banks, public sector banks, old private sector

banks, new private sector banks and foreign banks in India. The new private sector bank has lowest level of NPA on an average followed by foreign banks in India and old private sector banks. The public sector banks have comparatively high level of gross and net non performing assets (NPA).

Industry Wise Deployment of Gross Bank Credit

Table 4, Industry-Wise Deployment of Gross Bank Credit (Rs Billion)

No	Industry	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
1	Mining & Quarrying	142.41	180.84	252.97	324.46	346.39	358.45	359.51
	Growth %	100	127	178	228	243	252	252
2	Food processing	537.79	656.77	768.41	941.45	1173.68	1462.54	1714.95
	Growth %	100	122	143	175	218	272	319
3	Beverage and Tobacco	84.05	109.69	132.97	150.55	165.11	182.85	186.48
	Growth %	100	131	158	179	196	218	222
4	Textiles	1026.95	1213.75	1450.96	1594.14	1835.36	2022.13	2019.18
	Growth %	100	118	141	155	179	197	197
5	Leather & Products	61.46	62.32	73.1	76.33	86.73	102.08	102.48
	Growth %	100	101	119	124	141	166	167
6	Wood & Products	41.38	43.71	49.57	61.45	76.69	94.23	98.31
	Growth %	100	106	120	149	185	228	238
7	Paper & Products	159.83	190.74	212.03	249.8	282.67	328.2	340.66
	Growth %	100	119	133	156	177	205	213
8	Petroleum, Coal Products & Nuclear fuels	681.47	785.79	507.44	611.75	643.27	648.4	561.45
	Growth %	100	115	74	90	94	95	82
9	Chemical & Products	755.55	857.13	1079.2	1269.93	1592.44	1663.36	1544.87
	Growth %	100	113	143	168	211	220	204
10	Rubber, Plastic & Products	135.87	156.17	256.99	299.04	312.17	370.72	377.73
	Growth %	100	115	189	220	230	273	278
11	Glass & Glassware	42.4	48.31	54.42	62.69	74.48	87.04	88.38
	Growth %	100	114	128	148	176	205	208
12	Cement & Products	192.2	247.22	294.4	369.1	458.58	539.33	560.38
	Growth %	100	129	153	192	239	281	292
13	Metal & Products	1287.63	1629.29	2129.57	2618.09	3141.16	3607.81	3853.89
	Growth %	100	127	165	203	244	280	299
14	All Engineering	658.07	738.21	926.67	1130.1	1284.47	1463.61	1540.06
	Growth %	100	112	141	172	195	222	234
15	Vehicles & parts	346.42	387.8	455.59	517.81	588.63	665.33	682.09
	Growth %	100	112	132	149	170	192	197
16	Gems & Jewellery	285.37	317.51	397.43	513.26	611.44	698.89	718.19
	Growth %	100	111	139	180	214	245	252
17	Construction	385.05	442.19	434.32	486.16	521.66	625.71	743.03
	Growth %	100	115	113	126	135	163	193
18	Infrastructure	2699.72	3798.87	5213.93	6299.91	7297.21	8363.57	9245.31
	Growth %	100	141	193	233	270	310	342
19	Other Industries	1020.28	1248.21	1355.78	1797.24	1809.68	1880.6	1839.34
	Growth %	100	122	133	176	177	184	180
	Total	10543.9	13114.52	16045.75	19373.26	22301.82	25164.83	26576.27

The industry wise deployment of Gross bank credit (95 % of total non-food credit extended by all scheduled commercial banks) are concerned Infrastructure development sector has 242 % increase in the credit extended during the period of 2008-2015, followed by food processing (219 % increase), Basic metal and metal products (199 % increase), cement and cement products (192 % increase), Rubber, Plastic and their products (178 & increase), Gems & jewellery (152 % increase), Mining and quarrying (152 % increase), Wood & wood products (138 % increase), All engineering products (134 % increase), Beverage and Tobacco products (122 % increase), Paper and paper products (113 % increase), Glass and glassware (108% increase) and Chemical products (104 % increase).

The Industry sector which has less 100 % increase in the gross bank credit during the period of 2008-2015 are Vehicles and parts (97 % increase), Textiles (97 % increase), Construction (93 % increase), other industries (80 % increase) and Leather and leather products (67 % increase). The Industry sector which shared decrease in gross bank credit throughout the study period is Petroleum, Coal products & Nuclear fuels (18 % decrease). The industry wise deployment of bank credit in general are concerned revealed 152 % increase altogether which means that industry is availing more and more bank credit throughout the years but at the same time there is no huge increase in availing of bank credit.

Self Help Group- Bank Linkage Programme.

Self Help Group-Bank Linkage Programme (Amount in Rs Billion)

No	Year	Bank Loan	Growth %	Refinance Assistance	Growth %	Total
1	2004-05	29.94	100	9.68	100	39.62
2	2005-06	44.99	150	10.68	110	55.67
3	2006-07	65.7	219	12.93	134	78.63
4	2007-08	88.49	296	16.16	167	104.65
5	2008-09	122.54	409	26.2	271	148.74
6	2009-10	144.53	483	31.74	328	176.27
7	2010-11	145.48	486	31.74	328	177.22
8	2011-12	165.35	552	30.73	317	196.08
9	2012-13	205.85	688	39.17	405	245.02
10	2013-14	240.17	802	37.46	387	277.63
11	2014-15	203.84	681	44.93	464	248.77

Source: RBI Statistics

The scheduled commercial banks provide financial assistance to self help groups through bank loans and Refinance assistance. During the period of 2004-2015, there is around seven times increase in the case of bank loans and in the case of refinance assistance, the growth is around five times. In nutshell the assistance of scheduled commercial banks through bank loan and refinance assistance are in an increasing trend.

Conclusion

The deposits of scheduled commercial banks is divided into four population groups i.e., Rural, Semi urban, Urban and Metro. Overall deposits among four population groups shows more than four times growth on an average but share to total deposits –Rural and Semi Urban area in a declining trend, urban area in a stagnant trend only at the same time metro deposits shows an increasing trend. The Indian banks showed around five times increase during the period of 2004-05 to 2014-15. The share wise of Indian bank deposits with total deposits also showing slow but steady increasing trend. The saving bank deposits with foreign banks also showed three times (Approx) increase but foreign banks share to total deposits shows a declining trend during the same period.

The population group metro have more than eight times growth in the credit disbursement during the study period 2004-05 to 2014-15 which is more than other three groups i.e., Rural -5 times, Semi Urban and Urban-more than 6 times. The share of specific group to total credit- Only metro credit shows an increasing trend and all others reveal a declining trend. The industry wise deployment of Gross bank credit (95 % of total non-food credit extended by all scheduled commercial banks) are concerned Infrastructure development sector has 242 % increase in the credit extended during the period of 2008-2015, followed by food processing (219 % increase), Basic metal and metal products (199 % increase), cement and cement products (192 % increase), Rubber, Plastic and their products (178 & increase), Gems & jewellery (152 % increase) and Mining and quarrying (152 % increase). The Industry sector which has less 100 % increase in the gross bank credit during the period of 2008-2015 are Vehicles and parts (97 % increase), Textiles (97 % increase) and Construction (93 % increase). The Industry sector which shared decrease in gross bank credit throughout the study period is Petroleum, Coal



products & Nuclear fuels (18 % decrease). The industry wise deployment of bank credit in general are concerned revealed 152 % increase altogether which means that industry is availing more and more bank credit throughout the years but at the same time there is no huge increase in availing of bank credit.

The new private sector bank has lowest level of NPA on an average followed by foreign banks in India and old private sector banks. The public sector banks have comparatively high level of gross and net non performing assets (NPA). The scheduled commercial banks provide financial assistance to self help groups through bank loans and Refinance assistance. During the period of 2004-2015, there is around seven times increase in the case of bank loans and in the case of refinance assistance, the growth is around five times.

Summary

Overall deposits among four population groups shows more than four times growth on an average but share to total deposits –Rural and Semi Urban area in an declining trend, urban area in a stagnant trend only, at the same time metro deposits shows an increasing trend. The Indian banks showed around five times increase during the period of 2004-05 to 2014-15. The share wise of Indian bank deposits with total deposits also showing slow but steady increasing trend. The population group- metro have more than eight times growth in the credit disbursement during the study period 2004-05 to 2014-15 which is more than other three groups i.e., Rural -5 times, Semi Urban and Urban-more than 6 times. The industry wise deployment of bank credit in general are concerned revealed 152 % increase altogether which means that industry is availing more and more bank credit throughout the years but at the same time there is no huge increase in availing of bank credit. The new private sector bank has lowest level of NPA on an average followed by foreign banks in India and old private sector banks. The public sector banks have comparatively high level of gross and net non performing assets (NPA). The assistance of scheduled commercial banks through bank loan and refinance assistance to self help groups are also in an increasing trend.

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GREEN BANKING: AN INNOVATIVE INITIATIVE FOR SUSTAINABLE GROWTH

Dr. P. Gisha* and M.R. Ramya**

Executive Summary

Among crores of skies of the Universe ours is the only planet capable of providing residence for living things. The reason behind this is the green environment of the planet enriched by green plants. But due to destructive activities of man as well as their strong tendency to grasp the nature, the colour of our environment is becoming faded and the bio-diversity, residing there, is becoming eliminated. Because of the emission of Carbon in density and due to green house effect, the temperature of the whole world is increasing day by day. As a result, every year we are facing climate change, global warming, fickle weather, floods, droughts, pollution, high green house gas emissions, etc. Various global initiatives are underway to counter these ill effects. Banks, as socially responsible institution, can also play a major and decisive role in these global efforts to make our planet a better place to live in. The banking of this kind can be termed as 'Green Banking'. This paper explores various avenues available and initiatives taken for green banking in India and highlights important lessons for sustainable banking and development. However, we find that there has not been much initiative in this regard by the banks and other financial institutions in India though they play an active role in India's emerging economy. Therefore, we suggest possible policy measures and initiative to promote green banking in India.

Key words: Green banking, Sustainable growth, Avenues for green banking, Green initiatives.

INTRODUCTION

We are all aware that increased carbon emissions and reckless development without paying attention to environment led to climate change, global warming etc. These are the most complicated issue the world is facing now. Many research studies have pointed out that there is direct correlation with climate change and occurrences of natural disasters. It is believed that natural disasters are bound to increase in future, if we neglect the environment. We cannot ignore these warnings and all of us have to act together to minimize the adverse impact on environment arising out of increased pollution. Many countries in the world over have made commitments necessary to mitigate these ill effects. Banks also contribute to ecological footprint directly and indirectly through investment/lending in their customer enterprises. As such they need to play a key role in optimizing /reducing the carbon footprint. Financial institutions and banks in particular have an important role to play in going green by contributing to the creation of a strong and successful low carbon economy. Green Banking is comparatively a new development in the financial world. It is a form of banking taking into account the social and environmental impacts and its main motive is to protect and preserve environment.

Green banking is nothing but the operation of the banking activities giving especial attention upon the social, ecological and environmental factors aiming at the conservation of nature and natural resources. Such bank acts as Ethical Bank, Moral Bank, Responsible Bank, and Sustainable Bank in a society. Although this theme has been implemented in several developed countries keeping a slogan "Be Green, Go Green" before them, it has been started here in developing countries like ours in recent years. Foreign banks are practicing green banking on a much serious note. The Indian banks are still taking baby steps into this form of banking. Still, many of them are keen to actively pursue this strategy.

As socially responsible corporate citizens (SRCC), Indian banks have a major role and responsibility in supplementing government efforts towards substantial reduction in carbon emission. State bank of India (SBI), India's largest commercial bank, took the lead in setting high sustainability standards and completed the first step in its 'Green Banking' initiative with Shri.O P Bhatt, Chairman, SBI, inaugurated the bank's first wind farm project in Coimbatore. Recent Green Bank initiatives include a push for solar powered ATMs, paperless banking for customers, clean energy projects and the building of windmills in rural India.

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OBJECTIVES OF THE STUDY

- To highlight the various avenues of green banking for maintaining environmental sustainability.
- To identify the different levels of green banking initiatives taken by Indian banks.

METHODOLOGY

The descriptive research design is used for conducting this study. It is mainly based on secondary data collected from several reliable sources. The sources of secondary data are Websites of banks, Annual reports of RBI, related articles etc.

GREEN BANKING

Green Banking is an umbrella term referring to practices and guidelines that make banks sustainable in economic, environment, and social dimensions. In other words green banking refers to the operation of banking activities that helps for the overall reduction of external carbon emission and internal carbon footprint. It aims to make banking processes and the use of IT and physical infrastructure as efficient and effective as possible, with zero or minimal impact on the environment.

AVENUES OF GREEN BANKING

The various avenues available for green banking are briefly outlined below:

1) Dematerialization/Paper-less Banking:

- Computerizing branches
- E-statements and Electronic correspondences
- Using ATMs for withdrawal and thereby no use withdrawal forms.
- Deposits through deposit machines and thereby no use of pay in slips.
- Using intranet sites for circulating internal circulars/ memos among staffs.
- Use of automatic feeding scanners to avoid photocopying.
- Automatic payments reduce the need to write and send cheques.
- Insist customers for online bill payment, online funds transfer and subscription to e-statements.

2) Energy Consciousness:

- Switch over to renewable energy (solar, wind) to manage their offices and ATMs.
- Need based printing to save papers.
- Use of energy efficient computers.
- Use of energy efficient photocopier.

- Use of compact fluorescent lights (CFL).
- Effective office time management.
- Conduct energy audits in all their offices for effective energy management.
- Auto cut off for air conditioners.
- Supporting the construction of wind farms.
- Curbed usage of lights during day time.

3) Green Buildings:

A green building is a building which is energy efficient, resource efficient and environmentally responsible, which incorporates design, construction and operational practices that significantly reduce or eliminate its negative impact on the environment.

Ways of green building are:

- Building designed according to trees on site for preserving more trees and integrating them into the design
- Good interior design for better daylight penetration
- Building plans and windows designed for cross ventilation
- Efficient air conditioning and heating systems
- Reduction in water usage
- Highly reflective roofing materials
- Preserving and Protecting landscape during construction.
- Ban on plastic bags in the office premises.

4) Green loans/green funds:

- Banks may provide loans with concessions to corporate or individuals who undertake environment-friendly projects such as projects employing sun, wind equipment, manufacturers of fuel-efficient automobiles
- Banks can introduce green funds for customers who would like to invest in environment- friendly projects
- Banks can support projects ranging from community cleanups to national initiatives on climate change, water, air, biodiversity and more.
- Offering a special line of credit to help homeowners invest in energy-efficiency upgrades for their home.
- Offering and promoting mutual funds that focus investment in 'green' companies.

5) Using Mass Transportation System:

Banks can become fuel efficient organization by providing common transport for group of officials posted at one office.

6) Social Responsibility Services:

- Conduct social audit and social forestry programme for waste reduction and recycling
- Celebrate world environment day, earth hour, etc.



- Introduce eco- friendly corporate gifting policy.
- Conduct tree plantation camps, pollution check-up camps etc.
- Establish rain water harvesting system.
- Plantation and distribution of saplings.

7) **Green loans/green funds:**

- Banks may provide loans with concessions to corporate or individuals who undertake environment-friendly projects such as projects employing sun, wind equipment, manufacturers of fuel-efficient automobiles
- Banks can introduce green funds for customers who would like to invest in environment- friendly projects.
- Banks can support projects ranging from community cleanups to national initiatives on climate change, water, air, biodiversity and more.
- Offering a special line of credit to help homeowners invest in energy-efficiency upgrades for their home.
- Offering and promoting mutual funds that focus investment in 'green' companies.

8) **Green SB Account:**

Online savings account and mobile banking is the easiest way that you can do your part to bank green and help the environment. Green banking includes setting up direct deposit to receive your paychecks, receiving electronic statements from your bank and by paying bills online. All of these steps can drastically reduce the amount of paper produced by your bank. Online banking and mobile banking are also highly effective ways to keep track of your finances and to avoid late payment fees. Another green banking step you can take is to suggest that the company you work for sign up for a product called "Remote Deposit". Remote customers have to physically deliver each check to their bank to make a deposit. Remote deposits also allow banks to easily clear checks digitally.

9) **Use Direct Deposit:**

Most employers will give employees the option to receive their paycheck electronically. Not only does this speed up the availability of your money and save you a trip to the bank, it saves paper, lots of paper work etc.

10) **Green Cards:**

Some banks have joined up with environment-friendly groups like The Sierra Club or Defenders of Wildlife to create reward debit cards and reward credit cards. Participating banks will make a small charitable donation as a percentage of your online banking activity to help the environment.

11) **Online Banking:**

Online banking is when customers perform most of their banking related functions without visiting the bank, personally. To do so, customers must possess an internet banking ID and a password provided by the bank in which the individual customer has an account.

GREEN BANKING INITIATIVES IN INDIA

This study has taken largest public sector bank (SBI) and largest private sector bank (ICICI) for understanding initiatives at national level.

SBI Initiatives

- a. State Bank of India has a green channel counter and the bank encourages paperless banking
- b. Banks have adopted energy efficient measures and supporting the construction of wind farms.
- c. Installation of solar ATM, Introduction of green channel banking (paperless banking)

d. The bank had also collaborated with Suzlon Energy Ltd for the generation of wind power for selected branches by setting of windmills in Gujarat, Tamil Nadu and Maharashtra.

e. The initiatives of State Bank of Mysore includes use of energy efficient photocopier, energy efficient computers and CFL bulbs; need based printing, auto cut off for air conditioners etc.

f. The bank has introduced solar powered ATM's, support for social forestry programme, waste reduction and recycling, etc.

ICICI Initiatives

a. **Vehicle Finance:** They are offering 50% waiver on processing fee of auto loans on the car models which uses alternate sources of energy.

b. **Home Finance:** The bank had reduced the processing fee for the customers who are purchasing homes in LEED certified buildings.

c. **Instabanking:** It is a service which gives convenience to the customers to do banking anywhere and anytime through internet banking, mobile banking, IVR banking, etc. This reduces the carbon footprint.

d. **Green Partners:** The organization is looking forward for partnerships with national and international green organizations and NGO's.

e. **Green Communications:** The bank always insists their customers for online bill payment, online funds transfer and subscription to e-statements which promote 'paperless' and 'commute free' modes of banking transactions.

f. **Green Engagements:** The bank is celebrating World Environment Day every year on June 5. They perform various activities on that day like green pledge through signature campaigns, plantation and distribution of saplings etc. They are also celebrating Earth hour every year in March in which they switch off the lights of their premises and ATM's between 8:30 to 9:30pm. (Continued on Page No



MARCH OF LAW:

-DECISIONS OF THE APEX COURT

- A. Dismissal from Service, as punishment to be set aside if the same is shockingly disproportionate to the misconduct- workman was dismissed from Service after conducting enquiry on account of charge of slapping by him to his colleague.
Labour Court held the punishment as shockingly disproportionate, awarding compensation of Rs.6045/- ---workman challenged the Award by filing a writ petition. High court enhanced the amount of compensation to Rs.100000/- workman preferred SLP against the Judgment of the High Court- Held, workman was about 59 years when the Labour Court passed the Award; this monthly last drawn wages were Rs.2621/- ; keeping in view length of service, compensation is enhanced to Rs.500000/- , which would meet interest of justice.
- B. COMPENSATION IN LIEU OF RE-INSTATEMENT:
When justified, considering the factors like length of service, last drawn wages, age of superannuation, nature of misconduct, past records, it is appropriate to award a monetary compensation, in lieu of re-instatement to meet to ends of justice.
CANo 5701/2015 arising of SLP© No.26629/ 2014, dt/- 24.07.2015.
Shri. Taliskdev singh Vs Tata Engineering & Locomotive Co.Ltd. Source: LLR September 2015
- II.
- A. COMPENSATION
In lieu of re-instatement with out back wages-when justified?
A Chowkidar, on daily wage basis, raised an Industrial Dispute after more than 14 years; Labour Court awarded re-instatement with out back wages. High Court upheld the Award; Appellant challenged the award and order of the High Court by filing SLP. The apex court held, compensation in Lumpsum is justified instead of directing re- instatement of a daily wager who has raised the claim after 14 years. Appeal is allowed accordingly.
- B. REINSTATEMENT – WHEN NOT JUSTIFIED.
A daily wager raised industrial dispute after more than 14 years; Labour Court awarded filed SLP re-instatement with out back wages- High Court upheld the Award; Appellant challenged the Award and order of the High Court by filing SLP. Apex court held, Directing re-instatement to a daily wager who has raised his claim after 14 years is not appropriate.
CA No.6650/ 2015(arising out of SLP© No.27113/2014, Dt 28.8.2015
State of MP Vs Mohanlal. Source : LLR Nov.2015.
- III.
- A. Regularization- when not justified
As per constitutional provisions, all citizens of the country have a right to contest for the employment, temporary or casual; casual or temporary works have -- vested right to be regularized – when casual or temporary workers are aware of the consequences of their such appointment, they can not invoke the theory of legitimate expectation for regularization as their selection was not made by following due process as laid down by provision of Law.
- A. COMPENSATION – WHEN JUSTIFIED
workers were out of employment for more than twenty years; they are now over- aged, not able to seek regular appointment; monetary compensation of Rs.4 Lakh each for the damages to them is justified.
CA Nos 5731/2011 to 5733/2011, 5736 to 5750/2011Dt/- 8.9.2015.
Vice- Chancellor, Lucknow University Vs. Akhileshkumar Khare & Anr. Soource : LLR No.2015

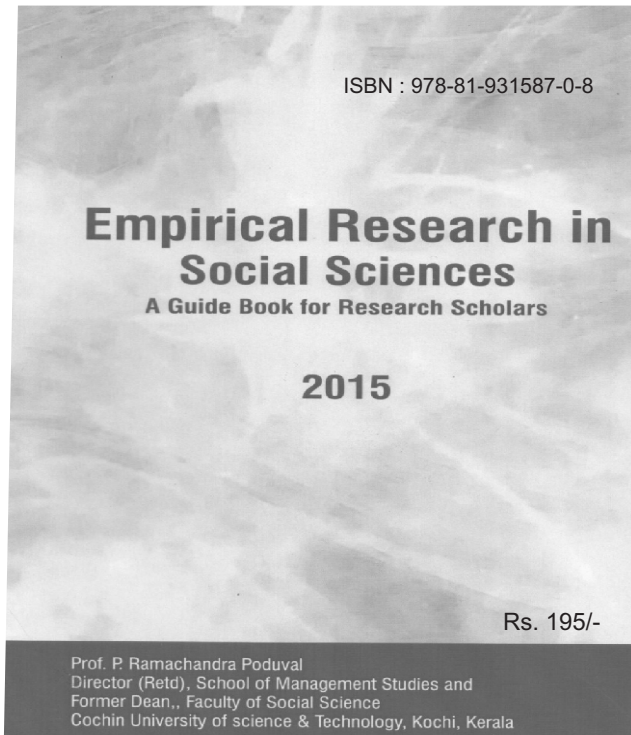


BOOK REVIEW :**EMPIRICAL RESEARCH IN SOCIAL SCIENCES**

A Guide Book for Research Scholars

-Prof(Dr) P.R.Poduval

Reviewed By: Dr.K.P.Muraleedharan*, & Hafeefa Chalassery**



Amid the dread quest by slew of issues, a Research Scholar as an observant tackles the food for thought. A guide to nowhere often jeopardize the rhythm of study and calibrate the research into a shrunken mode. Begotten through such meager modus operandi misjudgment honour its value. At an early phase confusion and chaos create frigidity in the shades of creativity. The need for vigilant scrutiny is obstacle by the appalled notion and thus changing the dimensions of research. EMPIRICAL RESEARCH IN SOCIAL SCIENCES lays an archway to the intuitions and inferences beaming a Research Scholar. Rationalism and Empiricism along shore the tenacity in research integrity. Jumping into conclusions are the reflections of disarray in the research muddled.

Through this book, to oxygenate the value of Research a pulse monitoring into the fragments of confusion and chaos, Prof. P. Ramachandhra Poduval, Dean Faculty of Social Science and Professor, Director (Retd), School of Management Studies Cochin University of Science and Technology, Kochi, Kerala trace the waves to whither. As the Management Professor in a renowned Institution he is tracking the mindset to lens the projections of worry that infest. Documenting the problems experienced by the Research Scholar in the culmination stage, a monograph is

garnished through sterling suggestions and handled with a shell of experience. Novelty in the aspects of research have tremendously been proven to inculcate deep sense through trembling queries. The blueprint for a research manual contented with practical disability is been highly improvised by the author. Tender images on the lack of knowledge about the foundation of research methodology and logical content outlay the frost. The book acts as a prism through which a beam of perplexity pass visualizing a spectrum mounting research crux. Knowledge generation and its dissemination are the two functions of academicians today. Search and research leads to knowledge generation. Prof. P. Ramachandhra Poduval has indeed outreached the practical discomfort and question marks that a novice researcher face, through his psychological finger prints. As a guidance note a thought provoking knowledge domain is accomplished by the author.

The author tries to present the whole issue in twelve chapters starting from the general introduction in chapter one, literally conceptualizing the prime reason for confusion, fear, anxiety, worry etc. Also explains the four level hierarchical approaches in research which are indeed not separate and independent. The guidebook is primarily concerned with the 4th level with focus on cause – effect related hypotheses testing in explanatory research. The problems experienced by the Research Scholar is well identified in chapter two. External environmental factors and research process based internal problems is depicted according to their degree of importance alongside its solution. Intake of positive action in preparing a list of books and journal not available in the department and in the university library after due verification, power of a good listener, working with the right spirit thinking are among such issues which the author describes as caused through only temporary and insignificant emotional reactions. Deriving the purpose of the study, formulation of hypothesis, appropriation in statistical methods, criteria for deciding the sample size and fear of duplication of work due to delay in submission index are some internal problems broadly noted by the author. Learning through trial and error methods or learning by failures unless a well developed plan is drawn to get a sense of adequacy minimizes such issues. In chapter four, a catalog for the scholarship of research exhibits the search part involving the complete background information on the subject and topic of research is presented. Focusing attention on the views expressed by the author, important concepts, variables, methods of the study, main findings and generalization made, criticisms on the limitations etc.

* Director, Business School, University of Calicut.

** Research Scholar



pertains the thought process of a research. Ideas without any acknowledgement considered as an unethical practice called plagiarism, a punishable academic crime signify referencing. Intellectual honesty and consolidated list of reference are parallel in the search part of the research.

The logic of deriving conclusions, arriving at generalizations and establishing cause- effect relations is focused in chapter eight. Connotation and denotation summarizes the subject and interpretation formed, which may be either a positive or a negative one. Checking the truthfulness of a premise by generalization is different from checking the validity of a conclusion wherein the premises are assumed to be true, though in reality it may or may not be true organizes the nodes in the research. Correlation and the principles of causations followed by the method of agreement, the method of difference, the method of residue, the method of concomitant variations denote the statistical strategies that adhere to differences, similarities and the degree of causation.

Goal or Desire, meeting the dilemma is required for a much self-perceived natural outcome. Detailing empirical research briefly that is, collection of relevant data by own effort and their proper analysis for deriving meaningful conclusion by deductive process and arriving at valid generalizations by the inductive process enhance a wide review of thought. To capture in a glance, deductive portrays statements whereas inductive into generalization for a research. A hunt into the prime reason for the inappropriate causation in research bring forth unstructured and unfamiliar aspects as a beginner to the field. Retrieving the ancient ideology as philosophy being considered as the mother of knowledge and the origin of which envisage curiosity and wonder of man to know more and more about everything that he/she has observed in nature. Research thesis thus initiates uniqueness in its nature.

The entire concept was divided into A: problem associated with the external factors, B: problem associated with actual research process from the identification of the topic of research to the completion and submission of the thesis. Furthermore, an investigation regarding the external factors were concluded as non-availability of books and journal, inadequate support from internet connectivity due to interested technical reasons, fear of Guide, unwanted criticism by fellow research scholars. Through the simple formula in value, change in the attitude and exclusion of misconceptions, attention to commitment, curiosity, enthusiasm and regularity anchor regardless result in a serious research work. Mutilated relationship problems between Guide and the research scholar can be interpreted with better approach and style. The wisdom of in-house crowd can be modified through qualities of a good listener. Dysfunctional concepts and unrealistic criticisms

may hamper serious research work. Uncertainty and risk take form parallel to a research as it is unfamiliar and unstructured. The internal problems that conceive a research process include selection of the research topic and research design, problems related to the tooling, problems related to interpretation and presentation. The level of approaches in research can be classified into descriptive, classificatory, correlative and cause- effect related. Division into content oriented and process oriented research work which relays in cause- effect and hypothesis is inseparable. Intellectual work turns baby steps along with methodology adopted in a precise module, enhancing the qualitative and quantity attributable with observation. Operational definition seldom redefines quality to quantity for a succinct categorical attribute, possessing tangibility and measurability.

Nomothetic and ideographic identity pursuit the charm in a research. Moreover, transparency in method and methodology concrete research as a whole. Hypothesis add lusture and mediate acceptance and rejection always of the null hypotheses. Scholarship of a research is tamed with reference, secondary source and intellectual honesty. Title is measured by the availability and width, not trivial subject tinned complication. Measurement in value through scale whether in discrete or continuous is rich with independent, dependent and extraneous variables. Mill's method of concomitant variations add dynamism to dependency. Scale of measurement establish truthfulness and conclusion adhere to the logic of deductive reasoning whereas generalization is based on inductive logic.

Copula of sentence contributed in a research dilute its waxwork. Fallacy of illicit manner soot the work and thus unblossom. Conceptual clarity erase the mist and map the road to finishing touches. Observation is consistent to accuracy in universe, population and sample. Contrary and contradictory relationship and the significance about significance highlights the mismatches in a research. The reference and glossary have proven gloss with technical terms compact to shelter the further voyage for a Research Scholar.

Cradled by the exemplary observations, a Research Scholar toils in achieving wonders to mitigate the goal. A mirror image of a Research Scholar was developed by the author travelling through the lines embalmed in the book. Incompleteness has been triggered in its best form for a beginner in research. Through the different scenarios polished, a well set solution encountered the dismay. A compendious book is thus formulated to port scantiness of fulfillment. Correspondingly, the reader should also take an initiative towards the book 'Strategies for Empirical Research in Writing' by Mary Sue MacNealy to construe what Prof. P. Ramachandhra Poduval has scrivined. ❖

CUSTOMER LOYALTY THROUGH CUSTOMER ANALYTICS

*M. Mahesh Kumar and **C.S.Swapna

Executive Summary

Customer Analytics is a process by which business organizations collect customer related data, in order to make quick and proper decisions at the proper time. Customers are treated as the king of the market and without pleasing them a business cannot succeed. The problem here is to identify whether customer analytics helps in the creation of brand loyalty. The main objective of the study is to identify the uses of customer related data and information, and its benefit in developing customer loyalty. The study also concentrates on the practical implications of customer analytics. This study is mainly based on theory and secondary data collection procedures are used. It was identified that customer data helps an organization to develop strategies to attract and satisfy customers and thereby developing customer loyalty. Thus it can be concluded that without knowing about the customers changing tastes, preferences and trends a firm cannot overcome competition. Thus through customer analytics a business firm can Make What They Can Sell, rather than sell what they make.

Key Words: Loyalty, Customer Analytics, Data Mining, Predictive Analytics

INTRODUCTION

Customer Analytics is a customer oriented approach in managing business organizations. Customer Analytics is actually a process of making optimum business decisions with the help of customer related data. With the help of analytics an organization can get a variety of customer based information like their age, gender, occupation, life style, needs, preferences, nature and reasons for purchase. It refers to the processes and technologies that give organizations customer insight, a prerequisite for the survival and growth of business. Customer Analytics also called customer data analytics or customer intelligence is a systematic method of examining customer information to identify, attract and maintain the most profitable customers. It is the art and science of using latest hardware and software technologies for collecting data from business transactions, converting it into meaningful information which guides key business decisions. It is a component of Customer Relationship Management. CRM is a systematic approach for serving customers in such a manner that customer retention and profitability in marketing is ensured. Maintaining constant interaction with customers, gaining all relevant knowledge about them, basing all marketing actions on such knowledge and building enduring relations with them have become a survival requirement for firms in the new environment. And this can be executed only through a proper CRM programme and Customer Analytics.

OBJECTIVES OF THE STUDY

- ❖ To study about customer analytics.
- ❖ To identify the benefit of customer analytics.

RESEARCH METHODOLOGY

The study concentrates mainly on customer analytics and its benefit in developing customer loyalty. It also deals with other benefits of customer analytics. This study deals with the challenges and issues in developing a customer analytics system. The study is mainly done on the

basis of secondary data collected from publications, internet, seminar papers etc.

Today's slogan is "change or die". But making the right decisions about change is not always easy. Marketing managers must decide what should be the design of a new product, at what price it should be offered, where to sell, how much to spend on advertising and so on. The companies that fail to carefully monitor their customers and competitors are at greater risk. The reality today is that most companies' in order to become successful use some form of customer analytics. Here data collection and analysis are viewed as a continuing and iterative process. Companies now realize that they can gain significant competitive advantage and customer loyalty by using customer analytics.

The *McKinsey's Data Matics 2013* benchmarking survey was conducted from May to June 2103 with 418 senior executives of major companies distributed equally across Europe, the Americas, and Asia. Use of customer analytics appears to have an immense impact on corporate performance. The findings of the survey showed that winners take a truly integrative approach, seeing analytics as a strategic rather than purely as an IT issue. Top management expects insights stemming from customer analytics to support key marketing and sales decisions. Frontline units value recommendations based on customer analytics. Top management looks favorably upon using customer analytics to reach informed decisions.

According to Larry Mosiman, Product Marketing Manager of Customer Intelligence Solutions, SAS, "Deeper customer insight will help you make smarter decisions regarding all aspects of your marketing. And every interaction with a customer represents an opportunity to get useful data."

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“In our modern world, we have tons of data, and yet we are always asking the question, 'Where the customers are and what do they look like?' An accurate perspective on your customer is within all that data. You just have to take away everything that's not important.” Paul Coleman, *Director of Marketing Statistics, Macy's Inc.*

An organization can collect customer information through various ways. Customer information is collected when a customer enters the web page of an organization, at the point of sale, whenever customers navigate through web sites, when a customer makes an online or telephone enquiry or when a customer places an order. By using customer data businesses can understand how to attract new customers, improve customer retention and enhance campaign performance. Customer analytics exploits behavioral data to identify unique segments in a customer base that the business can act upon. Information obtained through customer analytics is often used to segment markets, in direct marketing, site selection, predicate analysis, or even to guide future product and services offered by the business. It is also helpful in maintaining more productive customer relations, more value to customers, more customer satisfaction and improvement in supply chain management.

With customer analytics, an organization can:

- Increase response rates of customers, customer loyalty and ultimately ROI.
- Right customers can be contacted with relevant offers and messages.
- Campaign costs get reduced by targeting actual and profitable customers.
- Accurately predicting customers who can switch over to competitors brand and designing right campaigns to retain them.
- Better customer satisfaction by segmenting and identifying target customers.

As the backbone for all marketing activities, customer analytics comprises techniques such as predictive modeling, data visualization, information management and market segmentation.

Data Base

Data base contains information about the customers such as names, addresses, phone numbers, the consumers past purchases, psychographics, interests, opinions and other useful information.

Data Warehousing

The mission of data warehouse is to store data from multiple operational systems in a meaningful format. It brings data together. The warehouse stores information from various databases into a single location- cleaned and processed into the right formats for analysis.

Data Mining

Data mining refers to the automated analysis of large data sets stored in a data warehouse with a view to finding patterns. There are two types of categories of [data mining](#). Predictive models use previous customer interactions to predict future events while segmentation techniques are used to place customers with similar behaviors and attributes into distinct groups. This help the marketers in planning all activities related with marketing.

Predictive Analytics

Predictive analysis comprises a variety of statistical techniques from [modeling](#), [machine learning](#), and [data mining](#) that analyze current and historical facts to make [predictions](#) about future. In business, predictive models exploit [patterns](#) found in historical and transactional data to identify future trends, risks and opportunities. Models capture relationships among many variables in order to give an optimum solution.

Information Management

A good information system is essential to collect, classify, store and convert customer data into information. Without this marketers won't be able to take better decisions. Through customer analytics, companies can make decisions with confidence because every decision is based on facts and objective Data.

Market Segmentation

[Segmenting customers](#) into small groups and addressing individual customers based on actual behaviors. It involves determining in what segments customers are now and tracking customers and identifies how they [move among different segments over time](#).

Importance of customer analytics

The main aim of Marketing is to satisfy customers. To satisfy customers every business activity should start and end with customers. Thus customer analytics is becoming critical. With it one can:

Predict customer behavior: Customer analytics is helpful in predicting and forecasting customer behavior. With the forecasted data the firm will be able to innovate or modify existing products or services so as to satisfy customers.

Increase response rates: The customers will respond favorably and positively due to higher level of satisfaction. It helps to identify the firm's high value customers. It indicates the kind of products and services these customers want.

Identify prospects: Many companies generate sales by advertising their product or service. The ads generally contain a response feature and the company builds its database from customer responses. It sorts through the database to identify the best prospects, and then contact them by mail, phone or personal call to try to convert them into customers.

Decide offers to be provided: Companies are interested in selling their products. Companies set up criteria describing the ideal target customer for a particular offer. With the help of customer analytics they can identify customers who closely resemble the ideal type.

Deepen customer loyalty: Companies by fulfilling customer needs can create customer loyalty. Companies can build interest and enthusiasm by remembering customer preferences and by sending appropriate gifts, discount coupons, and attractive greetings.

Reactivate customer purchases: Customer analytics help companies in identifying prospective customers and inducing them to make purchases, by informing them about the offers at the right time.

Maintain existing customers: Losing profitable customers can affect a firm's profits. The cost of attracting a new customer is more costly than maintaining existing customer. The key to retaining customers is customer analytics.

Provide value added services: Customers are value maximizers. They form an expectation on value and act upon it. Customer analytics provide knowledge on customer expectations and thereby the firm can provide more valuable goods to the customers.

Reduce purchase dissonance: By providing continuous customer support a firm can help customers in reducing post purchase dissonance.

Cultivating customer relationship: Through customer analytics a firm can collect customer related information, predict customer requirements and by satisfying those requirements a firm can build a long lasting relation with customers.

By using customer analytics firms can know about the customers purchase situation and consumer buying process. The marketer has to go by the consumer choice and deliver the value a consumer seeks. To accomplish this, the marketer has to grasp the buying behavior of consumer. He should know:

- The characteristics of an individual as a consumer.
- The dynamics of the consumer decision process.

Researchers have identified a number of stages that a consumer goes through in the buying process. There are two models as mentioned below:

The Eight Stage Model

- Need recognition
- Awareness
- Evaluation of alternatives
- Legitimation
- Trial
- Adoption
- Post purchase behavior

The Five Stage Model

- Need recognition
- Information search

- Evaluation of alternatives
- Purchase decision
- Post purchase behavior

A consumer strictly goes through these stages only in case of high involvement buying situations. In low involvement buying situations the stages get compressed. By using customer analytics the marketers will be able to modify the consumer behavior by adopting suitable strategies.

Challenges in customer analytics

In the past, the technology to efficiently and accurately process large amount of customer data was not available. Then as the technology became available, the firms who are able use it developed a competitive advantage. Even then it is difficult to derive accurate and actionable customer information from a company's data base since the data is scattered among various data bases in different departments. In order to truly understand a customer it is critical to assemble a single customer view or 360-degree customer view. Once all the data is collected, edited and synchronized, the next challenge is to derive meaningful information from the data so that optimum and timely decisions can be made. Companies are therefore looking to go deeper than the standard customer analytics in order to increase marketing and retention efficiencies and to regain competitive advantage. For the effective implementation and utilization of customer analytics a firm has to use latest cutting-edge software.

The goal of customer analytics is to create a single, accurate view of the customer for the group to work with and make decisions about how best to acquire and retain customers, identify high-value customers and proactively interact with them. In CRM (Customer Relationship Management) the term customer analytics —also called CRM analytics — is used to describe an automated methodology of processing data about a customer in order to make better business decisions. It is also an important element of a CRM system. Customer analytics is considered to be a type of [OLAP \(Online Analytical Processing\)](#), a category of software tools that provides analysis of data stored in a database.

Only with analytics can the marketer make sense out of all the data and transform it into business knowledge or business intelligence. It creates a platform for the marketer for identifying prospective customers, understanding their behavior and providing products or services that suits their requirements. It guides marketer throughout the various stages in customer relations- from acquisition to cross-selling and up-selling to them. [Up sell/Cross Sell](#) aim to provide existing customers with additional or more valued products. It suggests the marketers the strategies and tactics to be followed in each stage. It not only highlights currently profitable customers but also potentially profitable customers. It enables a firm to develop detailed profiles of customers.

Today the field of analytics has become the dominant part of CRM. Using techniques and theories from varied sciences like statistics, IT, and psychology, marketers and consulting agencies have developed special software packages for the intelligent and detailed analysis of customer data. It supports a company's strategic, tactical and operational decision making. Business intelligence tells us past trends while analytics predicts future behavior of the customer. Analytics involves two tasks-(1) distinguishing one customer from another and (2) predicting the behavior of the customer. Technology/ software play a major role in CRM especially in the analytical component. It is the technology that enables the marketer to reach out the customers. The customer interaction software constitutes the major infrastructure of customer analytics. This software is capable of analyzing customer databases in great depth. It can do data mining, modeling and statistical data analysis. It is with this software business firms mines and analyses data captured everyday and develop relevant profiles of the customer. Companies such as Angoss Customer Analytics, Capgemini Consulting, Optimove etc. provide services related to customer analytics.

Conclusion

It can be concluded that customer analytics leads to better customer care and more profitable selling. By knowing about customers stated and unstated needs the companies can create a strong and tight connection with customers. The fulfillment and satisfaction of consumer needs will make the customers loyal towards the firm. They would not switch over to competitors products. Thus customer analysis is a combination of various technologies which help a business organization to collect customer related data to take key business decisions. By taking proper decisions they can attract and retain customers and thereby developing customer loyalty, and finally optimum profit to the organization. To survive in this competitive world all types of firms have to adopt customer analytics.

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(Continued from page no 36) 7. **Conclusion and Suggestion**

A zig-zag position is seen based on the financial performance of the wholesale markets. Difference is visible in the growth rate of receipt pattern and in the profit availability among the wholesale markets. Whereas, current ratio position of Bathery market is found as below standard compared to other markets. Return on assets ratio of the wholesale markets also indicates a fluctuating trend.

Financial performance evaluation based on different aspects could reveal certain facts that, there exists difference in the growth rate of receipt pattern, income and expenditure position, profit availability, growth in the assets position and in the position of current ratio and return on assets ratio. This depicts the position that, the overall financial performance of the markets is in a zig-zag position. The only solution that can be put forth is by arranging 'inter-market- inflow of funds'. That means, loss suffered by one market can be set forth out of the excess profit earned by other market, and the same can be refunded according to the availability of profit. These inter-market

settlements could establish strong financial stability within the wholesale markets.

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Corporate Scene

REFORMS Vs DEVELOPMENT

Dr. Francis Cherunilam*

This piece is a supplementary to the *Corporate Scene* of the previous issue

Following the rout of the BJP-led NDA in the Bihar Assembly elections in November 2015, a view expressed by many 'nation-watchers' was that the election results would adversely affect the progress of the reform process and the pace of growth. It is as if some great things could happen if the NDA had swept the seats and something very bad would befall on the nation's socio-economic progress as it turned out to be otherwise.

At this juncture, we shall explore the progress the country has achieved so far and what would be the impact of the liberalization brought in by the present government and those which are proposed to be taken.

The dramatic changes in the economic policies of India since 1991 have undoubtedly made the economy a very vibrant and competitive one, albeit some of these 'reforms' have been undesirable or deleterious. The trend, although a mild, towards over liberalization had set in as years progressed and it would probably have gathered momentum under the UPA II government but for the political equations. The NDA government, with its strong position in the Lok-Sabha, however, has become very eloquent about pushing such unwarranted and harmful reforms hard forward. The NDA was hopeful of improving its standing in the Rajya Sabha, giving it the required muscle to push its way forward, with better results of Assembly elections but in vain.

It is as if a ritual that before a foreign trip, which he very often makes, the Prime Minister makes some announcements like liberalisation of investment policy or norms to please the foreign investors and governments. This time it was announcement of foreign investment liberalisation in respect of 15 sectors/businesses (made on November 10, 2015). Some of these policy changes (such as the relaxation of local sourcing norms in respect of FDI in single brand retailing), in fact, contradict Modi's own make in India move.

Now that India has reached a certain level of development, the emphasis shall be on policies and other measures that will lead to the realisation of the full potential of the indigenous capabilities; there shall not be imprudent foreign investment policies which will dampen the indigenous development, leading to foreign exploitation of the Indian economy.

What are the proposed 'reform' measures which the NDA government is said to be unable to proceed with, particularly because of lack of majority in the Rajya Sabha?. The most important, perhaps, is the land acquisition policy. If there is so much opposition from other political parties, farmers and

social activists (the parties of NDA would also have perhaps opposed it if they were in the opposition) why should the government be so arrogantly enthusiastic about the proposed land acquisition bill which would serve the vested interests of the big industrialist, foreign and national, at the expense of wider socio-economic interests of the nation. The policies of the present government, more than that of the previous governments, may contribute only to, if at all, economic growth at the cost of 'development' which is a holistic concept which encompasses wider social issues and longer term perspectives.

An impression that foreign investment is sine quo non of industrial development is being promoted to help unscrupulously let in foreign investment. In several sectors, the foreign investment cap, for FDI and FPI, have been increased, in some cases even up to 100 percent. This will lead to draining out the nations income and resources and ecological damages. It is time we differentiated between positive reforms and motivated measures designed to serve vested interests. Development is far wider than GDP growth and there could even be conflicts between the two if GDP growth strategies do not have social and egalitarian orientations.

The political parties which have taken huge contributions from businessmen would naturally be tempted to tilt policies in their favour.

According to an analysis by the Association of Democratic Reforms (ADR) and the National Election Watch (NEW), in 2014-15, the year the Lok Sabha elections catapulted Narendra Modi to power with a massive mandate, the BJP got donations amounting to Rs. 409.94 crore (twice the aggregate of all national parties) and Congress at second position received Rs. 127.96 crore. These estimate are based on the submissions made by national parties to the Election Commission of donations of over Rs. 20,000. It is a general feeling that, unaccounted/undeclared 'donations' to the election fund and kick-backs for favours dolled out would be gigantic. The magnitude of corruption seems to have boomed enormously in the last several years.

The argument that high growth can come only from further liberalisation is a lot bunk. It is amply demonstrated by India. In the five years that preceded the global economic crisis that erupted in 2008, India achieved enviable GDP growth of more than 9 per cent/annum and during the economically (globally) depressed years since then, although growth decelerated, India's performance was much better than the world average and most of the countries, with the notable exception of China. More than a decade ago, the well known global consultant Goldman Sachs predicted that by around 2015 India's GDP

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growth rate would overtake that of China (and it has happened!) and after 2020, India will be the only country growing at more than five per cent annually.

Table here

Output Growth Rates (Percentage)

Region/Country	2006	2007	2008	2009	2010	2011	2012	2013	2014 [@]
World	4.1	4.0	1.5	-2.1	4.1	2.8	2.3	2.3	2.7
Developed Countries	2.8	2.5	0.0	-3.7	2.6	1.4	1.1	1.3	1.8
S-E Europe & CIS (Transition Economies)	8.5	8.7	5.3	-6.6	4.8	4.7	3.3	2.0	1.3
Developing Countries	7.7	8.0	5.4	2.6	7.8	6.0	4.7	4.6	4.7
China	12.7	14.2	9.6	9.2	10.4	9.3	7.7	7.7	7.5
India	9.4	10.1	6.2	5.0	11.0	7.9	4.9	4.7	5.6

[@]Forecast

Source: UNCTAD, *Trade and Development Report, 2014*.

What are required for better performance is improving the ease of legitimately doing business, good governance and efficient and corruption-free administration.

Challenges

Several conditions need to be satisfied to usher in better economic performance. Important prerequisites/challenges include, broadly, the following.

The Missing Secularism Prime Minister Modi during the foreign campaign emphasised that the strengths of India are three Ds – Democracy, Demography and Demand but he missed secularism, which is a basic tenet of the Indian democracy. The alarmingly growing instances of communal and religious intolerances, even supported by those in power, indicate a very dangerous trend that is suicidal for the nation. If the disintegrative forces are not eliminated, it can become a major destructive force affecting the country's economic growth as well as the socio-cultural harmony.

Governance Good governance requires an effective system for information flow, operations and deliveries, effective regulation and proper policies and guidelines.

Corruption Corruption cuts across all political parties which have or had a chance to be part of the government. Some States and political parties in India are particularly notorious for the enormity and expanse of corruption and the political power the corrupt men wield. The vicious circle of politics corruption-politics is becoming more and more dangerous. It is assuming tsunami proportions in some spheres and regions. This would brittle the democratic fabric of the nation and would dampen business and economic progress.

National Security One of the biggest threat the nation faces, the seriousness of which majority of the countrymen are not aware of, relates to national security. India is surrounded by countries which are very hostile or not friendly. China, which knows quite well that its major economic competitor will be India, sit entrenched to be able to strangle the nation by strategically encircling it by developing critical transport infrastructure, including a port in Sri Lanka. Measures which ensure national security assume utmost importance not only from the strategic point of view but also from the point of view orderly economic development. But this will make us spend more for the gun at the expense of the bread.

Law and Order Law and order is becoming an increasingly dangerous problem. Problems in this category include ordinary theft, robbery and looting; political violence, communal clashes; terrorist activities etc. Terrorism has grown to such a big magnitude that a havoc or holocaust can be caused anywhere at any time, taking advantage of technology, which is growing frighteningly. It is one of the biggest challenges the nation is facing.

Education It will not be possible for India to realize its 'amazing' growth potential without properly developing the educational sector which is a great a challenge. A great leap forward in the quantity and quality is required. The present expenditure on education is very low, as a percentage of GDP and on the per capita criteria. What is required in the educational sector is a sea change.

Infrastructure Infrastructure is one of the most critical determinants of development. But India has one of the most poor quality infrastructures even among the developing countries. The quantitative inadequacy is very large. The section on *Public Private Participation (PPP)* in chapter 3 has given some statistics which indicate the inadequacy of the investment in this sector and the massive resource mobilisation requirements and some other problems associated with the infrastructural development.

Inflation Inflation, particularly food and energy inflation, has been a very serious problem for the last several years, making the life of the poor miserable and of the middle class very difficult.. It should be possible for the government to keep the prices of vegetables, pulses and other essential items under check with better supply management, including an efficient public distribution system. Inflation will erode the global competitiveness of the Indian economy, besides other problems, leading to worsening of trade and current account balance.

Ecological Impact The nation is already paying a heavy price in terms of the ecological damages of economic growth pursued without sufficient attention to the environmental aspects.

Agricultural and Rural Development Fast growth of the agriculture and allied sectors is a critical factor in achieving inclusive growth and imparting stability from global economic shocks. But the agricultural sector has been characterised by poor growth. Agricultural growth is necessary for supporting the growth of other sectors by providing food security, supplying raw materials for industry and generating demand for output of non-agricultural sectors. Development of the agricultural sector is also a 'necessary' condition for 'inclusive growth' and for ensuring that the benefits of the growth reach a larger number of people. But, the agricultural sector is neglected and suppressed.

It is in tackling these challenges that reforms are most urgently needed.



DIGITAL MARKETING IN INDIA: AN ANALYSIS

*Dr P Sivadasan

Executive Summary

Though the Internet provides a new means for conducting business but fundamental of doing business remain unchanged. The present study has designed to examine the marketing strategy on Internet. For this purpose, it says that by integrating the Internet technology into the marketing strategy, business firms will be able to use the Internet as a tool to gain competitive advantage, this article explains Digital marketing mix, which consists five P's: product, price, promotion, place and personalization. The concept of marketing has not changed in essential has a result of using the Internet as a new marketing channel but Internet offers an unlimited opportunity for business. Internet marketing goes beyond banner advertising and e-mail marketing. It includes all the activity aimed at creating a distinct niche for the business like segmentation, differentiation etc.

Keywords: Digital marketing, value chain, Discount, FMCGs

Introduction

We are witnessing of a fundamental shift, which is occurring in the world economy. Business are moving progressively further away from a world in which national economies were relatively isolated from each other by barriers to cross border trade and investment; by distance, time zones and language; and by national difference in government regulation, culture and business systems. National economies are merging into an interdependent global economic system. The rapidly emerging global economy raises a multitude of issues for business both large and small. It creates opportunities for business to expand their revenues, drive down their costs and boost their profits. While the emerging global economy created opportunities such as this for new entrepreneurs and established business around the world, it also give rise to challenges and threats that yesterday's business did not have to deal with.

A powerful force drives the world towards a converging commonality, and that force is technology. It has revolutionized communication, transport and travel. The result is a new commercial reality – the emergence of global markets for standardized consumer products on a previously commercial reality – the emergence of global markets for standardized consumer products on a previously unimagined scale of magnitude. The multinational corporation operates in a number of countries and adjusts its products and practices to each at high relative costs. The global corporation operates with resolute consistency – at low relative cost as if the entire world were a single entity it sells the same thing in the same way every-where. Communication technology i.e. Internet has always been a major driver of economic progress. The Internet, because of its global reach, rapid growth and potential for transmitting huge bundles of information at almost zero cost; well have a particularly dramatic impact in the lives of the people.

The Internet is an extremely important new technology. It has received so much attention from business world. It has led many companies, dot-com and incumbents alike, to make some decisions that have eroded the attractiveness of their industries and undermined their own competitive advantages. Some companies have used Internet technology to shift the competition away from quality, features and service and toward price, making it harder for anyone in their industries to turn a profit. Business needs to move away from the rhetoric about "internet-industries", "e-business strategy" and a "new-economy".

A sudden wave of online buying stumbled upon the psyche of the people in India sometime after the global recession showed signs of recovery in late 2008. The working class was enticed by the idea of placing the order with just few clicks and getting it delivered to your home. 'Cash on Delivery' only added fuel to rage. Indian E commerce market is growing at a CAGR of over 30% since 2009 (about \$3 billion then) and is expected to touch \$22 billion by 2015.

The primary reasons for growth in this segment can be attributed to the explosion increase in number of internet users (641 million users as of 2014), growing standards of living and ease of purchasing the product online. Another relevant factor that is propelling this growth is the rise in internet penetration which is about 19% as of 2014. No wonder this industry is still at nascent stage when pegged against China which has achieved over half of the internet penetration. The growth of demographic segments in terms of aspirations, peer pressure and encouraging fashion trends suggests that there will be immense rise in penetration as well as total internet users in India e commerce space.

The mobile internet users in India are pegged at about 300 million which almost doubled from previous year. At 19% penetration, the Indian populace still seems devoid of internet. This was obviously a lurking space for e commerce giants. It didn't take them much time fly their apps out in all

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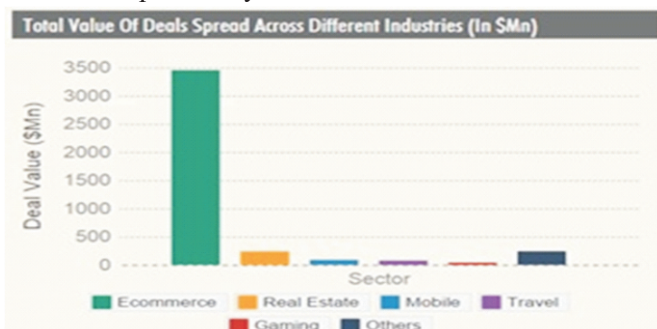
platforms, given the amount of infrastructure and expertise they had gained in these many years. Soon the apps brought in significant chunk of their revenue.

The year 2014 saw Flipkart acquiring Myntra for INR 2000 crore in May. The surprise move that left a loyal Myntra shopper in awe was when Flipkart decided to shut down the website of Myntra and continue its app only model. To some it made sense, while a not so frequent buyer was surprised by this bold move. Experts penned their logic in newspapers and blogs, yet the mass was not much convinced.

Some researchers as well as e-commerce firms claimed that almost 50% of their traffic came from mobile based devices. Given the growth spree of mobile internet users, the number seemed quite realistic. A large number of people are already using mobile based taxi booking services like Ola, Uber and actively seek directions using Maps on their smart-phones.

In the past few years, the proliferations of mobile phones and internet have led to the creation of E-Commerce sector, which carved a space for itself in an already competitive landscape of India. A recent report by Internet & Mobile Association of India (IAMAI) and KPMG found that, as of June 2015, internet users in India stood at over 350 million. With internet penetration still at 19 per cent, which is only one-third of that in other BRIC nations, it is expected to grow at a CAGR of 61.3 per cent from 2013 – 17. India's internet growth story is strongly driven by the rapid growth of rural mobile internet users, which grew from 0.4 per cent in 2012 to 4.4 per cent today. Metros and Tier- 1 cities although not saturated yet are also growing at a tremendous pace.

Powered by this rapid growth of internet reach, the Ecommerce companies are aggressively out to seek funding by Angel Investors and Private Equity partners. Ecommerce companies, including start-ups and industry leaders such as Flipkart and Snapdeal have received a whopping \$3454 million in 2014 alone! The E-retail or eTail, (online retail and online marketplaces) which is pegged at \$6 billion in 2015, emerged as the fastest growing segment in the industry with a CAGR of around 56% in the period of 2009 – 2014. In 2014, online retail had a miniscule share of 0.4 per cent in Indian Retail and is expected to take a share of 3 per cent by 2020.



Consumers Participation

This incredible development is brought about by online customers, specifically women, Generation Z and rural customers who have an ever-increasing access to the internet through various media. A survey conducted by the consulting firm Bain together with Google, in 2015 has highlighted the following trends:

Women who are significant contributors to the offline FMCG purchases in India are still underrepresented with only 15 per cent women shopping online, as against 24 per cent of the entire population. Working women are found to spend twice as much the time and 1.5 times more likely to buy FMCG products online, creating huge scope for apparel and beauty products market.

Generation Z, people born after 1995 in India, are essentially brought up in the digital-era and will be major consumers of this channel when they become financially independent in the coming years.

The rapid rural and Tier-2 cities' internet penetration and the convenience of shipping provided by the e-tailers have led to a major growth in this segment of population, contributing to over 70 per cent sales of FMCG products during the Grand Diwali Mela 2014. With the increasing disposable income, this segment is set to witness massive growth.

FMCGs and Digital Marketing

With this huge potential unlocked by the spur in internet, traditional FMCG companies which have long ignored the competition from ecommerce players, realized the palpable threat and are devising strategies to compete and thrive in the industry. These companies are experimenting with various models to test the waters and gain from building online selling platforms.

Dabur India has reportedly launched four portals and is also selling its products through arrangements on Flipkart and Amazon India.

Godrej Consumer Products have adopted a wait-and-watch policy, currently selling their products on Snapdeal, and announced that “will soon lookout for partner with e-commerce marketplaces, rather than launch our own portal.”⁴

ITC Foods currently sells food products like Masala mixes, chutneys, and other Ready to Dine products through their website: <http://shopping.kitchensofindia.com/>

Marico is also reported to be working on their plans for the future, with sales of 7 – 8 per cent for their niche brands such as Livon hair gain, by selling through Flipkart and Snapdeal in 2014.

Hindustan Unilever Network (HULN), also currently selling its products through Flipkart and Snapdeal is reported to be working on plans to launch its own ecommerce channel in India.

Expected Barriers

Although online market presents a lucrative prospect for FMCG companies, there are challenges that need to be dealt with to attain success.

Distribution and logistics is perhaps the most important concern which the companies face. Experts' studies have suggested that delivery cost under Rs. 70 is required to make the economics of ecommerce sustainable.

Lack of legacy data from the point-of-sale, limits the analysis of data to design predictive models which would improve forecasting thus hinder the design of distribution networks

Customers' reluctance in purchase for categories such as beverages, confectionery and other impulse purchase products may not generate economically viable options and would need consumer incentives.

Focus Areas

With the opportunities presented and challenges to face, the industry presents different segments which can offer a profitable and positive profit proposition.

Products with cyclical buying patterns present a reasonably predictable demand for online selling. Goods such as groceries and infant care can be attractive segments, which can be coupled with Analytics to predict buying incidences to provide convenience of delivery. Infant care category is expected to grow at a rate of 25 – 30 per cent by 2020, according to the Bain report.

Segments such as hair and skin care, largely swayed by fashion are influenced by the digital media campaigns. If these segments can be handled carefully, these can enhance the sales in both online and offline channels. Beauty products category is expected to grow at a rate of 8 – 10 per cent by 2020.

Marketing on a website would usually consist of offering sales promotions or discounts. Flipkart's Big Billion Day is a testimony on preference of discounts. But a website doesn't give a targeted approach i.e. the whole of users the target customers for all its offerings. Whereas, a dedicated app will give you relevant offers through push notifications based on your previous purchase or buying trend in general.

The other side of the coin isn't bright either. After Myntra switching to app only, the company reported a drop of over 10% in sales. The numbers surprised its parent company, Flipkart, as the projections had shown that 90% of traffic and 70% of sales were generated through mobile. One simple rationale over why consumers would still want a website pertains to product visibility. One can see about 7-8 products simultaneously on a desktop/laptop screen which increases the probability of purchase. The app which run on smart-phones definitely have a disadvantage when it comes to screen size resulting in view of only 2-3 products at a time. This results in customers to perceive lesser availability. This tells us there are still a large number of customers which are yet to definite about one approach.

The app only approach, led by Flipkart in India is yet to unveil itself completely. The growth prospects definitely weigh in favour of app approach but consumers would surely need time to adapt as it can be inferred when online buying was first introduced to them.

Conclusion

The future of digital marketing is very bright and economically promising, which will play in favour of the players who understand the changing landscape and adopt the online-mantra. FMCG companies need to set their priorities right, and enter the fray to claim their share of the increasing ecommerce pie. Smart selection of categories to compete, coupled with efficient marketing and distribution strategies to thwart the barriers would ensure companies to deliver value to customers and sustain in the online ecosystem. ❖

(Continued from Page No 16) CONCLUSION

Green banking can be an avenue to reduce pollution and save the environment aiding sustainable economic growth. Green Banking if implemented sincerely will act as an effective *ex ante* deterrent for the polluting industries that give a pass by to the other institutional regulatory mechanisms. Financial institutions and banks in particular have an important role to play in going green by contributing to the creation of a strong and successful low carbon economy. There has not been much initiative in this regard by the banks in India. The survival of the banking industry is inversely proportional to the level of global warming. Therefore, for sustainable banking, Indian bank should adopt green banking as a business model without any further delay. It is time now that we clients and bankers should take some major steps to **“BE GREEN, GO GREEN”**.

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FINANCIAL PERFORMANCE OF AGRICULTURAL COMMODITY MARKETS IN KERALA - AN EVALUATION

Sheenasasidharan. V* And Dr. B.Vijayachandran Pillai**

Executive Summary

Recently from the study reports published by the Food and Safety commission revealed the inflow of toxic vegetable produces to Kerala from the nearby states, especially from Tamil Nadu. In order to handle these issues, Kerala Government tie up with Tamil Nadu Government started taking up measures to prevent the use of toxic fertilizers in crops and thereby to prevent the inflow of poisoned vegetables. In this era, vital care should be put upon the production and consumption of organic produces. It is to understand that, a few years back Kerala Government in view of promoting organic farmers within the state have started six Agricultural commodity wholesale markets (ACWMs) both in the rural and urban regions of the state, with the main aim to provide direct platform facility to farmers to sell off their produce without the interference of middlemen. In this circumstance, it is worthwhile to assess the Government grants provided to these markets and to evaluate the financial performance of the six markets so as to dig out how far they could stand firm in this competitive field. The present paper is an earnest attempt in this direction. The study concluded that a fluctuating trend is seen in the overall financial position of the six markets.

Keywords

Agricultural Commodity Wholesale Markets, Direct platform, Intermediaries, Grant-in-aid etc.

1. Introduction

For the development of agricultural markets in the State, Kerala Government implemented six agricultural wholesale markets under Kerala Agriculture Markets Project (KAMP) by utilizing fund from the European Union. These six markets include both rural and urban markets, situated in the southern, northern and in the central parts of the State. Anayara (Thiruvananthapuram), Maradu (Ernakulam) and Vengeri (Kozhikode) are the urban markets. Nedumangadu (Thiruvananthapuram), Muvattupuzha (Ernakulam) and Sulthan Bathery (Wayanad) are the rural markets. These markets which were popularly known as "World Markets" mainly designed to provide direct marketing facilities to farmers without the interference of intermediaries.

2. Statement of the Problem

In this era of declining trend towards agriculture activities in Kerala, revealed the drastic outflow of organic farmers from the field of agriculture. This induces the people of Kerala to depend on the neighbouring states especially, Tamil Nadu for their day to day consumption requirements. But unfortunately, the study reports revealed the heavy usage of toxic banned fertilizers in the vegetables and food produces incoming from other states. In order to handle this situation, Government of Kerala undertakes various projects so as to activate the organic farmers in Kerala. And one among the major projects is the implementation of six Agricultural commodity wholesale markets in the rural and urban regions of the state. Farmers are provided direct platform facility so that they could

auction their produces directly to the traders without the interference of middlemen. At this juncture it is highly relevant to conduct an assessment based on the financial performance of these six wholesale markets and to explore how far the Government supports these markets in the form of grants for the welfare of organic farmers with the state.

3. Objective of the Paper

The specific objective of the present study is to evaluate the financial performance and to assess the financial stability of the six Agricultural commodity wholesale markets in Kerala which stands as a major link to support the organic farmers and traders in Kerala.

4. Methodology and Data base

The present study covers all the six ACWMs in Kerala by following Census method. Secondary data for this purpose were collected from various sources like G.O. (M.S) No92/PPM/92/AD dated 26.03.1992, financial statements relating to the period 2006-12 and from the monthly progress reports. Suitable statistical and mathematical tools like ratio analysis, annual growth rate, compound monthly growth rate and compound annual growth rate have been employed for the analysis.

5. Financial Performance Evaluation

To acquaint with the financial stability of ACWMs it is relevant to evaluate the financial performance of different agricultural wholesale markets. Financial performance is analyzed with the help of certain economic variables from the financial statements of ACWMs during

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the financial year 2006-12. The section deals with the same. The following variables are analyzed for this purpose.

1. Pattern of growth of receipts
2. Expenditure in relation to income
3. Rate of growth in profit
4. Growth rate in total assets
5. Current ratio
6. Return on assets ratio

The results of the analysis based on the above mentioned variables are given in the following pages.

1. Pattern of Growth of Receipts

The analysis of pattern of growth of receipts of ACWMS for the last six years can provide an in-depth insight into the intrinsic dynamism of revenue which has a profound impact on the agricultural sector development in Kerala. Annual and compound annual growth rate of receipts in ACWMS is shown in Table 1.

Table 1

Annual and Compound Annual Growth Rate of Receipts

Market		Year						CAGR
		2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	
Anayara	Receipts	87,71,564	92,76,485	1,15,95,181	1,44,54,876	2,18,51,814	2,74,90,492	25.67
	%AGR	-	5.76	25.00	24.66	51.17	25.80	
Maradu	Receipts	36,03,888	1,85,05,199	2,36,46,726	2,78,22,188	2,87,51,798	4,08,30,542	62.50
	%AGR	-	413.48	27.78	17.66	3.34	42.01	
Vengeri	Receipts	33,42,729	20,48,283	24,00,803	34,34,854	74,53,625	76,42,318	17.98
	%AGR	-	-38.72	17.21	43.07	117.00	2.53	
Nedumangadu	Receipts	40,50,226	42,75,549	43,55,823	52,47,729	84,33,866	1,25,65,324	25.41
	%AGR	-	5.56	1.88	20.48	60.71	48.99	
Muvattupuzha	Receipts	77,00,993	84,21,756	93,32,630	54,14,364	50,65,813	1,00,13,710	5.39
	%AGR	-	9.36	10.82	-41.98	-6.44	97.67	
Sulthan Bathery	Receipts	63,40,326	65,03,603	16,21,018	11,72,058	36,28,831	1,14,49,322	12.55
	%AGR	-	2.58	-75.08	-27.70	209.61	215.51	

Source: Survey Data (compiled from Receipts and Payments Account from Financial Year 2006-12).

The table depicts somewhat a steady percent of annual growth rates in Anayara market when compared to other markets. The growth has doubled in the year 2010-11 and reach 51.17 percent. It is understood that increase the growth rate during that period is primarily due to the Government Grant received ₹ 35, 00,000. But it is found that the growth rate declined during 2011-12, though Anayara market started collecting sales proceeds from auction and receive receive ₹ 11,09,000 as grant-in-aid for strengthening the market during the period. The actual status in the growth of receipts in Maradu market shows a fluctuating tendency. In 2011-12 the position of annual growth rate in the market increased to 42.01 per cent, which includes rent amount of ₹ 66, 36,290, interest from fixed deposit ₹ 23, 63,626, parking charges ₹ 3,21,000, receipts from State fund ₹ 46, 09,000 and also receipts from the auction proceedings which were started during the year 2011.

Remarkable increase is witnessed in the annual growth rate of Vengeri market during 2010-11(117 per cent).It was mainly due to the receipt of the security deposit (₹16, 74,500) and the Government grant (₹ 27, 50,000). Percentage of annual growth rate declined vigorously during 2011-12(2.53 per cent) which marked as a dull

period for Vengeri market. Nedumangadu market shows the highest per cent during 2010-11(60.71 per cent). The growth rate of the market slightly declined during 2011-12 and reached 48.99 per cent. Muvattupuzha market indicates the highest growth per cent during 2011-12 (97.67 per cent). Growth in Bathery market shows an incredible raise during 2010-11 and 2011-12 (209.61 per cent and 215.51 per cent) respectively. This was mainly due to the receipt of Government grant ₹ 29, 99,500 and ₹ 97, 00,000 during the respective periods.

Compound Annual Growth Rate (CAGR) is considered to compare the receipts between the initial and the final period using the following formulae:

$$CAGR(t_0, t_n) = \left(\frac{V(t_n)}{V(t_0)} \right)^{\frac{1}{n-t_0}} - 1$$

From the table it is clear that highest CAGR (62.50 per cent) is shown by Maradu market. Muvattupuzha market indicates the lowest CAGR (5.39 per cent).Southern region markets of Anayara and Nedumangadu points to a steady and a similar growth pattern (25.67 per cent and 25.41 per cent) respectively. Vengeri is in the next position with CAGR (17.98 per cent). It is found that CAGR of Bathery market is about 5 per cent lower than that of Vengeri market.

Market comparison is done to examine which market does and which does not exhibits a constant growth pattern. For that purpose a straight line is fitted to the variables by estimating the growth rate as a straight line. Fitting a linear line helps to find out the significant relation between the represented variables of each market throughout the period. It also helps to read out even the minute market wise difference. Market comparison of yearly receipts by fitting a linear line is shown in Table 2.

Table 2
Market Comparison of Yearly Receipts by fitting a Linear Line

Market	R Square	Constant	B coefficient
Anayara	0.904	-7688293943	38,33,723
Maradu	0.910	-12667483344	63,15,672
Vengeri	0.683	-2220302904	11,07,086
Nedumangadu	0.776	-3205401808	15,98,353
Muvattupuzha	0.004	146744892	-69,215
Sulthan Bathery	0.053	-940591927	4,70,620

Taking representative figure as the base from each market, the test is applied using the following formulae.

$$\text{Receipt} = A + B \cdot \text{year}$$

R Square denotes the occurrence of year wise arithmetic progression between the variables and B coefficient represents the yearly estimated increase. Increase in R Square denotes the utmost fitting of the straight line. Maradu market shows the highest R Square (.910) with a B coefficient of 63,15,672 which shows a yearly constant growth in the receipt pattern. Anayara market is the next highest indicator in the constant growth pattern of receipts with R Square .904 and 38,33,723 as the B coefficient. Thus it is clear that both Anayara and Maradu market is highly fit to the straight line. Nedumangadu and Vengeri market shows some what a regular growth pattern with R Square of .776 and .683 respectively and so they are

moderately fit to the straight line. An irregular growth rate in the receipt pattern is seen in Muvattupuzha and Bathery markets as the R Square denotes the lowest i.e., .004 and .053 respectively. Both Muvattupuzha and Bathery market proves to be the least fit to the straight line for the reason that Muvattupuzha reflects a constant decrease with a negative B coefficient (-69,215) and Bathery with a fluctuating trend. It is found that a linear relationship exists between all other markets except, Muvattupuzha and Sulthan Bathery. Therefore it is concluded that there exist market wise difference in the growth rate of receipt pattern.

1. Expenditure in relation to Income

To examine the financial performance of ACWMs, correlation between expenditure and income pattern is analyzed in detail. It is shown in Table 3.

Table 3
Expenditure and Income Correlation

Market	Items	Year						CAGR	r	Sig.
		2006-07	2007-08	2008-09	2009-10	2010-11	2011-12			
Anayara	Exp.	12,36,537	15,76,035	13,73,423	1,581,899	31,28,114	21,76,179	11.97	0.827	0.042
	AGR	-	27.46	11.07	27.93	152.97	75.99			
	Inc.	16,87,910	18,45,108	31,38,833	35,65,203	49,37,387	43,72,549	29.97		
	AGR	-	9.31	70.12	13.58	38.49	-11.44			
Maradu	Exp.	-	-	-	-	-	-	-	-	-
	Inc.	-	-	-	-	-	-	-		
Vengeri	Exp.	18,44,897	11,56,899	11,10,797	12,32,722	34,09,052	22,28,796	3.85	0.991	0.000
	AGR	-	-37.29	-39.79	-33.18	84.78	20.81			
	Inc.	25,51,429	13,62,546	16,57,639	18,65,108	61,29,513	39,20,531	8.97		
	AGR	-	-46.60	21.66	12.52	228.64	-36.04			
Nedumangadu	Exp.	4,25,312	3,32,486	3,57,321	11,51,453	5,39,454	8,42,461	14.65	0.168	0.756
	AGR	-	-21.83	-15.99	170.73	26.84	98.08			
	Inc.	5,93,464	6,57,746	4,48,426	4,52,299	9,04,398	13,23,137	17.39		
	AGR	-	10.83	-31.82	0.86	99.96	46.30			
Muvattupuzha	Exp.	17,12,568	18,31,766	31,74,729	13,65,649	38,39,149	26,28,481	8.95	0.380	0.457
	AGR	-	6.96	73.32	-56.98	181.12	-31.53			
	Inc.	15,56,425	19,65,813	26,68,098	30,16,713	3,087,781	43,33,184	22.73		
	AGR	-	26.30	35.72	13.07	2.36	40.33			
Sulthan Bathery	Exp.	10,21,425	11,69,991	11,20,517	11,69,656	12,36,523	30,42,602	24.15	0.969	0.001
	AGR	-	14.54	9.70	14.51	21.06	197.88			
	Inc.	3,07,941	5,72,322	1,99,391	1,44,564	32,19,357	1,01,38,957	101.14		
	AGR	-	85.85	-65.16	-27.50	2126.94	214.94			

Source: Survey Data (compiled from Income and Expenditure Account from Financial Year 2006-12).

Note- The correlation between Expenditure and Income of Maradu market (throughout the study period) is not calculated due to the non-availability of data from the market.

From the table it is clear that expenses of Anayara market shows an increase in 2010-11, mainly due to huge repairs and maintenance (₹16,92,864). Expenditure of Vengeri market reflects a positive increase after 2009-10 and reached a position of (84.78 per cent) in 2010-11. Whereas, Nedumangadu market shows the positive trend in respect of the same from 2009-10 onwards and found that the highest percentage of expenditure (170.73) is mainly due to huge repairs and maintenance of market road (₹5,70,612). AGR of Nedumangadu market shows 98.08 per cent during 2011-12 with the highest profit (₹4,80,676). In the year 2011-12 a negative trend is witnessed in respect of the same in Muvattupuzha market (-31.53 per cent). A fabulous increase is seen in the percentage of expenditure (197.88) during 2011-12 in Bathery market. Considering the position of CAGR, Bathery market shows the highest CAGR (24.15 per cent) followed by Nedumangadu market (14.65 per cent). Vengeri market reveals the lowest CAGR of 3.85 per cent.

Rent received from stalls, canteen, dormitory etc., fine and penalty collected, lease rent for land collected, bank interest received, weighbridge charges collected etc. are the major source of income for ACWMs. Income derived from

Anayara market decreased in 2011-12 which resulted to a slope down (-11.44 per cent). Whereas, income of Vengeri market shows a tremendous hike during 2010-11 (228.64 per cent) is due to Government grant received (₹27,50,000). Income from Nedumangadu market in the year 2010-11 shows an increase of 99.96 per cent. The sources of income during the period included rent received (₹4,62,189), sale of softwood and dead trees (31,000), bank interest (2,98,939) and lease rent received from land (₹57,720). In 2011-12 income growth rate of Nedumangadu market reduced to 46.30 per cent. Muvattupuzha market depicts a progressive increase during 2011-12 (40.33 per cent). Growth has picked up in Bathery market during 2010-11 (₹2,126.94 per cent), as it is found that the increase is due to the Government grant received (₹29,99,500). In respect to CAGR, Bathery market shows the highest position (101.14 per cent). Anayara proves to be the second highest with CAGR of 29.97 per cent. The least CAGR is indicated by Vengeri market (8.97 per cent).



Karl Pearson's correlation-coefficient test is applied to see the existence of significant correlation between expenditure and income variables. Here 'r' indicates the relationship. From the analytical results it is clear that Vengeri, Bathery and Anayara markets indicates a high positive correlation. At the same time correlation in Muvattupuzha and Nedumangadu markets is found to be insignificant, though a positive correlation exists.

3. Rate of Growth of Profit

Growth rate of profit in different Agricultural Commodity Wholesale Markets is shown in Table 4. From the table it is clear that Anayara and Vengeri markets never experienced any loss during the period of review, when compared to other markets.

Table 4
Growth Rate in Profit

Market	Year						CAGR
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	
Anayara	4,51,373	2,69,073	17,65,410	19,83,304	18,09,273	21,96,370	37.23
	AGR	-40.39	556.11	12.34	-8.77	21.40	
Maradu	-	-	-	-	-	-	-
Vengeri	7,06,532	2,05,647	5,46,842	6,32,386	27,20,461	16,91,735	19.08
	AGR	-70.89	165.91	15.64	330.19	-37.81	
Nedumangadu	1,68,152	3,25,260	91,105	-6,99,154	3,64,944	4,80,676	23.38
	AGR	93.43	-71.99	-867.42	-152.20	31.71	
Muvattupuzha	-1,56,143	1,34,047	-5,06,631	16,51,064	-7,51,368	17,04,703	66.82*
	AGR	-185.85	-477.95	-425.89	-145.51	-326.88	
Sulthan Bathery	-7,13,484	-5,97,669	-9,21,126	-10,25,092	19,82,834	70,96,355	64.23*
	AGR	-16.23	54.12	11.29	-293.43	257.89	

Source: Survey Data (compiled from Statement of Income and Expenditure Account from Financial year 2006-12).

*Estimated by Shifting the Origin.

Note- Growth Rate in Profit of Maradu market (throughout the study period) is not calculated due to the non-availability of data from the Market.

It is found that the negative AGR in Anayara and Vengeri market is due to the steep fluctuating trend in profit availability position. Anayara market shows a remarkable growth rate during 2008-09 (556.11 per cent). But in the year 2011-12 the AGR reduced to 21.40 per cent. Whereas, annual growth rate of Vengeri market shows a tremendous increase (330.19 per cent) in 2010-11. It is visible that Nedumangadu market shows a deep fall in respect of the same during 2009-10 (-867.42 per cent) which marked as a monotonous year for the market. But the market regained its position during 2011-12 (31.71 per cent). This is mainly due to the receipts of income namely rent (₹6,96,883), and bank interest (₹ 5,46,419). Muvattupuzha market confirms a negative AGR throughout the study period. The market suffered a loss during 2006-07, 2008-09 and 2010-11. The condition slightly improved and Muvattupuzha market could earn a profit in 2011-12. After a continuous loss in the years from 2006-10, Bathery market shows an increasing trend from 2010-11 onwards. Profit shown by Bathery market during 2010-12 is found to be about 3.6 times higher than that of the previous year. CAGR of Muvattupuzha and

Bathery is estimated by shifting the origin because of the initial year loss reflected by the two markets. CAGR of Muvattupuzha market shows the highest (66.82 per cent) followed by Bathery market (64.23 per cent). The lowest CAGR is shown by Vengeri market (19.08 per cent).

4. Growth Rate in Total Assets

The Table 5 presents annual growth rate and compound annual growth rate in total assets. A fluctuating trend is visible in the AGR of all Agricultural Commodity Wholesale Markets. Remarkable increase is seen in the total Assets of Anayara market in the year 2010-11(44.32 per cent). Assets of Anayara market during the same period include fixed assets (₹ 10,58,668) and current assets deposits and advances (₹ 1,87,39,430). But it is found that during 2011-12 the growth rate of Anayara market decreased to 19.05 per cent.



Table 5
Annual Growth Rate and Compound Annual Growth Rate in Total Assets

Markets	Year						CAGR
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	
Anayara	81,29,115	85,35,464	1,09,88,671	1,37,18,525	1,97,98,098	2,35,69,114	23.73
	AGR	5.00	28.74	24.84	44.32	19.05	
Maradu	-	-	-	-	-	-	-
	-	-	-	-	-	-	
Vengeri	78,06,158	79,15,046	88,54,187	1,07,88,761	1,36,97,022	1,68,73,674	16.67
	AGR	1.39	11.87	21.85	26.96	23.19	
Nedumangadu	48,75,039	51,80,762	51,11,867	54,63,055	86,48,711	89,27,809	12.86
	AGR	6.27	-1.33	6.87	58.31	3.23	
Muvattupuzha	60,96,951	66,28,502	61,68,797	1,04,31,371	1,33,65,649	1,87,19,262	25.15
	AGR	8.72	-6.94	69.10	28.13	40.06	
Sulthan Bathery	85,94,508	27,24,036	17,80,660	7,58,318	32,38,579	-	-21.65
	AGR	-68.30	-34.63	-57.41	327.07	-	

Source: Survey Data (compiled from Balance Sheet, various years).

Note- Annual growth rates and Compound annual growth rate of Maradu market (throughout the study period) and Bathery Market (2011-12) is not calculated due to the non-availability of data from the market.

Vengeri market has an improved position during 2010-11(26.96 per cent). Assets in Vengeri market during the period includes fixed assets (₹ 8,81,696), current assets and deposits (₹1,28,15,326). But in 2011-12 the position slowly decreased and arrives at 23.19 per cent. A progressive growth is found in the AGR of Nedumangadu market in the year 2010-11 (58.31 per cent) with fixed assets (₹ 3,12,687) and current assets deposits and advance (₹ 83, 36,024). Whereas, in 2011-12 annual growth rate in respect of Nedumangadu market slopes down to 3.23 per cent. AGR of Muvattupuzha market is found to be 40.06 per cent in 2011-12 showing fixed assets ₹ 25,58,270 (including cold storage of ₹ 20,00,000), deposits and advances (₹ 1,09,43,365) and cash and bank balances (₹ 52,17,627). A negative trend in the annual growth rate is seen in Bathery market until 2009-10. However, during 2010-11 the position improved and reached 327.07 per cent.

While considering CAGR, Muvattupuzha market ranks the highest CAGR (25.15 per cent). Anayara market shows the second highest position (23.73 per cent). The least CAGR of -21.65 per cent is indicated by Bathery market.

5. Current Ratio

Current ratio is calculated to evaluate the short term financial position of ACWMs. It is calculated using the below mentioned formulae.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Current ratio position in the wholesale markets is shown in Table 6. From the table it is clear that the current assets of Anayara market reveal an increasing trend throughout the study period. Current liabilities of the same market in the year 2011-12 includes security deposit (52,94,221), earnest money deposit (1,44,876) and advance for macro management programme unspent balance (1,00,000), and the current ratio position in the market reaches 3.52 during the respective period.

Table 6
Current Ratio of the Markets

Market		Year					
		2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Anayara	Current Assets	70,83,008	74,89,356	99,73,603	1,26,59,857	1,87,39,430	1,95,08,496
	Current Liabilities	29,85,573	31,22,848	38,10,646	45,57,196	53,27,496	55,39,097
	Current Ratio	2.37	2.40	2.62	2.78	3.52	3.52
Maradu	Current Assets	-	1,61,61,808	1,71,78,883	1,91,97,360	2,47,79,226	3,28,67,253
	Current Liabilities	-	-	-	-	-	-
	Current Ratio	-	-	-	-	-	-
Vengeri	Current Assets	66,74,981	68,96,987	79,22,770	99,43,466	1,28,15,326	1,55,96,558
	Current Liabilities	16,58,436	15,61,677	19,53,976	32,56,164	34,43,964	49,28,881
	Current Ratio	4.02	4.42	4.05	3.05	3.72	3.16
Nedumangadu	Current Assets	46,59,903	49,64,756	48,54,638	52,04,552	83,36,024	85,65,613
	Current Liabilities	9,65,034	9,45,497	7,85,497	8,39,097	13,89,097	14,44,597
	Current Ratio	4.83	5.25	6.18	6.20	6.00	5.93
Muvattupuzha	Current Assets	58,91,723	64,01,398	59,25,683	1,01,82,029	1,28,70,379	1,61,60,992
	Current Liabilities	14,06,062	18,03,566	18,50,492	19,62,002	25,90,420	22,39,330
	Current Ratio	4.19	3.55	3.20	5.19	4.97	7.22
Sulthan Bathery	Current Assets	80,47,387	22,31,627	13,37,493	3,15,474	28,23,365	-
	Current Liabilities	68,34,626	15,61,823	15,39,573	15,42,323	20,39,750	-
	Current Ratio	1.18	1.43	0.87	0.20	1.38	-

Source: Survey Data (compiled from Balance Sheet, various Year)

Note-The current ratio of Maradu market (throughout the study period) and Sulthan Bathery market (2011-12) is not calculated due to the non-availability of data from the market.

Current assets of Vengeri market indicate an increasing trend throughout the period. The same in the market during 2011-12 include receivables (₹95,145), cash and bank balances (14,57,147) and fixed deposit SMGB (₹1,40,44,266). Whereas, its current liabilities include security deposit from stalls ((₹48,32,652), current liabilities (₹19,100) and provisions (₹77,129). The Current ratio of the market reaches the position of 3.16 in the year 2011-12. Nedumangadu market depicts a current ratio of 5.93 in 2011-12. Current liabilities in Muvattupuzha market show a decrease in 2011-12 when compared to its previous year. The current assets of the same market in the year 2011-12 include fixed deposits (₹1,09,43,365), cash in hand (22,969), bank balance (₹21,94,658) and deposits with TSB of (₹30,00,000). The market's current ratio during the period denotes as 7.22. During 2010-11 current ratio of Bathery market stood as 1.38. During that period the current assets of the market found to have constitute, cash and bank balances

(₹17,13,365), revolving fund to vegetable group (8,00,000), security deposits to KSEB (₹3,00,000) and training fund advance (₹10,000).

Ratio analysis depicts that, current ratios of all the other markets except Anayara show a fluctuating trend. During 2011-12 Muvattupuzha market denotes the highest ratio 7.22 followed by Nedumangadu market 5.93. It is found that current ratios of Sulthan Bathery market are not ideal, as it was below the standard ratio.

6. Return on Assets Ratio

Return on assets ratio helps to assess the strength of net income based on the total assets in ACWMs. The same is calculated using the formula stated below.

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Total Assets}}$$

The components of the ratio, such as net income and total assets are shown in Table 4.10 and 4.12 above. From the below mentioned Table 7 it is obvious that return on assets ratio prevailing in Agricultural Commodity Wholesale Market shows a fluctuating trend throughout the study period. Muvattupuzha and Vengeri market indicates the highest as well as similar return on assets ratio (0.23) during 2011-12, followed by Anayara market (0.19).

Table 7
Return on Assets Ratio

Market	Year					
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Anayara	0.21	0.22	0.29	0.26	0.25	0.19
Maradu	-	-	-	-	-	-
Vengeri	0.33	0.17	0.19	0.17	0.45	0.23
Nedumangadu	0.12	0.13	0.09	0.08	0.10	0.15
Muvattupuzha	0.26	0.30	0.43	0.29	0.23	0.23
Sulthan Bathery	0.04	0.21	0.11	0.19	0.99	-

Source: Survey Data.

Note – Return on Assets ratio in Maradu market (throughout the study period and Bathery market (2011-12) is not calculated due to the non-availability of data from the market.

5. Findings of the Study

1. With respect to the growth rate of receipts during the financial year 2006-12, it was observed that, CAGR of Maradu market indicates the topmost position (62.50 per cent) compared to other markets. Market-wise comparison by fitting a linear line reveals that, Maradu and Anayara market show constant growth rate, Nedumangadu and Vengeri depict a regular growth rate, whereas, Muvattupuzha and Bathery reflects a fluctuating growth rate.
2. Significant correlation is seen in the expenditure and income pattern of Vengeri, Bathery and Anayara markets. The correlation seems to be not significant in case of Muvattupuzha and Nedumangadu markets. However, difference between the expenses and income position seem to be more in rural markets when compared to urban markets.
3. From the analysis of the growth rate of profit in different wholesale markets, it is found that, though Anayara and Vengeri markets earn profit during the financial years 2006-12, the AGR shows a negative trend during 2007-08 and 2010-11 in case of Anayara and 2007-08, 2011-12 in case of Vengeri markets due to the steep fluctuating trend

in the profit availability position of the markets. Whereas, the growth position in the rural markets fluctuates due to tremendous loss in Nedumangadu during 2009-10, Muvattupuzha in 2006-07, 2008-09 and 2010-11 and the continuous loss happened in Bathery from 2007-10. However, with respect to CAGR, Muvattupuzha market topped first in this respect (66.82 per cent).

4. A fluctuating trend is witnessed in the growth pattern of assets in ACWMs. When CAGR of the assets in the markets are considered, Muvattupuzha ranks the first (25.15 per cent) whereas, Bathery indicates the least (-21.65 per cent).
5. As regards the current ratio of the wholesale markets, all the other markets except Anayara show a fluctuating trend. Muvattupuzha market denotes the highest ratio during 2011-12 (7.22) whereas, the ratio of Bathery market is found as not up to the standard.
6. The return on assets ratio of Muvattupuzha and Vengeri markets indicate the highest position, 0.23 each respectively during 2011-12, whereas, Nedumangadu denotes the lowest (0.15) in respect of the same period.

(Continued on page no 23)