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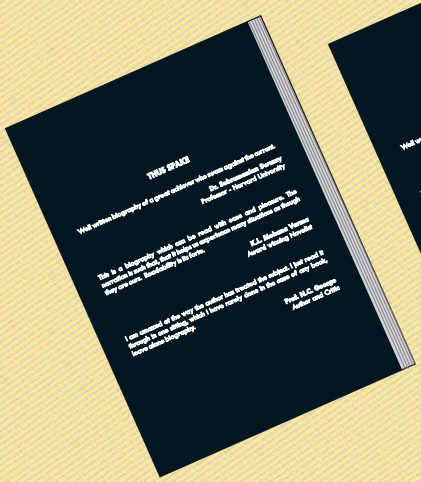

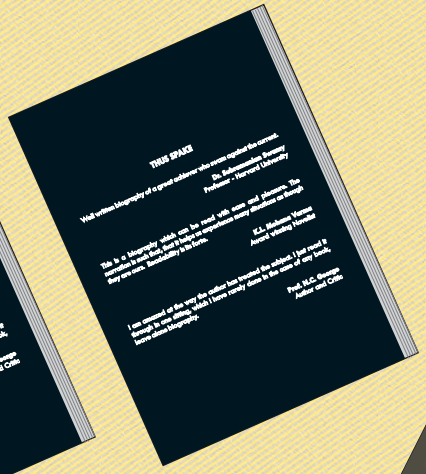

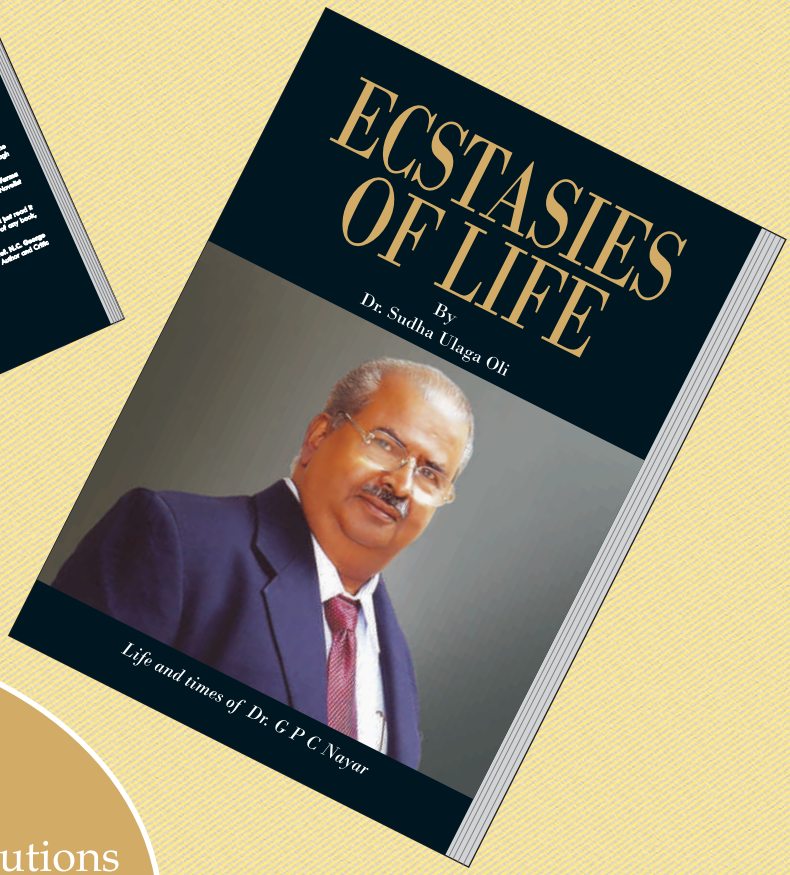

Here's an entrepreneur
who has created
some excellent academic institutions
in an unfriendly environment.
It is a saga of trials and tribulations
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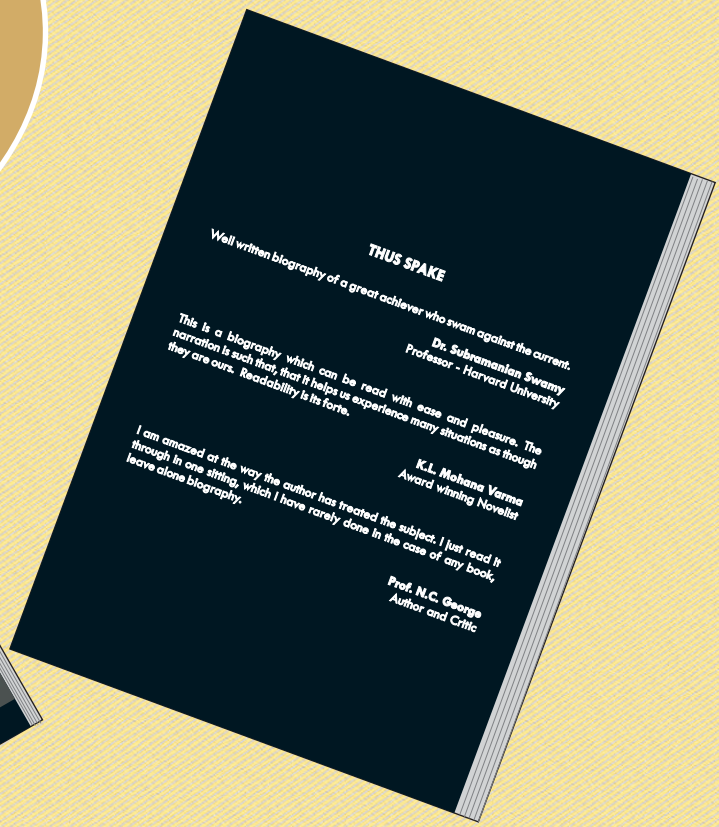


THUS SPAKE

Well written biography of a great achiever who swam against the current.

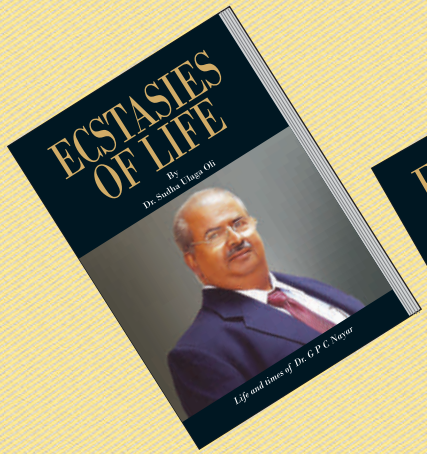
Dr. Subramenian Swamy
Professor - Harvard University

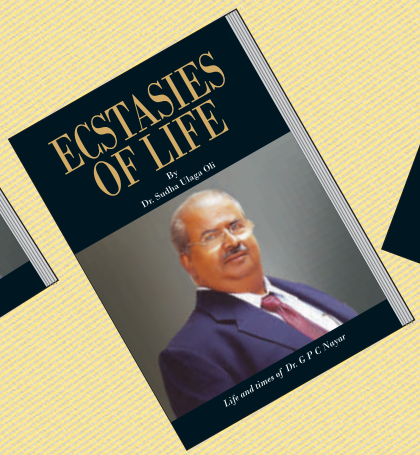
This is a biography which can be read with ease and pleasure. The narration is such that, that it helps us experience many situations as though they are ours. Readability is its forte.

K.L. Mohana Varma
Award winning Novelist

I am amazed at the way the author has treated the subject. I just read it through in one sitting, which I have rarely done in the case of any book, leave alone biography.

Prof. N.C. George
Author and Critic





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Articles

Chairman's Overview

PPPs have emerged as a very viable and possibly sustainable mode of creating a much needed infrastructure for our country. More than anything else, it has enabled us to channelise private sector investment in infrastructure development. Our country is still starving for adequate infrastructure essentially required for high level of growth. In this context, opportunities for the growth of joint ventures between public and private sectors are huge and desirable.

Although the Indian PPP scenario today presents an optimistic picture there are several bottlenecks and challenges encountered in developing suitable models. The Government of India on its part has been fully aware of the benefits such partnerships can offer to our country and has been taking steps to remove some of the bottle necks.

As per the 2015 Infrascope Report of the Economist Intelligence Unit, 'Evaluating the environment for PPPs in Asia-Pacific 2014,' India ranks first in the world in 'Operational Maturity' for PPP projects, third for sub-national PPP activity and fifth overall in terms of having an ideal environment for PPP projects. The future of PPP in India looks bright as the country aims for a higher growth trajectory through strong infrastructure investments. In this background we are bringing to you our lead article, a study on the need for alternative models in PPP.

There are generally two ways a company can return cash to its shareholders: 1. Declaration of dividend and 2. Buyback of shares. A buyback represents a more flexible way of returning surplus cash to shareholders as it is governed by a process laid down by law, it is carried out through stock exchange mechanism and is more tax efficient. Our second lead article in this issue is a study on Effect of Buyback Announcements and Tax Implication.

We also feature in this issue a number of learned articles on a variety of topics such as Liquidity-Adjusted Capital Asset Pricing Model, Benchmarking and Probing its Applicability, Factors Influencing Purchase Behavior, TV Advertising and Consumerism, Firm Performances in Indian Life Insurance Industry, Eating Out as Life Style, and the like.

I am confident that this issue will be truly informative and educative to our readers.

Dr. G. P. C. NAYAR
Chairman, SCMS Group of Educational Institutions.

SCMS Journal of Indian Management

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SCMS-COCHIN

Editorial

We bristle when we are bridled

We have reached a stage when we are disturbed by too much management, at once too little freedom. More executives assume that they are managers. They are paid, to oversee, control, and administer. The tools of management can compel people to be obedient and diligent. They can't make people creative and committed. In recent years there is a lot of rhetoric about involvement, empowerment, and self-direction. In many companies, employees are referred to as "associates" or "team members." But ask yourselves: Do they have more freedom to design their jobs? Do they have more discretion to choose the work of their choice? We bristle when we are bridled.

We are worried about too much hierarchy, at the same time too little community. We are energised by work when the work involved a group of people bound by their devotion to common cause, undeterred by lack of resources and undaunted by expertise. Hierarchies are good at aggregating effort. Hierarchies are not good at mobilising effort. When it comes to mobilising human capability, communities outperform bureaucracies. In bureaucracy the basis for exchange is contractual (pay for work). In community, you are a partner in cause. In bureaucracy, you are a factor of production. In bureaucracy, loyalty is a product of economic dependence.

We are shocked to see too much exhortation, at once too little purpose: Initiative, creativity, and passion are gifts. They are benefactions employees choose, day by day and moment by moment, to give or withhold. They cannot be commanded. By exhorting people to work more, or harder, by loving their customers and killing their competitors, you will not get their initiative, creativity, and passion for the company. You'll elicit these capabilities through your approach. You ask yourselves: What kind of purpose the best of everyone who works here? What lofty cause would inspire folks to give generously of their talents?

(Indebted to Gary Hamel in *The Future of Management*/HBR Press)

Dr. D. Radhakrishnan Nair

PPP at Cross Roads : Alternative Models an Imperative

Mohan B. and Latha R. Nair

Abstract

The waning enthusiasm for PPP projects in India is a serious setback in the growth plans of the country. PPP models were expected to attract the elusive private capital to the infrastructure sector of the country. The high management efficiency the private sector is deemed to possess, would help to make the PPP model infrastructure development a success story in the country. However, the scenario unfolding is proving to be different. Many of the PPP initiatives, of late, gained the ill-repute of having poor quality in service delivery and dragged the government into litigations. The time demands alternative models which taps the investment potential of the Indian middle class for infrastructure.

Keywords: *PPP, risk, return, public service, alternative models*

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Governments across the globe have turned towards private sector to provide infrastructure services in power, energy, transport, communication etc. which were traditionally delivered by government agencies. The result was an organizational innovation called 'Public Private Participation.'

The reasons for luring private sector are many.

1. Availability of additional resources to meet the increasing demands for infrastructure service development
2. Increased efficiency in project delivery and operation
3. Access to newer technology from private/public sector, and
4. Sustainable development in infrastructure facilities

However, across the world, the record of PPPs has been very mixed. PPP projects have been mired in issues such as disputes in existing contracts, non-availability of capital and regulatory hurdles related to the acquisition of land. This has

resulted in a waning interest in PPP projects as such. However the concept is a powerful tool with unlimited potential. This paper after discussing the basic tenets of PPP sees the popular PPP models in India through a critical prism and positions CIAL (Cochin International Airport Limited) as a reliable alternative.

2. Literature Review

The first reported PPP model in history is in the year 1438 when concession right was granted to a French nobleman Luis de Bernam to charge fee for the goods transported on river Rhine. By the turn of seventeenth century many instances of participation of private capital in public investments for the construction of infrastructure facilities like water channels, roads, railways were reported in America, Europe, China and Japan. In 1992, United Kingdom started implementing Private Finance Initiative (PFI) as a comprehensive government programme for undertaking projects such as roads, subways, prisons, national defense, health care and housing in a big way. This way public sector became a purchaser of services from the private sector who provided the necessary fixed assets and management efficiency for creating it.

The World Bank Group defines a PPP as "A long-term contractual arrangement between a public entity or authority and a private entity for providing a public asset or service in which the private party bears significant risk and management responsibility."

As per US laws Public-Private Partnership (or PPP) shall mean a single, long term, performance-based agreement between a responsible public entity and a private developing entity for the development of a qualifying project, in which appropriate risks and benefits can be allocated in a cost-effective manner between the contractual partners and where ownership of the Qualifying Project remains with the Responsible Public Entity, and the operation, if any, and maintenance of the Qualifying Project may revert to the Responsible Public Entity at the end of the contract term.

European Commission sees PPP as cooperation between the public and private sectors for the development and operation of infrastructure which is a direct result of efforts to increase the quality and efficiency of public services, insufficient public sector financial resources to cover investment needs coupled with spending restrictions and a desire to access private sector efficiencies[7].

The PPP model envisaged by Asian Development Bank (ADB) acknowledges the role of government as a body to meet social obligations for providing infrastructure services mainly engaging the private sector. It will facilitate this by making necessary sector reforms. It ensures that the targets on Public investments are achieved in the process. Such a PPP format is to allocate the tasks, obligations, and risks among the public and private partners in an optimal way. While the public partners in a PPP can be government entities, the private partners can be local or international and may include businesses or investors with technical or financial expertise relevant to the project. Increasingly, PPPs may also include nongovernment organizations (NGOs) and/or community-based organizations (CBOs) who represent stakeholders directly affected by the project.

The Government of India considers PPP as 'an arrangement between a government, a statutory entity or government owned entity on one side and a private sector entity on the other, for the provision of public assets and/ or related services for public benefit, through investments being made by and/or management undertaken by the private sector entity for a specified time period, where there is a substantial risk sharing with the private sector and the private sector receives performance linked payments that conform (or are benchmarked) to specified, pre-determined and measurable performance standards.

2.1 Common features in the definitions of PPP

The following features of PPP are highlighted in all the above definitions

1. PPP is a mechanism for providing a public service.
2. The private sector entity is expected to take a greater share in funding the PPP project.
3. The management expertise of the private entity will be available for the project
4. The private and public entities share the risk depending on their ability to handle.
5. The final ownership of the facility will be with the public entity.

3. Common ppp models.

The commonly operated PPP models are given below[10]. These varied models of PPP fit in a continuum between management contract and total private investment.

1. **Service/Management Contract**

   The private entity contracts an existing facility for providing services on the basis of a bid. The ownership of the facility rests with the public entity. The private entity collects the charges from the public entity.

2. **Affermage /Lease**

   The private entity takes over the facility on lease and provides the services required as per the lease agreement. The public entity receives lease rental from the private entity. The ownership of the facility rests with the public entity. The private entity charges the users for the services provided.

3. **Turnkey projects**

   The private entity designs, builds, test runs and hands over the facility to the public entity. The ownership of the facility rests with the public entity.

4. **Concessions**

   The private entity builds the facility and operates it for an agreed period after which the facility is transferred to the public entity. The ownership of the facility rests with the public entity. The types of concession agreements are Build Operate and Transfer (Toll), Build Operate Own and Transfer, DBFOT (Design, Build, Finance, Operate and Transfer).

5. **Private Finance Initiative**

   The private entity designs, builds, owns and operates the facility. The charges for the above activities are received either from the public entity directly or as annuities from the public entity. An example for this model is BOO (Build, Own and Operate).

6. **Divestiture**

   It is the process by which public ownership of a facility is transferred to a private entity for a price.

4. Foundations of The Structure of Ppp Models

1. **Risk allocation according to the ability to handle**

   Any project has to face risks of varied kind right from its conceptualization to implementation and service delivery. The fundamental premise in PPP mode is that each risk has a premium and the allocation of risks to private and public entities is done according to their abilities to manage them ex ante and ex post. This arrangement will entail final delivery of service at a lower price as allocation of risk is as per the greatest and most relevant expertise to manage them and optimal efforts are engaged for mobilization. This will also ensure that the project is protected against optimism bias.

2. **Value for money (VFM)**

   The price of services to be measured against most value for money for the services offered. The quality of service delivery is as important as economy in its provision. The cheapest way in which the services can be delivered alone is not the determining factor.

3. **Life cycle cost and risk**

   The operator has to plan for life cycle costs and risks of the project right at the design or mobilization stages as he is responsible for life time service delivery from the asset created. Hence he will be responsible for the systems integration as well. There is an incentive for him to ensure quality asset creation and integration which will entail less operating cost and better VFM in service.

4 **Private hands to control output**

   Unlike private projects where prices are generally determined competitively and government resources are not involved, PPP projects typically involve transfer of public assets, delegation of governmental authority for recovery of user charges, private control of monopolistic services and sharing risks and contingent liabilities by the Government. Typically, a private sector consortium forms a separate company called "Special Purpose Vehicle (SPV)" to develop, build, maintain and operate the asset for the contracted period.

   The involvement of the public sector in the day to day operation of the facility ceases to exist. The role of public sector is limited to monitoring and regulating provision of service. This way the project is protected against political and administrative interferences which normally are the causes of delays and cost overruns.

5. Higher cost of private capital to be factored in the price of service delivered

The cost of private capital is higher compared to that of government. Additionally, the long gestation period of the projects and the higher ratio of debt to equity (70:30) in the capital make the capital even more costly.

6. Incentive for quality and timeliness in service delivery

The higher efficiency, quality and timeliness of service impact the prices and raise them as long as they fit into the concept of VFM.

7. Existence of an appropriate legal, political and social environment

PPPs can function effectively in a congenial, legal, social and political environment which will not only approve, accept and facilitate inception and functioning of appropriate PPP structure but also will provide a framework for amicable dispute resolutions.

8. Drawing the expertise from private sector

Private sector boasts of sufficient expertise in its ranks to create and operate centers of excellence. PPP facilitates utilization of this capability for public service.

The basic intent of PPP is to encourage the private sector to dedicate its capacity to raise capital, to utilize its ability for timely project completion, and to utilize its resources for the welfare of the community without having to compromise the profit motive and to make them accept the responsibility to provide goods and services to the public at affordable rates. This arrangement, indeed, calls for a judicious approach to decision making and underscores the need for a framework that enables the private sector partner to make reasonable returns on investments without diluting the standards and quality of services provided. The key to the success of PPP projects is a balanced and fair sharing of risks and benefits between the partners, and transparency and accountability in all transactions relating to the award and management of the contract.

5. Risks associated with PPP infrastructure projects

5.1 Pre Construction risks

1. Land acquisition – A major risk that can make the whole proposal meaningless, escalating costs and time overruns . This risk is absorbed by the public entity.
2. External linkages – Timely connectivity to the outside world – absence of which may escalate the cost.
3. Financing risks – refers to the risks that adequate finances are not available to the project at a viable rate resulting in delays in financial closure at a prescribed time.
4. Planning risks – Pre development studies conducted (legal, technical, and financial) are inadequate and not robust enough resulting in possible deviations from the expected outcomes.
5. Approval risks – The risk that needed approvals will be delayed or will not be granted. Possibility of getting all the approvals was very strong provided the construction was to the specifications.

5.2 Construction Phase Risks

a) Design risk – Refers to the risk that the prosed design will not be able to meet the service requirements.

b) Construction risk - The construction may not be completed in time.

c) Volume risk - Demand for service may vary from forecast. The emergence of Kerala as a favorite tourist destination and the gulf boom ensured that the volumes only grow with time.

d) Payment risk – The fee for services is not collected in full or not set at a level that permits recovery of costs. Payment Airport services could not be defaulted by airline operators for long.

e) Financial risk – Concessionaire has brought in too much financial stress on a project by using in appropriate financial structure for the privately financed components of the project. It can result in additional funding costs for increased margins.

f) Environmental health and safety risk - Damage to the environment more than that was originally addressed in the mitigation plan. No additional constructions beyond approved planning were done.

g) Hand over risk – Concessionaire will default in handover of the asset at the end of concession period. Or will fail to meet the minimum quality standard or realizable value at the terminal stage that need to be handed back to the public entity.

6. Ppp Programme in Infrastructure - Challenges Faced In India

PPP is considered as the most potent tool for developing infrastructure in India. However the growth rate of PPP projects is not commensurate with the infrastructure needs of the country.

The country is yet to come up with a national PPP policy which will address the key issues facing PPP programme implementation. Government is planning to set up 3P India, a think tank to aid PPPs to restructure PPPs to devise new models and to act as a professional risk appraiser.

1. Private players - inadequate in number and lacking in capacity to deliver infrastructure services to the scale needed.

Inadequate number of private players in the infrastructure sector leads to concentration of projects in few major players. The different private players operating in the different segments of the project are not able to integrate their areas well so that the final delivery of the service is flawless. 70% of contracts in highways sector, are limited to 35-40 players.

2. Unconvincing institutional set up

The PPP institutional set up is plagued by poor bidding processes, poor project structuring leading to complaints of improper division of risk and responsi bilities, change in scope due to changing technologies, political environment and public demand. The institutional frame work lacks competencies to devise specific PPP models that projects demand. Model Concession Agreements becomes sacrosanct missing the key issues to be addressed.

3. Need for increasing public share in infrastructure investment

National Transport Development Policy Committee (NTDPC, 2014) projects that overall infrastructure investment will need to increase substantially from around 5.4 percent of GDP in 2011-12 to around 8 percent during the 2020. The share of public sector in infrastructure investment is projected to be around 57 percent of the total infrastructure spending in 2017-22. In view of the difficulties that have now emerged with regard to the implementation of PPP projects, and their financing, it is possible that the role of public investment in infrastructure may need to be higher than what is projected here.

4. Gold plating risks

World order has changed and mobility of goods and services across borders has improved. Countries are co-operating to develop common infrastructure so that trade across nations are easier and faster. The need for improving infrastructure is understood and felt by all. The construction technology has improved a lot reducing the cost of construction and period of construction. In other words the risks associated with a project are not as severe as often projected. It can be seen that of the many risks associated with an infrastructure project the major risks are handled by public sector entity. One needs to be vigilant against the tendency to 'over engineer' the projects and to pad the total capital expenditures.

5. Management capability

The executing entity needs to have excellent project management and O&M capability, and must be able to demonstrate its commitment to the partnerships. It must not merely look forward to making profits at any cost, but must be committed to providing sustainable and quality service to the customers.

6. Demand for incapacitating rules of land

The PPP sectors often demand dilution of safety and welfare rules applicable during the construction and operational phases of the project, the private sector prominence in the structure taking advantage of its association with public sector. Such moves create asymmetry in the welfare promise that the state guarantees for its citizens.

7. Lack of transparency

The PPP project proponents demand that PPPs should be excluded from the ambit of "Right to information act' as a necessary guarantee for operational freedom. Demands of this sort is an infringement on the right of people to know the conditions on which they are provided with the service and to get convinced that no collusion exist

between the regulator and the dominant PPP partner. Lack of transparency will adversely affect the acceptability of PPP programme in the society.

8. Rate revision of awarded contracts

There is a growing tendency among the operators to claim overshooting of costs due to delay in executing contractual obligations from Government however trivial they may be and claim compensation through appeals for upward revision of agreed rates. This is seen to be accepted by Government agencies in many cases. The collusion of corrupt officials with private operators is a bane that PPP programme is required to handle and overcome.

9. Risk of handover of the facility to the public sector

India lacks a culture of proper record keeping of the various assets that the operator is required to create and maintain. Given the socio politic environment prevailing in the country and the long concession period of 25 to 30 years that is normally associated with agreements the risk of hand over of the facility in the originally envisaged shape and condition at the end of the service period very much exists. An office of PPP assets authority is very much required to ensure that no dilution takes place over a period of time.

10. Over emphasis on private sector investment

The current PPP models in infrastructure place heavy emphasis on private investment and the system looks over-enthused to incentivize it. Once the private sector interest in a particular sector falls the development of that sector will hit a trough- which happened in South Asia during 2012, adversely affecting provision of services in that sector. To overcome this threat retail investors are to be attracted in large numbers to invest in PPP. The present models are not adaptable to this need.

11. Denial of opportunities for retail investors to invest directly in infrastructure projects

A properly designed and executed infrastructure project gives good return. The private equity engaged for infrastructure PPP projects expect profit margin exceeding 16%. The existing PPP models deny an opportunity of assured return for the growing number of retail investors belonging to the affluent and educated middle class by associating with infrastructure sector.

There is a growing awareness among investor community that infrastructure investment is safe and rewarding. This is important considering that even in poor economies pockets of affluence do exist holding considerable amount of funds an enabling environment prevents inflow of such funds towards productive and deserving arrears.

12. Under utilization of management expertise.

Inefficiency of public sector cannot be generalized. There are efficiently run public sector enterprises and departments which compete with the best in the world in their domain. The current PPP models do not have any avenue for utilizing such committed talents and their overall management skill. Similarly, there are efficient bureaucrats on whose abilities government and public at large have faith and respect. In the present scheme of things these talents go unutilized.

13. Surreptitious promotion of privatization

In the prevalent PPP models private sector is the real creator and provider of the service facility being the concessionaire and the ownership remains with public entity only on paper for all practical purposes . There is a growing tendency to idolize private sector though they are in the field more out of profit motive than on any social objective.

14. Slowdown in economic growth and reluctance of private sector to invest

PPP projects have been hit by a variety of factors such as the growth slowdown, the policy framework with regard to land acquisition and environmental issues, slow regulatory approvals (Lall, 2015). Indian economy cannot be said to have a steady high growth rate. Expecting private sector to be in the forefront of infrastructure revolution may be misplaced.

15. Non-performing assets in infrastructure sector and financing of PPPs by banks in future.

The four sectors of infrastructure namely iron and steel, textiles, aviation and mining accounted for 51% of total stressed assets (of the banks), with infrastructure alone accounting for about 30%[24]. The PPP projects in infrastructure are having a Debt Equity ratio of 30:70. Reluctance of banks to finance infrastructure projects is bound to adversely affect prospects of PPP.

6.1 Need for New Models

In infrastructure projects the many of the major risks namely identification of a technically suitable site, its appraisal, land acquisition, connectivity, safety and welfare of construction workers are addressed by government or government agencies. The major role of private sector is arranging funds and providing the management expertise. However most of the projects are having Debt Equity ratio of 70:30 implying huge dependency of PPP on banks. The liability of a non-performing PPP finally rests with the society at large. The profit maximization drive of private partner in the PPP can distort the risk projections and thus escalate the cost of service provided.

The issues highlighted above do throw light on the difficult terrains in which PPP is operating. While the fact that PPP is the most potent infrastructure development tool for India the conditions given above highlight the need for innovating new models which will broad base the concept even more. As infrastructure development is a compulsive requirement for the state government has to take the lead for investment and management control by developing a central core around which new flesh is built. The government may act as the central core and retail investors and small institutions can form the flesh around.

7. The Requisite Features of The New Model

1. The entity may be perceived as a government owned company by general public with Government is the major shareholder. Such a structure would help the entity to get a fair treatment from other interacting entities and government departments.

2. The entity need not have any dominating private entity imparting management expertise or holding management control. This will relieve the entity from the over ambitious drive for maximisation of profit.

3. The entity should be able to attract public investors to it in large numbers and they ought to receive good returns as dividend.

4. The firm can be constituted as per companies act and no separate legal frame work is necessary for it. It thus could save considerable expenditure incurred in conceiving and implementing complex PPP models.

5. The government directly or indirectly may stand as guarantee for all the major risks that need to be taken for the infrastructure development. This would result in incurring less cost on handling risks which enabled cheaper service provision.

6. The principle of 'allocation of risks to those who can manage them best' may be followed.

7. The firm can practice the concept of Value For Money while roping in the services experts in concerned functions either as consultants, contractors or employees to get the work done. It is in a position to deliver the services at convincing charges owing to this approach.

8. The firm should focus on establishing benchmarks in its social engagements as a pragmatic benefactor of the society.

9. The debt financing extended to the firm by banks to be repaid as per agreement. However, the opportunity for exchange of debts appropriately as the dividend may be explored.

10. The firm has to act as a responsible corporate citizen. It may organise and develop ancillary service provisions.

11. In an infrastructure project pursuing the above model, the ticklish issue of collecting user charges as return for investment easily gets sorted out as the project financing is done by public themselves.

    Research reveals that Cochin International Airport Ltd is a live model for the above practices and is acclaimed as a success story. Its success shatters the commonly held myths about inefficiency of government controls in running innovative organisations.

7.1 Features of CIAL Model

1. Government of Kerala holds 32.24% of the shares of CIAL. It is the single major shareholder of CIAL. The chairman of the board is Chief Minister of Government of Kerala. The director Board has 6 representatives of GOK. CIAL is perceived as a Government company by common public and has been able to garner public goodwill due to this reason.

2. CIAL does not have a dominating private entity blinded by greed. It is a profit making company driven by sound principles of corporate governance.

3. CIAL has been able to attract individual investors to it. 12.45 % of the total shares of CIAL is held by individual share holders and the participation of body corporate is limited to 5.0838 %. There is no dependence on any dominating private player for finances.
4. CIAL is constituted as per the Companies Act and no complex PPP contract procedures were required to be followed.
5. GOK has stood guarantee for all major risks that CIAL faced right from the time of its constitution.
6. Traditionally Kerala had a social and political climate favorable to public sector and CIAL has been able to tap it effectively.
7. CIAL follows an effective expert engagement strategy. It promotes talent and has been able to rope in innovative minds to design and work for the project. The Terminal complex was designed by KITCO, a Kerala Government owned consultancy firm.
8. The strategies adopted by CIAL in social engagements have been very effective in conflict resolution. The package offered by CIAL for land acquisition has been hailed by World Bank as a model for developing economies to follow.
9. The debt availed from banks has been adjusted as their shareholding. Banks have accepted the offer for equity as the consistently high dividend payout was higher than the earnings from interest.
10. CIAL has always acted as a responsible corporate citizen. It has major control in the functioning of CIAL taxi operators association which has exclusive rights for providing taxi services from the airport[31]. CIAL is ensuring that the services offered by CIAL taxi services are of commendable standards. CIAL has ventured into connected business in a big way making profits in those areas with positive social impact. It is the first airport in the world to meet all its energy needs exclusively from solar power.
11. CIAL does not collect user fee from passengers.

8. Conclusion

PPP models currently in vogue in India have lost their sheen.

There is a need to develop new models to meet the emerging public mood and expectations. It also should be able to tap the funds with the growing middle class. Government does have capable hands with in it who can be assigned the task of structuring and operating firms funded by direct public investments, and government investments, in which government shall have majority stake. It will ensure that government shall possess the management control of the firm. In other words infrastructure projects with transparent scheme and assured returns can attract public savings once government is able to put in place credible management teams for operationalizing return. Government thus can earn accolades from public for providing them world-class infrastructure services on the one hand, making them richer in the process on the other. The hidden potential of an alternative PPP model to wade through a troubled economic environment may be understood by the policy makers from the success of Cochin International Airport Limited.

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Effect of Buyback Announcements and Tax Implication: Study on Indian Context

Subhendu Kumar Pradhan

Abstract

The study focuses on growth of buyback in India and attempts to find out buyback announcements effect on share price and trading volume. The study also attempts to find out the tax implication of buyback. The study concludes that buyback activities and their growth depend upon their motives and market situation. Buyback tends to increase when the market is downcast and fall when the market is optimistic. It gives some values to shareholders after buyback as increased the EPS / ROE or ROA and improved P/E ratio. The study also concludes that Buyback announcements have impact on share price but do not influence the trading volume if price moves upward after announcement. The study suggests that the investors should understand the tax implication of buyback so that they can get more tax benefits and can take proper decision about whether accept the buyback offer or not.

Key words : *Buyback; Market situation; Share price; and Trading volume;*

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There are number of ways in which a company can return the wealth to the shareholders. Although bonus issue and dividends are the two most common ways of distributing returns, there are other useful, and often overlooked ways for companies to share their wealth with investors. One such way is buyback program. Buyback program is a corporate action in which a company buys back its own shares from the existing shareholders. The company buys back its share at higher price than market price to attract the investors. When it buys back, number of outstanding shares reduces in the market and hence, market capitalization reduces. Recently large number of IT companies announced the buyback program to distribute its surplus or idle cash balance to shareholders. Wipro Ltd, India's third largest IT company, announced a mega buyback offer of Rs. 11000 crores in July, 2017. The company buys back its share at Rs. 320 per equity for up to Rs. 11000 crore. Now market price is Rs. 290.90 as on 20/07/2017. Similarly Indian largest IT company, TCS completed buyback of Rs. 16000 crores in May, while Infosys Ltd also offered buyback of Rs. 13,000 in August. HCL Technology Ltd is expected to

start its buyback program of Rs. 3,500 crores in the coming months.

As company repurchases its own shares from existing shareholders, buyback program also can be called as repurchase program.

Methods of Buyback

Buyback program can be carried out in two methods. One is open market and other is tender offer. Method of repurchasing the shares is dependent upon the decision of the company but most commonly, open market method is preferred. During 2013 to 2014, out of total 32 programme, 28 of these are through open market and remaining four are via tender offer. By open market method, the company decides to acquire a certain number of shares. It fixes a price cap and can buy for any price up to that. However, it is important to note that when a company announces a buyback it is usually perceived by the market as appositive thing, which often causes the share price to shoot up. For example, on January 20, 2012, Reliance Industries approved buyback of upto 120 million shares at a price not exceeding Rs 870 per share. The stock has risen 4 percent since despite the company reporting poor numbers for the third quarter. It was at Rs 830 at the commencement of the buyback on 1st February.

The second alternative way of buyback program is tender offer where, the shareholders may be presented with a tender offer by the company to submit, or tender, a portion or all of their shares within a certain time frame. The tender offer will stipulate both the number of shares the company is looking to repurchase and the price range they are willing to pay (almost always at a premium to the market price). When investors take up the offer, they will state the number of shares they want to tender along with the price they are willing to accept. Once the company has received all of the offers, it will find the right mix to buy the shares at low cost. For example, recently, April 2015, Clariant Chemicals has announced to buy back more than 35 lakh shares for Rs 340 crores through tender offer. The company has fixed the buyback price at Rs. 950 per share. The market price is Rs. 770 as on 24th August 2015. In another example, on 3rd June 2015, Bayer Crop Science announced a buyback proposal to purchase 1.26 million shares at a price of Rs.4,000 per share aggregating about to Rs.506 crores, through tender offer. Market was closed on that date at Rs. 3,709.25.

A tender offer generally occurs in a situation where a company is trying to avoid a hostile takeover. This makes it more difficult for a hostile takeover to be successful with less liquidity in the share. Most of buybacks are done through the open market with sufficient liquidity for the stock.

The basic difference is that, in an open market offer, company buys back shares from the shareholders without knowing the buyer while tender offer involves the company writing to its shareholders individually to know their willingness for sale of shares in the buyback. Another biggest difference between two methods is that the price of tender offer is fixed.

Reasons

There are many reasons a company may wish to begin a stock buyback program.

One may be that when the company feels that the share price is undervalued in market, at that time company buys back its shares at high price than the market price which indicates that its worth in the market is more than current value. This in turn shoots up company's stock prices after buy back.

Second, a company perusing the buyback program to distribute the excess cash to shareholders to shareholders because the offer price is usually more than the market price. This practice is followed by company when market price falls continuously, to reward to shareholders by distributing cash.

Third, consider a company which has huge cash reserve but there is no investment opportunity right then. In that case a company may plan to invest itself and offer the existing shareholders an option to sell their shares to the company at attractive price. It is similar to reinvesting its cash in itself which also aims at bringing in dilution in the markets as outstanding shares in the market are reduced. Recently many IT companies pursue buyback programme due to huge cash reserve. For example TCS had a cash reserve of RS. 43,169 crore, which is near about 10 percent of the company's capitalisation. Infosys had liquid assets including cash equivalent and investment worth of Rs. 35,697 crores on its books at the end of December 2016.

Fourth, a company may pursue a buyback solely to improve its financial ratios. If reducing the number of shares is not done to create more value for shareholders but rather make financial ratios look better.

Fifth, buyback makes sense for companies, because of the arbitrage opportunities, where the buybacks create high value to shareholders as compare to a dividend distribution. In India a 15 percent tax is charged on the companies distributing the dividend. In addition, if dividend income exceeds to 10 lakh in a year, individual investors have to pay 10 percent more tax. In contrast, there is no tax on long term gain yet.

Sixth, some companies may use it as a tool to restructure their capital in particular debt equity ratio. By buying back the share from open market, a company may increase its debt financing rather than equity financing. In addition, interest on payment on debt is tax deductible. Hence after, tax cost of debt is quite lesser than the cost of equity.

Buyback in India

Share buyback program has not achieved much popularity in India since it was introduced in 1989. Total number of buyback programs a year has not touches even 50 over the last seventeen years. If it is looked at in terms of percentage of total number of listed companies in India, not even one percent of them came out with buyback offers in a year. Share buyback activity in India has remained very low, much below the expectations at the time when share buyback was introduced. Year wise total amounts offered and numbers of issues of buyback program have been given in Figure 1 and figure 2 respectively.

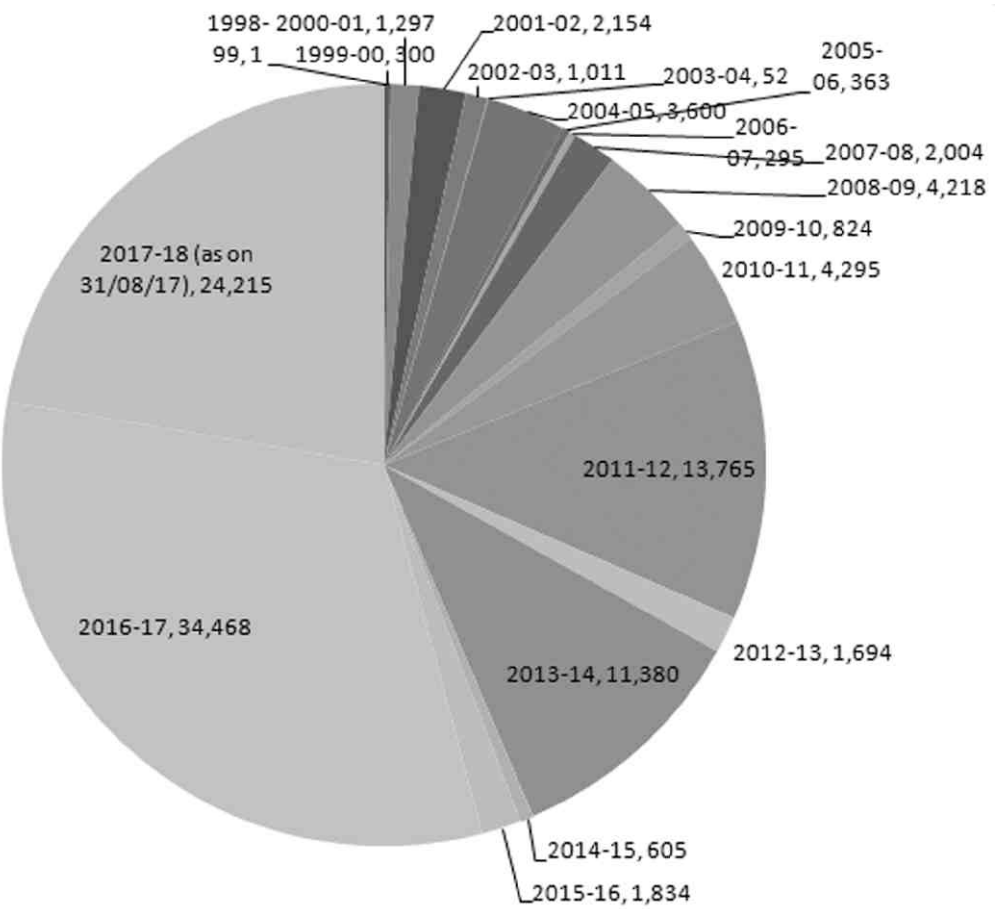

Figure 1: Total Amount offers in Buy back

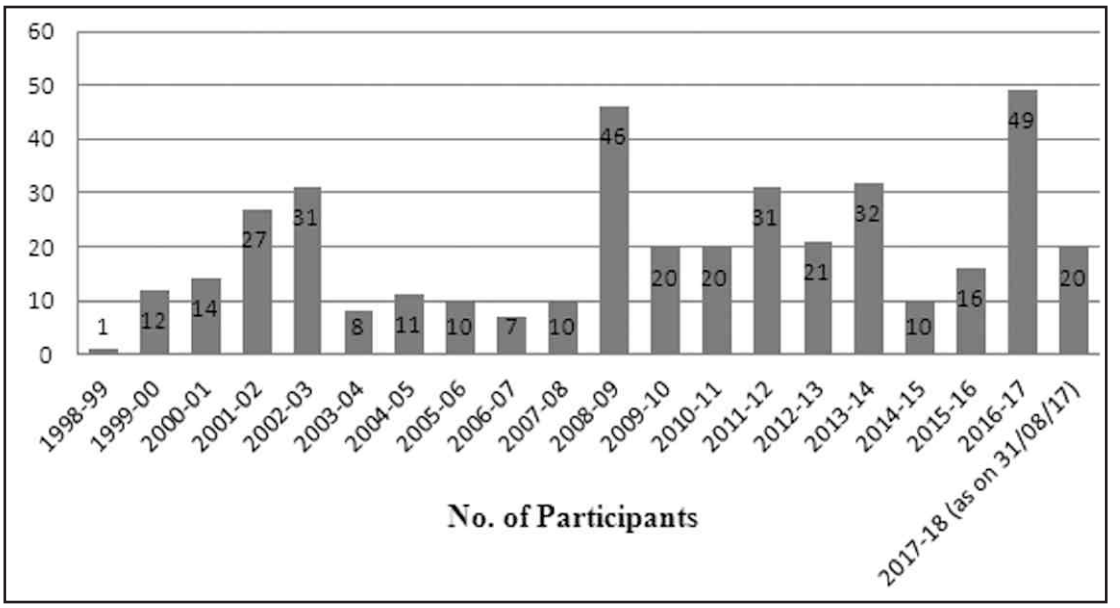

Figure 1: No. of Participants

From the above figures 1 and 2 it can be observed that the first buyback program was started just with one participant and offered an amount of Rs. 1 crore in 1988 to 1999. In the next financial year 1999 to 2000 it increased to 12 participants with offered amount of Rs. 300 crores, followed by gradually increase of 14 participant with Rs. 1,297 crores, 27 participants with Rs.2,154 crores, and 31 participants with Rs. 1,011 in the year 2000 to 2001, 2001 to 2002 and 2002 to 2003 respectively. Subsequently, there is an upward and downward in amount offered and number of participants in several years. In the last financial year 2016 to 2017, both number of participants and amounts offered in buyback programme unexpectedly by increased to 49 and Rs. 34,468 crores respectively, which highest in both amounts offered and participants in capital market, never occurred. This indicating a 250 percent increased offer value is an amazing growth as compared to the year 2011-12. During the financial year, 2011 to 2012, 31 company offered Rs. 13765 crores in buyback program which is the second highest in the Indian capital market in terms of amounts offered.

In the current year 2017 to 2018, both number of participants and amounts offered in buyback program are 20 and Rs.24,215 crores respectively as on 31/08/2017. It indicates a steady increasing in both participants and amounts offered. It may break the recode of last year because many IT companies are going to peruse on buyback programme to distribute surplus cash. Therefore, from the above discussion, it can be observed that the buyback activity seems to be directly affected by the market situation. It tends to increase when the market is downcast and falls when the market is optimistic.

Impact on ROA, EPS and P/E Ratio

Buyback decision may have a positive or negative impact on share price depending upon the motive of the buyback program and market situation, but generally it gives some values to the shareholders. Since, it reduces the number of outstanding shares, its biggest impact is evident to increase EPS and improve the company P/E ratio. Furthermore, it helps to increase the return on equity and return on assets. For example, a company buys back the 1,00,000 shares at Rs.15 per share for a total cash outlay of Rs. 15,00,000. Detail about the changes of the all components is given Table 1

Table 1: Effect of BuyBack on ROA, EPS and P/E Ratio

	Before Buy Back	After Buy Back
Cash	Rs.20 Lakhs	Rs.5, Lakhs
Assets	Rs. 50 Lakhs	Rs.35, Lakhs
Earnings	Rs.2, Lakhs	Rs.2, Lakhs
Outstanding shares	10, Lakhs	9 Lakhs
Share Price	Rs.15	Rs.15
ROA	4%	5.71
P/E ratio	75	68
EPS	Re .20p	Re. 22p

It can be observed from the Table 1 that the company's cash balance has been decreased from Rs.20 lakhs to Rs.5 lakhs after buyback. At the same time, the total asset also has been reduced from Rs. 50 lakhs to Rs. 35 lakhs because the cash is a current asset. This then leads to an increase in its ROA even though the earnings have not changed. Before the buy back ROA was 4 percent but after, it increases to 5.71 percent. Similar effect can be seen in the EPS which increases from 20 percent to 22 percent. In addition, it improves P/E ratio. The P/E ratio is one of the most well known and often used measures of value. At the risk of oversimplification, when it comes to the P/E ratio, the market often thinks lower, which is better. Hence, we assume that the share price remain at Rs.15, P/E ratio is 75 before buy back and after buy back, P/E reduces to 68 due to the reduction of outstanding shares. In the other words fewer shares plus same earning lead to the higher EPS.

Impact on share Price

The buyback announcement also influences the share price. In theory, effect of buyback of shares is supposed to be positive but it not so for all cases. For example, in 2011, out of 500 companies under BSE 500 index, 14 companies announced buyback program. Out of 14 companies, share prices of six companies (such as Onmobile Global, Zee Enertainment Enterprises, Rain Commodities, CRISIL, Reliance Infrastructure and Monnet Ispat & Energy) increased between the announcement date and the day the buyback started. On the other hand, share prices of Deccan Chronicle Holdings (DCHL), Jindal Poly Films, Amtek Auto and PrajIndusries, Balrampur Chini and FDC fell 32.2 percent, 24.4 percent, 16.6 percent, 7.6 percent, 6.1 percent and 5.2 percent, respectively. The reasons for falling of the share price would be probably due to mismatch between buy back prices announced by the company and investors' expectation, says financial experts. However, some experts believe that the price movement of a stock depends on the market situation, method of buy back, size of buy back, price gap between the buyback offer and market price of the stock. Another example, in 2014, Mastercard approved a new buyback program of Rs. 3.75 billion dollars. During the buyback period, share price of the Mastercard increases approximately 25 percent at the end of 4th quarter of 2014. This aligns with market dynamics that typically dictate a rise in share price due to reduction of outstanding shares from the market, says experts.

In respect of empirical studies, many researchers have carried out the research on the effect of buyback announcement on share price and they report that there is a positive market reaction to buyback announcement (Comment and Jarrell, 1991; Ikenberry et al., 1995; Raad and Wu, 1995; and Vermaelen, 1981). Lambert et al. (1988), Barth and Kasznik(1999), Dittmar (2000), Fenn and Lian (2001), Chen and Wu (2002) and Wen (2006) report a positive abnormal returns around announcement of buy back. Stephens & Weisbach (1998), Chan et al. (2004) and Zhang (2005) document that there is a positive or insignificant relationship between the current buy back and current announcement

effect. Mishra, A.K (2004) says that buyback program increases the share price for short term.

It can be observed from the above discussion that effect of buy back announcement is a positive reaction to market but it is not applicable for all companies due to size of the buyback offer, mode of buyback offer and market situation. Besides, there is an evidence of mixed effect (positive and negative) during 2011 in Indian market, out of 14 companies, share price of 6 companies fall on the day of announcement and after the announcement of buyback. Therefore, this study attempts to find out the actual relationship between the buyback announcement, share price and trading volumes.

To know the announcement effect, study analyses the share price and trading volumes of IT companies and some other companies, those have announced buyback programme in last couple of years. Announcement date of buyback has been collected from SEBI website and share price and trading volume of each company have been collected from Capitaline database. Paired sample t test is used to know whether share prices and trading volumes change significantly after the announcement. For this analysis, share prices and trading volumes data of 30 days before announcement and 30 days after announcement have been used. Results of paired sample t test have been given in the Table 2.

Table 2: Impact of Buyback on Share Price

	Mean difference	T	Sig.
Infosys	38.53684	13.026	.000
Wipro	2.56500	1.773	.092
Tata Consultancy Services	-92.02632	-5.603	.000
HCL Technology	34.92143	8.480	.000
Apollo Tyres Ltd	4.79484	8.789	.000
Amtek Auto Ltd	-20.61774	-12.662	.000
Kirloskar Oil Engines Limited	16.28065	9.308	.000
Indiabulls Real Estate Limited	-9.03548	-3.166	.004
JK Lakshmi Cement Limited	17.88226	17.431	.000
Rain Commodities Industry Ltd	3.21129	19.816	.000
Crisil Ltd	-16.22097	-2.250	.032
Motilal Oswal Financial Services Limited	6.90645	7.808	.000
Akzo Nobel India Limited	32.42742	12.085	.000
JBF Industries Ltd.	-.85968	-1.094	.283
United Phosphorus Ltd.	-10.88387	-10.062	.000
Renaissance Jewellery Limited	20.24048	7.014	.000
India Gelatine & Chemicals Limited	1.26607	1.790	.085
Kaveri Seed Company Limited	90.41250	12.391	.000
Engineers India Limited	-3.17167	-1.894	.068
TTK Prestige Limited	258.37500	15.102	.000
Sobha Limited	.77885	.257	.799
Bayer Crop Science Limited	-279.13600	-5.402	.000
Vinati Organics Limited	-29.80833	-2.307	.028
Baba Arts Limited	-.24444	-6.612	.000

Danlaw Technologies India Limited	13.16071	6.362	.000
Edelweiss Financial Services Limited	14.89194	10.942	.000
DCM Shriram Ltd	12.84828	16.505	.000
Indo Borax & Chemicals Limited	24.38571	14.017	.000
Mastek Limited	23.00833	6.931	.000
Jindal Steel & Power Limited	25.63958	7.092	.000
Avantel Limited	5.67679	5.150	.000
ECE Industries Limited	11.38478	14.465	.000
Excel Industries Limited	72.29310	9.602	.000
OnMobile Global Limited	-4.14783	-2.267	.034
Tips Industries Limited	11.21552	18.793	.000
Transpek Industries Ltd	44.11400	5.696	.000
ADF Foods Limited	27.32333	18.300	.000
Fineotex Chemical Limited	-2.93889	-4.419	.000
Ambika Cotton Mills	39.01786	4.966	.000
Ramco Cements	16.39167	1.627	.115
ICRA Ltd	33.55000	1.397	.174
Gujarat Apollo Industries Limited	18.92353	10.236	.000
VRL Logistics Limited	27.73000	12.589	.000

The significant value is less than 0.05 for all companies except Wipro, JBF Industries Ltd, India Gelatine & Chemicals Limited, Engineers India Limited, Sobha Limited, Ramco Cements, ICRA Ltd which means that there is a significant difference between mean share price of before announcement and mean share price of after announcement of buyback. This indicates that share prices of respective companies change after announcement. If we notice the mean difference and its corresponding t values of TCS, Amtek Auto Ltd, Crisil Ltd and JBF Industries Ltd, Bayer Crop Science Limited, Vinati Organics Limited, Fineotex Chemical Limited, OnMobile Global Limited and Baba Arts Limited, there is having negative values. This indicates that share prices of these companies decrease after the announcement of buyback. Therefore it can be concluded that buyback announcements have impact on share price.

Table 3: Impact of Buyback on Trading Volume

Companies	Mean Difference	T value	Sig.
Infosys	93169.89	1.354	.192
Wipro	3622.55	.054	.958
Tata Consultancy Services	88857.74	2.776	.012
HCL Technology	-499421.22	-.819	.422
Apollo Tyres Ltd.	-155716.96	-.686	.498
Amtek Auto Ltd.	209711.27	3.877	.001
Kirloskar Oil Engines Limited	-26978.03	-.951	.350
JK Lakshmi Cement Limited	2115.60	.058	.954
Rain Commodities Industry Ltd.	18877.14	1.638	.113
Crisil Ltd.	1528.34	.130	.898

Motilal Oswal Financial Services Limited.	-3413.80	-2.191	.037
Akzo Nobel India Limited	-801.73	-.626	.536
JBF Industries Ltd.	125450.35	2.752	.010
Renaissance Jewellery Limited	9415.42	1.617	.121
India Gelatine & Chemicals Limited	-6095.71	-1.905	.067
Kaveri Seed Company Limited	-3102.95	-.189	.852
Engineers India Limited	-87649.06	-1.791	.084
TTK Prestige Limited	1876.40	1.590	.128
Sobha Limited	-13492.23	-2.280	.031
Bayer Crop Science Limited	1312.240	1.495	.148
Vinati Organics Limited	-1661.86	-.955	.348
Baba Arts Limited	2608.96	.200	.843
Danlaw Technologies India Limited	22500.57	1.218	.055
Edelweiss Financial Services Limited	2033083.90	1.547	.132
DCM Shriram Ltd	2015.58	2.623	.014
Indo Borax & Chemicals Limited	9417.07	2.896	.007
Mastek Limited	-43791.33	-1.493	.149
Jindal Steel & Power Limited	-255378.54	-5.451	.000
Avantel Limited	1354.96	.705	.487
ECE Industries Limited	-13862.56	-.896	.380
Excel Industries Limited	-7597.55	-1.579	.126
OnMobile Global Limited	-138276.69	-2.390	.026
Tips Industries Limited	557.41	.193	.848
Transpek Industries Ltd	12418.48	2.803	.010
ADF Foods Limited	-48439.56	-1.212	.235
Fineotex Chemical Limited	-180561.74	-4.436	.000
Ambika Cotton Mills	-2253.85	-1.712	.098
Indiabulls Real Estate Limited	-796556.34	-2.775	.011
Ramco Cements	-45043.30	-1.295	.205
ICRA Ltd	-261.62	-.518	.609
Gujarat Apollo Industries Limited	-1081.76	-.254	.803
VRL Logistics Limited	801.13	.185	.856

Table 3 shows the significant value is great than 0.05 for all companies except TCS, Amtek Auto Ltd, Motilal Oswal Financial Services Limited, JBF Industries Ltd, Sobha Limited, DCM Shriram Ltd, Indo Borax & Chemicals Limited, Jindal Steel & Power Limited, OnMobile Global Limited, Transpek Industries Ltd, Fineotex Chemical Limited and Indiabulls Real Estate Limited, which indicates that buyback does not affect the trading volume. However trading value of TCS, Amtek Auto Ltd, Motilal Oswal Financial Services Limited, JBF Industries Ltd, OnMobile Global Limited, Fineotex Chemical Limited and Indiabulls Real Estate Limited significantly changed due to price fall after buyback announcement. In other words trading value changed due to negative impact of buyback announcement on share price. Therefore it can be concluded that buyback significantly influences the trading volume if price decreased due to the buyback announcement.

Tax Implication

The buyback programme would be more effective for companies because companies won't pay any tax for buying their own shares. It is a logical way of rewarding the shareholders than the dividend because the dividend is costlier for companies as dividend distribution tax has to be paid more than 20 percent. Shareholders have to pay only 10 percent tax suppose their dividend income is more than Rs. 10 lakhs.

When the companies uses the excess cash to repurchase their own stocks instead of paying dividend, investors have an opportunity to earn capital gains as the company buy the shares higher than the market price. But sometime investors defer capital gain if price increases continuously. The buybacks are taxed at a capital gain rate. As the investors earn capital gain they must need to understand the tax liabilities so that they can choose their options accordingly.

The tax implication is different for different methods of buyback. The tax treatment is also done differently for short period of holding and long period holding of shares.

Tax implication for on market buyback through stock exchange

Tax implication depends also upon the time constraints. If shares are held by the investors more than one year, anything earned as capital gains are not taxable under section 10 (38). This capital gain is treated as long term capital gain. On the other side if the share holding period is less than one year, then investors will have to pay 15 percent as tax on short term capital gain. Therefore long term capital gain is tax free. Here tax implication is explained with example given below Table 4

Table 4: Tax Implication for Short and Long Period Holdings

	Short term holding	Long term holding	
		With indexation (at 20 %)	Without indexation (at 10 %)
Date of Purchase shares	3/01/2017	3/01/2016	3/01/2016
Record date for Buyback	25/07/2017	25/07/2017	25/07/2017
Purchased price	100	100	100
Offer price	140	140	140
Indexed cost of acquisition per share (purchases price*CII for 2016-17/ CII for 2015-16)	NA	104	NA
Short term capital gain	40	36	40
Tax to be paid	6 (Tax-15 % on 40)	Nil	Nil

Tax implementation for off market buyback through tender

When the shareholders sell their shares through tender offer, they get indexation benefit for tax if shares are held for more than one year. That is 10 without indexation or 20 percent indexation, whichever is lower. On the other hand capital gain is taxed at a slab rate if shareholders held the shares for less than a year. The capital gains will be added to their income and taxed according to tax bracket under 10 percent, 20 percent or 30 percent. In addition to this, a surcharge of 10 percent will be added if the total income exceeds Rs. 1 crore. Here tax implication is explained with example given below Table 5

Table 5: Tax Implication for Short and Long Period Holdings-Off Market

Companies	Short term holding	Long term holding	
		With indexation (at 20 %)	Without indexation (at 10 %)
Date of Purchase shares	3/01/2017	3/01/2016	3/01/2016
Record date for Buyback	25/07/2017	25/07/2017	25/07/2017
Purchased price	Rs.100	Rs.100	Rs.100
Offer price	Rs.130	Rs.130	Rs.130
Indexed cost of acquisition per share (purchases price*CII for 2016-17/ CII for 2015-16)	NA	Rs.104	NA
Short term capital gain	Rs.30	Rs. 26	Rs.30
Tax to be paid Excluding (Surcharge and Eduction Cess)	Rs.9 (30 % of Rs. 30)	Rs.5.2 (20 % of Rs.26)	Rs.3 (10 % of Rs.30)

Conclusion

There is a considerable growth of buyback in the term of amount offered and number of participants in India. The study concludes that buyback activities depend upon its motives and market situation. Buyback tends to increase when the market is downcast and fall when the market is optimistic. But overall it gives some values to shareholders after buyback as increased the EPS/ ROE or ROA and improved P/E ratio. The study also concludes that Buyback announcements have impact on share price but do not influence trading volume if price moves upward or constant. The study also noticed that trading volumes change significantly when price moves downward in the effect of buyback. The study suggests the investors that they should understand the tax implication of buyback so that they can get more tax benefits and can take proper decision about whether accept the offer or not. The study also suggests the investors to look at the following points carefully before selling the shares through buyback programme.

(a) Look at mode of the buyback- whether buyback is offered through open market or tender offer which is important consideration because promoters are not allowed to participate in open market whereas the tender offer is open to everyone. Suppose the promoters are allowed to buyback, it is likely to be positive for shareholders in long run.

(b) Look at the price offered- whether offered price is significantly higher than prevailing market price, then only you can earn capital gains.

(c) Look at the sources of fund to be used for buyback- whether company is going to use internal sources or external source (debt finance). If company is going to use the debt finance for buyback, investors must needs to relook at the capital structure of companies.

(d) Investors should understand the motive of buyback for which buyback is taken place. Whether company is going for buyback due to surplus cash or undervalue of share price. If company goes for buyback announcement due to under price of its shares, buyback alone can't change any of the market fundamentals.

(e) Taking the buyback decision is very difficult for the long term investors who have invested for long period (more than five to ten years) with some expected returns. They should analysis carefully and compare the capital gain (earns from buyback) and expected returns (continue to hold for long period). Then they should decide to accept or reject the buyback offer based upon their results.

(f) Suppose you buy immediately after buyback announcement and buyback offer price is also not higher than prevailing market price, then you would not benefits more since you will have to pay 15 percent tax on short term capital gains.

(g) Any investors can participate in the buyback offer only if they hold the shares of the company since before announced record date of buyback. But in case of the buyback through direct or off market, record date is not applicable.

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Liquidity-adjusted Capital Asset Pricing Model In Indian Stock Market

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Abstract

Liquidity and asset pricing have a strong relationship as per the available literature from developed stock markets. Capital Asset Pricing Model propounded by Sharpe considers only market risk as the predictor of expected return and significantly excludes all other risks including liquidity risk. This paper aims at constructing liquidity – adjusted CAPM for Indian stock market by considering five-minute quotation data. Employing Fama – MacBeth cross-sectional regression, it is proved that the liquidity risk and expected liquidity are priced in the Indian stock market. It provides that the liquidity shocks can have significant inferences on portfolio diversification strategies to be adopted by the investors.

Keywords: High frequency data, Liquidity-adjusted CAPM, Liquidity Beta, Liquidity risk

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Liquidity of stock market is a vital element as refers to the extent to which a market allows assets to be bought and sold at stable prices. It is an essential pre-requisite for the growth and development of financial markets. It holds direct linkage with the returns required by the investors out of their investments (Amihud and Mendelson, 1986) and thus has implications for the investment performance as well as portfolio diversification strategies. Liquidity is regarded as a characteristic of asset returns (Brennan and Subrahmanyam, 1996) as well as a risk factor (Acharya and Pedersen, 2005). It is an important component affecting the efficiency of asset pricing (Chordia et al., 2008). Liquidity risk refers to the risk arising out of the inability to buy or sell assets at a given point of time at the price prevailing in the market. It is the possibility of liquidity being disappear from the market when the investor needs it (Acharya and Pedersen, 2005).

Liquidity affects the price of an asset in the market. Whenever an asset is traded in market, the parties involved in

the transaction incur a cost in form of brokerage fees, transaction taxes, or order processing costs. In addition, the buyer of the asset is expected to have some future cost while selling the asset at a future point of time. These expected transaction costs infer lower prices for the asset and thus higher rates of discount. The market maker who is holding the stock after purchasing it from agents, who did not find any buyer, faces the risk of change in prices and therefore expects to be compensated; which also imposes a transaction cost while selling the asset. All these factors affect the price an investor is willing to pay for an asset. Assuming all other factors to be constant, higher transaction costs result in lower prices for the assets, and thus increases the expected returns. This price discount owing illiquidity is the present value of the transaction costs being expected to incur in future. Transforming such costs into required return, the required return would be the sum of return required on a similar, but perfectly liquid security and the expected trading cost per period. It is proven that liquidity and asset pricing have relationship (Pastor and Stambaugh, 2003). The lower the liquidity of an asset (due to higher transaction costs), higher will be the return expected out of the asset. The more liquid asset will have a higher price for which it can be sold. This liquidity consideration is a must as it affects the financial policies.

Investors wish to have rate of return that compensates for taking risks including liquidity risk because irrespective of diversification opportunities, it is not possible to avoid all the risks associated with an asset. Capital Asset Pricing Model helps to determine the expected return on investment in relation to such an unavoidable risk which is regarded as systematic or market risk, though it is not the only risk affecting the price of an asset as propounded by Sharpe in CAPM. Thus, the model was improvised by Fama and French (1992) by introducing a three factor model. Further, there are studies which have considered liquidity and liquidity risk as a factor in asset pricing model (Acharya and Pedersen, 2005; Pastor and Stambaugh, 2003). Most of these studies belong to developed stock markets with a particular focus on US stock market. It is rare to find a study establishing liquidity adjusted CAPM in emerging stock markets. Therefore, this study makes an attempt to construct a liquidity adjusted CAPM for the Indian stock market.

Using high frequency dataset, this study attempts to estimate model-free liquidity betas. It employs a non-parametric estimator viz. integrated variance to measure variability in ex-post returns. It examines whether there is any cross sectional association among the high frequency stock returns and the betas estimated using various liquidity factors. The study employs individual stock returns in estimating liquidity risk unlike the previous studies that uses portfolios.

The remainder of this paper is structures as follows: Section 2 discusses the methodology specifications along with a description of data. The empirical findings are discussed in Section 3 and Section 4 provide concluding remarks.

1. Data and Methodology

BSE is Asia's first and a leading stock exchange in India with more than 5500 companies listed on it. The S&P BSE SENSEX is a market-weighted index of 30 financially sound and highly active companies listed on BSE. The present study employs quotation data of ten most active stocks of S&P BSE SENSEX, for the period extending from January 15, 2016 to July 15, 2016, sourced from Bloomberg database based on market capitalization. The stocks selected for the study includes: Coal India Ltd., HDFC Ltd., HDFC Bank Ltd., Hindustan Unilever Ltd., Infosys Ltd., ITC Ltd., ONGC Ltd, Reliance Industries Ltd., Sun Pharmaceutical Industries Ltd., and TCS Ltd.

The data obtained from Bloomberg are cleaned for errors and missing values. Sampling at 5-minute intervals, the unbalanced time series dataset is converted into equally spaced, balanced data series. The selection of 5-minute returns is the most popular choice which is extensively used in realized volatility literature (Andersen et. al., 2001; Andersen and Bollerslev, 1998). The missing values generated in the sampling process were interpolated aiding Cubic splines. There were 123 trading days on BSE during the study period after the elimination of the weekends and other public holidays, with a total of 9,898 data points.

As a measure of true prices, the study uses mid values of bid-ask quotes. Log values of quote-midpoints are used to compute continuously compounded 5-minute returns. A daily realized variance measure is then calculated by summing up the intraday squared 5-min returns. The square root of variance series provided with the daily realized volatility. The study uses absolute quoted spread as a

measure of liquidity proxy. The absolute quoted spread is constructed for all the ten stocks in the dataset. Further, the absolute quoted spreads of individual stocks were aggregated to obtain an aggregate measure of market liquidity, i.e., an equally weighted measure of market spread, as follows:

$$LIQUID_{mpt} = \frac{1}{N_{mpt}} \sum_{i=1}^{N_{mip}} LIQUID_{ipt} \qquad (1)$$

$LIQUID_{ipt}$ is the liquidity measure of stock *i* on the interval of *p* in the trading day of *t* and N_{mip} indicates the number of stocks in the market on interval of *p* in the trading day of *t*. Next, the liquidity innovations are computed for each interval at market level as well as individual stock level.

Chordia et al. (2000) and Huberman and Halka (2001) pointed out the time varying and persistent characteristic of liquidity implying that it can predict future returns. Thus, it is essential to pay attention of liquidity innovations while calculating liquidity betas. In order to account for serial correlation, the literature provides for the extensive use of fitting data into an autoregressive model employing information criteria. The liquidity innovations thus generated will takes into account the autocorrelation problem. It will further enable to have better forecast and lower forecasting errors and thus reduces the measurement errors (Bollerslev and Zhang, 2003). Following this line, the data is fitted into an autoregressive model employing Schwarz Information Criteria (SC) for the whole sample period. The residuals acquired from the autoregressive model are used as liquidity innovations as recommended by Acharya and Pedersen (2005) and are used as a proxy of liquidity. Using these liquidity innovation series, the study constructed three different liquidity betas viz. the beta arising out of covariance between liquidity of individual security and the market liquidity, the beta due to covariance between return of individual security and the liquidity of market, and a third one arising out of covariance between market return and the liquidity of individual security as given below:

$$\beta 1_{it} = \frac{\sum_{p=1}^{N_t} LIQUID_{ipt} LIQUID_{mpt}}{\sum_{p=1}^{N_t} R_{mpt}^2} \qquad (2)$$

$$\beta 2_{it} = \frac{\sum_{p=1}^{N_t} R_{ipt} LIQUID_{mpt}}{\sum_{p=1}^{N_t} R_{mpt}^2} \qquad (3)$$

$$\beta 3_{it} = \frac{\sum_{p=1}^{N_t} LIQUID_{ipt} R_{mpt}}{\sum_{p=1}^{N_t} R_{mpt}^2} \qquad (4)$$

Where, $LIQUID_{ipt}$ refers to the liquidity innovation of individual stock *i* during the interval *p* of trading day *t*, $LIQUID_{mpt}$ is the liquidity innovation of market during the interval *p* of trading day *t*, R_{pt} is the return of individual stock *i* during the interval *p* of trading day *t*, and R_{mpt} indicates the return of SENSEX at the interval *p* of trading day *t*. The liquidity adjusted Capital Asset Pricing Model advocated by Acharya and Pedersen (2005) postulates that β1 ought to be related positively to the expected stock returns. It implies that if the liquidity of stocks is negatively commoved with the liquidity of market, such stocks would trade at a premium in the market. Contrarily, $\beta 2_{it}$ and $\beta 3_{it}$ are suggested to be negatively correlated to the returns expected by the investor.

The three betas explained above follows the realized beta logic as expressed by Andersen et al. (2006) as follows:

$$\hat{\beta}_{it} = \frac{\sum_{p=1}^{N_t} R_{ipt} R_{mpt}}{\sum_{p=1}^{N_t} R_{mpt}^2} \qquad (5)$$

Where, the numerator indicates the covariance between the return of market and that of individual stock, and the denominator explains the realized volatility of the market.

Further, the study measures two additional betas, similar to Acharya and Pedersen (2005) as follows:

$$\beta 4_{it} = \beta 1_{it} - \beta 2_{it} - \beta 3_{it} \qquad (6)$$

$$\beta 5_{it} = \beta_{it} + \beta 1_{it} - \beta 2_{it} - \beta 3_{it} \qquad (7)$$

Where, $\beta 4_{it}$ refers to a liquidity net beta that brings out a linear combination of the three liquidity betas excluding market beta. It enables to differentiate the impact of liquidity risks on the pricing of stocks from that of market risk. $\beta 5_{it}$ provides a net beta that comprises all the four covariance terms, where $\beta 3_{it}$ refers to the market beta as posits by CAPM constructed using equation (5).

3. Empirical Results

Table 1 summarizes the distribution of daily volatility series of ten most actively traded stocks of BSE SENSEX index. It provides the statistical properties of three volatility measure viz. realized daily variances, realized daily standard deviations, and realized logarithmic standard deviations.

The table shows that the distribution of realized daily variances is right-skewed and leptokurtic, and the Jarque - Bera statistics rejects the normality assumption.

The distributional properties of realized volatility (realized daily standard deviation) show that skewness and kurtosis values are relatively small. It indicates the movement of distribution towards symmetry while converting the realized variance sequence to standard deviation sequence. Finally, the table also shows the statistical properties of logarithmic standard deviations series. The kurtosis is around the standard value of 3 for all the stocks considered and thus gives a better normality assumption compared to the other two measures. It indicates that the distribution is approximately Gaussian in the case of realized logarithmic standard deviations.

Table 2 displays the conditional distribution of realized logarithmic standard deviations calculated for all the ten stocks considered in the study. Ljung-Box portmanteau test shows that there is autocorrelation up to the order of 24. The white noise hypothesis is rejected as the Q statistics are highly significant for all the stocks considered. Further the Augmented Dickey Fuller test employed to identify the presence of unit root reject the null hypothesis of unit root at 1% level of significance and thus indicates that the series fulfills stationary properties.

Geweke and Porter-Hudak (GPH) semi-parametric procedure is adopted to estimate the fractional or memory parameter d. The GPH estimator tests the null hypothesis that the realized logarithmic standard deviation series are stationary as against the alternative hypothesis that there is long range dependence among these series. The parameter *d* is estimated at two different frequencies viz. $m = [N^{0.5}]$ and $m = [N^{0.8}]$ The results presented in Table 3 indicates that there exists fractional dynamics with features of long range dependence for all the 10 series considered in the study as their *d* estimates are lower than a value of 0.5 which is regarded as the stationary boundary with statistical significance.

Table 3 depicts the statistical properties of the daily realized betas. It exhibits the mean, standard deviation, ADF unit root test, Q statistics and GPH estimates for the degree of fractional integration where the $m = [N^{0.5}]$. The daily realized standard betas constructed from the 5-minutes data using (5) is analyzed here. The ADF test suggests the stationarity of data and Q statistics exhibit slight serial dependence.

Table 4 exhibits the daily liquidity beta statistics. It provides mean values of three liquidity betas estimated from 5-minute individual stock as well as market returns along with their liquidity innovations. It also reports the stationary properties of the beta estimates using ADF. The table gives a clear picture of the nature of three different liquidity risk measures established in the study. It shows that all the mean $\beta 1_{it}$ values are positive whereas all $\beta 3_{it}$values are negative. Employing these betas into a CAPM framework is expected to generate better insights towards asset pricing.

A liquidity-adjusted CAPM model is estimated using the methodology proposed by Fama and MacBeth (1973). The Fama-MacBeth cross sectional regression estimates parameters for the liquidity adjusted CAPM model used in the study. It estimates beta values as well as risk premia for the risk factors that are expected to determine the prices of assets. This method assumes that the cross sectional stock return variability is significantly influenced by the variability in standard market betas.

By employing the returns of individual stocks along with the betas estimated, the cross sectional regressions are executed for the study period on a monthly basis. Table 5 presents the average of risk premium estimated for the time series out of Fama – MacBeth regressions on liquidity-adjusted CAPM. The Newey and West (1987) methodology is employed using 4 lags to estimate the standard errors. Panel A displays the results of regression carried out by considering a single regressor viz. net beta. It proves that the net beta consisting of the market risk component as represented by standard market beta is significantly priced in Indian stock market (t-value 2.38). However the risk premium is negligible. Panel B depicts the risk premium estimated taking a sole regressor, namely, liquidity net beta. The regression results indicate that the liquidity net beta comprising all the three liquidity betas is also found significant in determining the price of a stock in the Indian stock market but with a very low premium. Panel C exhibits the result of regression estimated detaching the effect of standard beta (market beta) on the stock returns from that of net beta. It measures the distinct contribution of net beta to the pricing of the most active stocks in Indian stock market. The results vindicate that the market beta got an expected sign as per the predictions of

CAPM, but is insignificantly priced in Indian stock market. This result coincides with the result of Fama and French (1992) and Papavassiliou (2013) that proved that the market risk fails in explaining the cross sectional differences in asset returns.

Panel D provides the coefficients of each of the liquidity risk measures separately along with average R^2. Panel D proves that the liquidity net beta is priced only because of $\beta 1_{it}$. The other two liquidity risk measures viz. $\beta 2_{it}$ and $\beta 3_{it}$ fail to influence the pricing of assets. It is found from the table that $\beta 1_{it}$ premia is positive and significant at 1% level indicating the presence of liquidity commonality in the Indian stock market. It goes with the findings of Dunne et al. and proves that the investor expects a premium for the assets that are illiquid when the whole market is illiquid. However these results are contradictory to that of developed markets as evident from Lee (2011).

In line with the expectations of liquidity adjusted CAPM, $\beta 2_{it}$ as well as $\beta 3_{it}$ hold a negative, but insignificant sign and thus are not priced in the Indian stock market. These results are consistent with that of Acharya and Pedersen (2005); but, inconsistent with the results of Papavassiliou (2013) which provided an insignificantly positive $\beta 3_{it}$as against the assumptions of liquidity adjusted CAPM in the Greek market. Further, the results provide that the average adjusted R^2 values are consistent with earlier studies and are considerably small. It can be concluded that the Indian investors expect to be compensated for holding stocks that are sensitive to the liquidity fluctuations in the Indian stock market.

Table 6 provides the results of an extended Fama and MacBeth regression model. The *E(L)* denotes the liquidity expected which is computed from the average liquidity of each stock over the whole sample period. This model exhibits more statistically significant results than that of earlier model. Panel A and Panel B provide that $\beta 4_{it}$ and $\beta 5_{it}$ shows positive coefficients which are significant at 1% level and thus supports the expectations of liquidity adjusted CAPM. The positive risk premiums indicate that the stocks which are highly sensitive to the liquidity shocks in market provides a higher expected return to the investors. Panel C provides the same result as in the Table 5. Panel D confirms once again that the liquidity net beta being found significant in Panel B is priced exclusively because of $\beta 1_{it}$. Further all the coefficients maintain expected signs as per the expectations of liquidity adjusted CAPM. Table 6 also presents a higher average value of R^2 as compared to the previous model. It is also found that the expected liquidity is priced in all the four cases and carries a positive sign. This finding is inconsistent with that of Papavassiliou (2013) and Brennan and Subrahmanyam (1996), and rejects the indication that the return on the assets is a decreasing function of liquidity. On the other hand, it affirms the findings of Amihud and Mendelson (1989), proving that there exists a significant and positive relationship between expected liquidity and asset returns, and thus endorses the validity of liquidity adjusted CAPM. It further emphasizes that the asset pricing and liquidity are significantly linked and cannot be analyzed in isolation with each other.

4. Conclusion

The study, using high frequency data to estimate liquidity betas in a non-parametric platform, emphasizes the validity of a liquidity adjusted CAPM model in the Indian stock market. The study provides evidences that liquidity risk is significantly priced in Indian stock market. It further emphasizes that the liquidity risk priced in the Indian stock market is arising out of liquidity commonality existing in the market. It proves that the expected liquidity also plays a vital role in determining the asset prices. The study provides important insights towards portfolio diversification strategies as liquidity is a significant factor affecting the value of the assets.

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Table 1. Statistical Properties of Daily Volatility Distributions

Stock	Mean	Std. Dev.	Skewness	Kurtosis	Jarque-Bera
REALIZED DAILY VARIANCES					
COALINDIA	0.001362	0.002411	4.645791	32.87388	5016.259
HDFC	0.001544	0.001915	3.68915	21.76466	97.6633
HDFCBANK	0.001103	0.001523	3.983377	29.73044	151.9628
HINDUNILVR	0.001265	0.00162	2.014366	11.0808	168.5285
INFY	0.001578	0.001661	3.52023	20.11754	70.35782
ITC	0.001318	0.001594	3.049066	18.08444	218.5619
ONGC	0.001149	0.001294	6.785962	76.04585	112.9336
RELIANCE	0.00109	0.001454	3.707822	22.93001	78.88167
SUNPHARMA	0.001097	0.001196	3.914211	28.88971	152.6564
TCS	0.001027	0.001307	10.30712	179.9707	291.8174
REALIZED VOLATILITY (DAILY S TANDARD DEVIATIONS)					
COALINDIA	0.029223	0.022625	1.777544	7.422131	164.9937
HDFC	0.032556	0.022098	1.860168	8.666919	15.73632
HDFCBANK	0.026688	0.019859	1.036285	4.957887	22.14245
HINDUNILVR	0.02947	0.019994	1.946101	9.192201	18.53901
INFY	0.034412	0.019927	1.587309	5.546234	8.126357
ITC	0.030787	0.019312	1.930126	9.121619	17.9436
ONGC	0.029397	0.016936	1.90668	8.801547	16.86124
RELIANCE	0.026859	0.019266	1.021479	4.719653	21.42318
TCS	0.027056	0.017256	1.074413	5.256256	26.59557
SUNPHARMA	0.029048	0.015989	1.888689	8.76747	16.55688
REALIZED LOGARITHMIC STANDARD DEVIATIONS					
COALINDIA	-1.64601	0.311299	0.189182	3.199016	4.021768
HDFC	-1.58724	0.29834	0.171929	3.179458	8.686114
HDFCBANK	-1.69097	0.322602	0.177308	3.181887	8.374323
HINDUNILVR	-1.63226	0.304201	0.236962	3.932219	8.265259
INFY	-1.54603	0.283229	0.334081	4.296595	7.134063
ITC	-1.59649	0.276363	0.240169	3.98591	6.394215
ONGC	-1.60235	0.251718	0.004509	2.106626	4.090762
RELIANCE	-1.67737	0.305571	0.202345	3.882004	7.245154
SUNPHARMA	-1.6035	0.247908	0.194059	3.399079	2.622676
TCS	-1.65414	0.279434	0.201163	3.822139	4.900618

Table 2. Distributional Properties of Realized Logarithmic Standard Deviations

Stock	Q_{24}	ADF (SIC)	$d_{GPH}(0.5)$	Std Error	$d_{GPH}(0.8)$	Std Error
COAL INDIA	74.864 (0.000)	-10.8081***	0.32205	0.16399	0.15398***	0.0508
HDFC	76.653 (0.000)	-12.7247***	0.38717	0.24439	0.09394***	0.05074
HDFCBANK	57.293 (0.000)	-10.9341***	0.34952**	0.26842	0.12031**	0.05519
HINDUNILVR	68.863 (0.000)	-11.5906***	0.09697	0.22363	0.12019**	0.04559
INFY	59.844 (0.000)	-10.7697***	0.18631**	0.21287	0.09775***	0.04392
ITC	51.479 (0.000)	-11.5818***	0.24584	0.32682	0.1554**	0.04597
ONGC	63.911 (0.000)	-9.76693***	0.49479	0.18678	0.15293***	0.05113
RELIANCE	65.8 (0.000)	-10.0021***	0.21297	0.28662	0.0364**	0.05104
SUNPHARMA	63.448 (0.000)	-10.66***	0.27505**	0.22593	0.06304***	0.04513
TCS	97.591 (0.000)	-10.9471***	0.41898	0.24685	0.01439***	0.05789

*** Significance at 1% level.

** Significance at 5% level.

Table 3. Dynamics of Daily Realized Betas

	Mean	Std Dev.	ADF	Q_{18}	d_{GPH}	Std Error
COAL INDIA	1.23	0.58	-34.05292***	30.12	0.154	0.051
HDFC	0.98	0.69	-31.98912***	38.69	0.193	0.055
HDFCBANK	0.86	0.49	-32.73158***	49.18	0.132	0.052
HINDUNILVR	1.02	0.72	-41.19409***	70.67	0.136	0.051
INFY	0.64	0.62	-34.09982***	29.12	0.197	0.050
ITC	1.15	0.76	-37.04989***	36.15	0.156	0.056
ONGC	1.36	0.82	-37.02587***	82.16	0.097	0.051
RELIANCE	0.72	0.66	-34.31181***	40.11	0.136	0.053
SUNPHARMA	0.92	0.59	-32.73158***	30.18	0.160	0.055
TCS	1.04	0.78	-37.69269***	33.41	0.144	0.051

*** Significance at 1% level.

Table 4. Statistics of Daily Liquidity Betas

Stock	Liquidity Betas			Unit Root Test		
	$\beta 1_{it}$	$\beta 2_{it}$	$\beta 3_{it}$	ADF ($\beta 1_{it}$)	ADF ($\beta 2_{it}$)	ADF ($\beta 3_{it}$)
COAL INDIA	0.27	0.25	-0.2	-34.32***	-34.04***	-35.12***
HDFC	0.56	0.53	-0.49	-21.16***	-26.54***	-22.15***
HDFCBANK	0.42	0.38	-0.18	-28.56***	-28.93***	-23.72***
HINDUNILVR	0.4	-0.09	-0.13	-32.19***	-30.02***	-24.94***
INFY	0.48	-0.11	-0.26	-18.14***	-22.89***	-16.34***
ITC	0.59	0.53	-0.12	-21.17***	-23.74***	-25.68***
ONGC	0.32	-0.22	-0.18	-13.19***	-24.09***	-23.97***
RELIANCE	0.68	1.02	-0.13	-22.62***	-24.10***	-18.45***
SUNPHARMA	0.44	0.29	-0.28	-28.57***	-18.46***	-23.79***
TCS	0.29	0.18	-0.29	-27.14***	-24.26***	-19.61***

*** Significance at 1% level.

Table 5. Fama - MacBeth Cross-sectional Regressions

Panel A					***Adjusted R^2***
Intercept	$\beta 5_{it}$				0.08
-0.0012 (-0.39)	0.00058 (2.38)**				
Panel B					0.12
Intercept	$\beta 4_{it}$				
-0.0011 (-0.42)	0.00061 (1.98)*				
Panel C					0.15
Intercept	$\hat{\beta}_{it}$	$\beta 5_{it}$			
-0.0014 (-0.58)	0.0038 (0.62)	0.00062 (1.92)*			
Panel D					0.18
Intercept	$\hat{\beta}_{it}$	$\beta 1_{it}$	$\beta 2_{it}$	$\beta 3_{it}$	
0.0029 (0.91)	0.0040 (0.63)	0.00065 (2.21)**	-0.00019 (-0.48)	-0.00008 (-0.66)	

** Significance at 5% level.
* Significance at 10% level.
t - value in parenthesis.

Table 6. Fama – MacBeth Extended Cross-sectional Regressions

Panel A						***Adjusted R^2***
Intercept	$E(L_t)$	β_{it}^5				0.10
-0.0014 (-0.58)	0.089 (1.76)*	0.00079 (3.78)***				
Panel B						
Intercept	$E(L_t)$	β_{it}^4				0.12
-0.0018 (-0.63)	0.076 (1.62)*	0.00092 (3.81)***				
Panel C						
Intercept	$E(L_t)$	$\hat{\beta}_{it}$	β_{it}^5			0.16
-0.00032 (-0.55)	0.088 (1.92)*	0.0041 (0.81)	0.0069 (2.14)**			
Panel D						
Intercept	$E(L_t)$	$\hat{\beta}_{it}$	β_{it}^1	β_{it}^2	β_{it}^3	0.22
0.0032 (0.98)	0.096 (2.18)**	0.0052 (0.76)	0.0071 (3.78)***	-0.0026 (0.102)	-0.00011 (0.63)	

*** Significance at 1% level.
** Significance at 5% level.
* Significance at 10% level.

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Benchmarking and Probing its Applicability : Major Seaports of India

Ambati Janardhana Rao, Totakura Bangar Raju, Hiranmoy Roy, and Nookala Bhanu Prakash

Abstract

The study has traced significant improvements in overall efficiencies both at organisation and industry where benchmarking standards are set for implementation. The study also found that techniques used in setting benchmarking standards are ever evolving and are being derived from a wide gamut of sciences. The study also found that benchmarking of seaports is still evolving. Taking a cue from this study, the authors, as a further extension to this study, propose to benchmark performance standards for container terminals of the major ports of India. This review of literature has been taken-up by authors to evaluate the status of studies on benchmarking and to identify the scope for benchmarking container terminals at the major ports of India.

Keywords: *Efficiency, Productivity, Benchmarking, Seaports, Standards, Port Performance.*




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Benchmarking is a tool for systematic and continuous improvement of processes by which performance of firms is compared with that of the best in class. Benchmarking is a method of measuring and improving organizational performance of a firm by comparing it with that of best (Stapenhurst & Stapenhurst, 2009). Right from its introduction during 1980 by Xerox, the concept of benchmarking has evolved and extended its scope into numerous functions and hierarchal levels of business entities. Benchmarking is a prerequisite for Total Quality Management (TQM) and is determined by the level of market competition. Business entities operating in dynamic environment strive to set standards of performance and take competitive advantage over competing entities. Benchmark performance standards set by a firm become standards for other competing firms. It is a continuous management process wherein the best firm tries to upgrade its performance levels to new heights and other organizations try to update their performance to the levels of the best performer. Benchmarking philosophy helps organizations to identify their deficiencies and take cues from the best performer to improve.

(Matters and Evans, 1997) suggested that the kind of benchmark a company should undertake is dependent on company's characteristics and circumstances. M. Zairi, (1998) advocated that benchmarking would bring numerous benefits including sustainable improvement overall efficiency, innovation in managing operations, effective team-building, competitiveness, gap identification, employee motivation, etc. Benchmarking studies across the world covering sectors such as agriculture, manufacturing, logistics, physical infrastructure, services, banking, etc. are contemplated to set standards of performance and enhance overall business efficiency. Techniques to set standards of benchmarking are being derived from numerous research backgrounds. Parametric and non-parametric models developed in research backgrounds such as medicine, social sciences, scientific, arts and humanities, bio-chemistry, etc. are being inter-operably used to benchmark business performances. At the same time, numerous researchers are employing statistical, mathematical, and econometric models to check efficiencies and develop benchmarking standards.

To sustain in this dynamic business environment organisations that strive to improve their efficiencies alone can sustain for longer period. Organisations in their continuous quest for improvement look to the experiences and success stories of best in class business units and attempt to catch-up with the efficiency standards by the top performers. Peng Wong & Yew Wong, (2008) argue that benchmarking is an essential cornerstone for companies to remain at the forefront of excellence in a level playing field market. Magd & Curry, (2003) argue that superior quality cannot be guaranteed unless the organisation establishes relevant service performance measures and compares its achievements against those of the service leader. At the same time, benchmarking is not a process of business that is to be taken care by a particular section of an organisation. It is an integrated continuous system covering all levels and functions of a business unit. Comm & Mathaisel (2000) have suggested that in order to be successful in bench-marking, there must be a supportive management team, access to partners who have solved the problem must be available and a knowledgeable benchmarking team must be in place to solve any problems identified.

The current paper is aimed to review literature available on benchmarking, its application in various sectors and finally research works on benchmarking seaports. Research papers from various databases are considered for review and are discussed in Table-1. The study found research works on benchmarking in areas extending to manufacturing, airports, shipping, logistics, water supply, etc. Research works covering (Sea) Port Efficiency, the area of prime focus for this paper, are presented in tabular form and discussed.

Since the aim of this paper is to have a thorough understanding of the hitherto studies on benchmarking at ports, a detailed analysis of context in which these studies are made, techniques applied, conclusions drawn, and gaps & scope for further studies are presented in chronological order. This is followed by a detailed discussions that led to identification of need for benchmarking at major ports of India. It may be noted that government of India, soon after attaining independence in 1947 has taken over strategic sectors of the economy under its control. Accordingly, seaports, came under the purview of government of India and today, 12 of them are registered under Major Ports Act, 1963. Since the major ports contribute to growth of foreign trade of India, it is imperative to have standards of performance that make them efficient and compete with the private ports in India. The research paper identified an immediate need to benchmark performance of ports especially, the container terminals at major ports to understand their actual level of performance. Benchmarking of container terminals would be a step in right direction as containerization of sea-bound cargo has picked-up even in India. A study on setting of benchmarks and compare the efficiency at which Indian container terminals are currently operating proves an understanding on the measures to be taken to enhance their productivity to international standards.

This paper is divided into five sections with introduction as first section, followed by review of literature on the concept of benchmarking as section two. Section three devotes on understanding existing literature benchmarking in various sectors and is followed by section four that covers benchmarking studies on (sea) ports and terminals. Section five explains about the major conclusions drawn from this paper and proposed for the further study interests of the authors.

I. Literature on Benchmarking:

Numerous authors and institutions have worked on understanding the concept, significance, and usage of

benchmarking studies. Port Regulators Of South Africa, (2014) in their report stated that benchmarking is a tool which assists to measure comparative operating performance and identify best practices that can be adopted for improving service levels at port terminals. Williams, Brown, & Springer (2012) in their qualitative meta-analysis of 32 research papers published between 2005-2010 found soundness of benchmarking theories/practices, resource scarcity, reluctance to new practices, and specific implementing new practices as major hurdles for studying benchmarking. The study proposed strategies including proper communication and training, leveraging of right people, and TQM implementation covering formal plans, communication, training, and motivating workforce to overcome these constraints. Moriarty, (2011) proposed a new definition of benchmarking that encompassed various business activities and, when implemented, results in overall effectiveness.

Adebanjo, Abbas, & Mann (2010) used multi-national survey to study the level and mode of usage of benchmarking and found it to be a popular and reliable tool for improving organizational efficiency. The study found usage of informal benchmarking to be common over best practice benchmarking and organisations are moving towards improving processes at various levels and functions. The study found key issues like lack of right partners, clarity of requirements, technical knowledge, management commitment, employee training, communication systems, etc. impend the implementation of benchmarking (Adebanjo et al., 2010). Benchmarking technique has few obstacles in its implementation including barriers to adoption and growth; lack of understanding, partners, technical knowledge to plan, management commitment, and proper training. Moriarty & Smallman, (2009) studying concepts of benchmarking found that existing studies focused on pragmatism and praxis rather than epistemology. The study initiated development of rigorous theoretical base for practices that can motivate organisations to opt for benchmarking of business processes. Francis & Holloway, (2007) reviewed the themes under which benchmarking studies are made to find a neglect in studies long-term qualitative and quantitative effects and perspectives of key stakeholders. Anderson & McAdam, (2005) studied contribution of benchmarking and performance measurement on organizational change found that, irrespective of size, businesses' focus on benchmarking operational issues is more than the strategic level where they are to be actually focused. Vorhies & Morgan (2005) studied potential business performance benefits in marketing due to benchmarking and found sustainable competitive advantage as a resultant of benchmarking process. Bauer, Tanner, & Neely (2004) developed an audit template covering planning, collection, analyzing, adaptation, and review of data for benchmarking business organisations.

Kyrö, (2003) in his study observed that, although, benchmarking has evolved as a tool to improve organization's performance and competitiveness, its definitions and classifications vary among scholars as per time and criteria that they focus on. Paixão & Bernard Marlow, (2003). Globalization process has brought numerous uncertainties and to meet these ports have to transform and become competitive by proactively adopting new management strategies. Dattakumar & Jagadeesh (2003) reviewed research works on benchmarking and proposed a new scheme of classification that would fill certain existing gaps. Boulter (2003) studying legal implications on benchmarking especially intellectual property and competition law observed that lack of authoritative literature to address issues raised by interface between law and the transfer of benchmarking practice knowledge can create legal complications. At the same non-existence of common legal regime across nations can influence international studies on benchmarking. Kyrö (2003) reviving benchmarking concept and classification for both theoretical and practical purposes argued for a revival due to evolution of new benchmarking forms i.e. competence, globalization, and networking. Extension of the technique to semi-public and private (including small sized) organizations mandated detailed classification and therefore proposed three interactive forces influencing benchmarking. Rickards (2003) proposed a mechanism to create balanced scorecard covering reasonable number of indicators with benchmarks and measure management performance using Data Envelopment Analysis (DEA). Yasin (2002) reviewing existing literature observed that benchmarking process, of late, has expanded to strategic levels of organisations from the previously confined area business operations. However, lack of theoretical developments constrain its multi-faceted application. Freytag & Hollensen (2001) proposed seven

phases for benchmarking including functions to be benchmarked; significance of each subject area; whom to benchmark against; gathering benchmarking information; identification of performance gaps; process of learning from 'best in class'; and change implementation. The study suggested that benchmarking will open an organisation to change and learning, with overall goal of achieving competitive excellence. Hinton, Francis, & Holloway (2000) studying best practice benchmarking in UK highlighted some of its advantages and also disincentives among various public and private sector organisations. Their study suggested that benchmarking has to extend beyond result comparison to cover process improvements and that benchmarking has to become organizational continuous culture. Issues such as team working, communication flows, change management, expert supervision are essential for sound benchmarking. Woon (2000) assessed Total Quality Management (TQM) implementation at 240 organisations in Singapore to suggest Singapore Quality Award Programme should continuously undertake frequent assessments of organisations to track their progress and help develop Singapore's economy.

Bhutta & Huq (1999) basing on their studies on companies that have devised customized benchmarking processes, developed a five step benchmarking model that can be used by any organisation that opts for benchmarking its performance. Andersen & Moen (1999) studying linkage between the concepts of benchmarking and poor quality cost measurement, devised an integrated framework that can be standard element in quality management and TQM toolbox and lead to higher recognition and improved results for both concepts. Wah Fong, Cheng, & Ho (1998) introducing benchmarking to management practitioners emphasized on its classification and process model. Further, the study has proposed key tips for organisations that attempt to implement benchmarking. Elmuti & Kathawala (1997) explaining benchmarking processes highlighted need for cognizance of ethical and legal issues and suggested that overall objective of benchmarking is to assist companies achieved world-class competitive capability.

Review Editor (2008) in the book discussed the usage of benchmarking in various scenarios and explained experiences of various companies in dealing with distinctive areas of benchmarking. The findings help in devising a comprehensive and robust mechanism to undertake benchmarking procedure at organisations that intend to improve on their standards of performance. Mohamed Zairi & Youssef (1995) reviewing research publications found that benchmarking is the process of raising awareness within organisations and developing culture of continuous learning and improvement.

II. Benchmarking studies at various sectors:

Biffi & Tuissi (2017) conducted longitudinal study, albeit with small sample size, on usage of benchmarking in manufacturing sector and found no clear relationship between benchmarking and operational performance. T. W. Chung, Ahn, Jeon, & Van Thai (2015) measured operational efficiency and set benchmarking standards for major Cargo Airports in Asia Pacific region. Study concluded that performance improvement creates competitive edge and offer a potential to improve efficiency of airport operations across a whole range of challenges and issue faced while handling cargo terminals. Strojny (2015) benchmarked efficiency and effectiveness of public administration units in Polish region with limited data set. Usage of Analytic Hierarchy Process (AHP) technique helped in customizing analysis of information needs and in better comparison of public authorities.

Joo & L. Fowler (2014) using DEA technique, measured and benchmarked operational efficiency of 90 airlines across Asia, Europe and North America with limited variables. Study found that operational efficiency in some airlines is at the cost of other efficiency parameters such as customer service rating and financial performance. Argued that revenue and expenses are significant to determine operational efficiency. Bhanot & Singh (2014) using DEA technique benchmarked performance indicators in Indian Railway Container Business and selected Private Players to find better efficiencies at private operators.

Panwar, Nepal, Jain, & Prakash Yadav (2013) using survey and case method assessed the state of implementation of benchmarking technique in automobile industry. Study observed usage of bench marking technique at strategic level at a nascent stage mostly due to non-availability of workforce, expertise, and financial resources. Salem (2013) studied problems faced by industrial companies in UAE and found that cultural work environment influences acceptance of benchmarking by workforce. Study proposed that

sensitivity towards information on best performance and employee behavior in carrying out benchmarking hold key for its successful implementation.

Park, Lim, & Bae (2012) developed a benchmarking method that can gradationally choose benchmark targets by considering minimization of inputs reduction and output expansion so as to prioritize efficiency improving resources. Jørgen Anfindsen, Løvoll, & Mestl (2012) constructed best practice benchmark and developed methodology to compare samples with benchmarks. Study found that fuzzy set theory facilitates relative independence of sample size and its distribution and also easy to compute. The study developed benchmarks that can be applied to few or even to singleton samples. Sajjad & Amjad (2012) set benchmarking through total quality management and organizational performance in telecom sector of Pakistan. Model developed is useful to improve implementation and practice efforts of organisations that look for TQM. Jørgen Anfindsen et al. (2012) developed best benchmark practice and model for comparison of marine bunker fuel suppliers. The developed model is powerful and less sensitive to outliners and suitable for small datasets and even single numbers. Sapcharoenkul, Anussornnitisarn, & Sooksmarn (2010) analysed efficient performance at production units to check the root cause analysis for benchmarking internal processes. Internal benchmarking method used to compare production line helped in tracing the inefficiencies existing in processes.

Zhu & Erikstad (2011) benchmarked performance of shipping companies by comparing interrelationships between various inputs with Key Performance Indicators (KPIs) to identify the ideal Key Performance Standards (KPSs) for benchmarking of maritime logistics chains. By evaluating cause and effect followed by simulation model between various inputs and KPIs, traced key causes for different levels of output. Cappelli, Guglielmetti, Mattia, Merli, & Francesca Renzi (2011) conducted survey to find training requirements that a "peer" should acquire to perform "evaluation" activities for approach based benchmarking. The study proposed training contents that can help in development of independent evaluation on basis of Common Assessment Framework (CAF) and perform evaluation activities in a systematic manner that can be compared among different administrations. Hilmola (2011) using DEA technique developed efficiency benchmark measurement models for public transport systems with an aim to reduce CO_2 emissions. All the four models used for efficiency measurement showed similar results. The study suggested minor changes can make some of the low efficiency DMUs as efficient units.

Kannan (2010) proposed an analytic hierarchy framework to Indian Ocean container carriers for benchmarking their service quality. Study identified and clustered attributes to decide service quality of Indian container carriers. Further 7 clusters and 4 decision choices were hypothesized and AHP hierarchy is structured. Priority weights were given to each criteria and sensitivity analysis checks made to see if there is any impact of change in weights on benchmarks. Gap analysis was also done to assess strengths and weaknesses each of the carriers. Björklund (2010) developed and successfully tested a two step benchmarking tool that can be used to improve corporate social responsibility in purchases. Adebanjo et al. (2010) Measuring usage level of benchmarking at organizations, and compared its popularity against other improvement tools found that best practice benchmarking that is most beneficial is not, actually, used by organizations. Study also found that process benchmarking covering a wide range of activities including operational aspects have taken over financial benchmarks as a key driver. Ajelabi & Tang (2010) analyzed about how benchmarking principles are applied to enhance project management process and performance. A review of studies helped in suggesting mechanism to evaluate and improve project management performance. As an outward looking evaluation tool, benchmarking compares actual activities at a project with standards set at the best project. The study concluded that such comparison helps in identifying gaps and to improve efficiency. Nunes & Bennett (2010) investigated environmental initiatives on green operations of 3 major automotive companies and benchmark them against each other. Company wise analysis of green initiatives followed by Toyota, GE, and Volkswagen prove greater advances in environmental safety measures beyond production processes and cover their product performance, supply chains, non-manufacturing facilities, and final disposal. Presley & Meade (2010) proposed methodology and framework for construction firms and contractors to develop sustainable measures in benchmarking efforts. The study developed a generic framework for a green build to benchmark. It developed a comprehensive tool to address tactical and strategic impacts in decision making and in benchmarking sustainability.

Min & Joo (2009) assessed competitive strengths of 12 leading 3PLs in US to find that financial efficiency can be improved only be setting industry financial standards. Rapid expansion of business scope through mergers and acquisitions and globalization may impact financial efficiency of Third Party Logistics (3PLs). Non-asset based 3PLs have better ability to improve financial efficiencies. BCC model of DEA mitigates impact of economies of scale on 3PL's financial efficiencies and helps in identifying true sources of inefficiencies.

Moffett, Anderson Gillespie, & McAdam (2008) postulated key factors required for benchmarking and performance measurement, by taking-up a survey in UK. They have developed a conceptual elements for lead benchmarking. Vagnoni & Maran (2008) developed an application for benchmarking of Health District Activity Plans (HDAP) of Italian public sector health care units. The study collected data to find "best practice" HDAPs. A hypothesis of HDAP content model was developed to know the overall best practices. Goncharuk (2008) using DEA technique, compared efficiency of gas distribution companies of Ukraine (54) and of America (20) to trace benchmark standards. Study found that companies where there is no majority owner have shown best financial results and efficiencies. It also found smaller sized firms reporting better efficiencies. Raymond (2008) proposed benchmarking of public procurement system in Sri Lanka. The study found improvement in demand for transparency and accountability of public sector in developing countries, where opposition to inefficient delivery systems has grown. Therefore, benchmarks, here, were required to ensure efficiency standards in public sector. Peng Wong & Yew Wong (2008) reviewed literature on supply chain benchmarking with an aim to redress imbalances and enhance DEA modelling approach in this area. Authors found that supply chain benchmarking is different from other sectors and need a thorough understanding of the processes involved in it. Authors also suggested for review of DEA to make it flexible and accommodate sector specific intricacies. Lee (2008) using Regression analysis and DEA studied energy efficiency at government offices of Taiwan to find improved efficiency levels. Mitra Debnath & Shankar (2008) using DEA attempted to benchmark telecom services in India traced the parameters and segregated input and output variables required for such benchmarking. The study observed great diversity in relative performance of service providers which could be a great threat for the sector.

Deshpande, Yalcin, Zayas-Castro, & Herrera (2007) proposed a discrete simulation approach to benchmark performance measures of terminal operations for less-than truck load freight carriers. The model helped in benchmarking key performance measures of existing operations and in testing alternative scenarios of performance. Jaques & Povey, (2007) studied attitudes of business advisers of UK in identification of benchmarking tools and found a dip in development of diagnostic benchmarking tools and suggested for development of new business support tools that recognize changes in client maturity, especially, to support small and start-up business units.

Henderson Smart, Winning, Gerzina, King & Hyde (2006) developed model for benchmarking teaching and learning processes for Dentistry program at University of Sydney, Australia and suggested for its adaptation of their model at primary, secondary, tertiary and continuing levels of education. Pin Lee, Zailani, & Lin Soh (2006), using discriminant analysis, proposed guidelines to manufacturing sector on factors for benchmarking. The study argued that bigger size firms easily opt for adopting of benchmarking and found employee participation as a key factor for benchmarking adaptation followed by top management commitment and role of quality department. Gebauer, Friedli, & Fleisch (2006) traced success factors, on the basis of benchmarking indicators, for enhancing service revenue at manufacturing companies and proposed necessary changes in firm's activities, organizational culture and structures. Chan, Chan, Lau, & Ip (2006) using double AHP method, developed benchmark process for postal industry in Hong Kong. Using both qualitative and quantitative data, performance of benchmarked company against its competitors is measured which, is followed by identification of best practices for improvement. The proposed model is expected to suggest on inefficiencies that need to be improved on. W. Chung, Hui, & Lam, (2006) developed a benchmarking model for energy efficiency at commercial buildings by multiple regression analysis and renormalized significant factors for an energy-use intensity.

Wynn Williams (2005) proposed that internal benchmarking, process benchmarking and proper public documentation will lead to proper public reporting system at public sector units in New Zealand. Chen (2005) proposed competitive and strategic model for airport performance and suggested for development of key success factors and

strategic benchmarking standards to secure competitive advantage. Graham (2005) reviewed benchmarking studies in airport industry to find considerable progress in research on performance measurement in this sector. However, as per this review, benchmarking for inter-airport comparison for airports of different countries is constrained due to incompatibility in input and output variables. Austin, (2005) setting of pricing and other policies of Airways Corporation of New Zealand Ltd. Using Economic Value Addition (EVA), a success strategy, income in absence of benchmarking mechanism. Lin (2005a, 2005b) checked significance and impact of using service quality variables in benchmarking water and sewage industry and argued that mere inclusion of cost aspects might not bring in true efficiencies.

Yasin, Wafa, & Small (2004) studied the implementation of JIT systems at manufacturing organisations and advocated usage of benchmarking for better results and for reducing potential problems in JIT implementation. Fuchs & Weiermair (2004) reviewed existing models and proposed an extension to the existing models of benchmarking tourism services.

Magd & Curry (2003) critically appraised the usage of benchmarking tools at public sector organizations in UK. Study found that to achieve best value performance, public sector organisations need to set service performance measures and compare their achievements with service leader in the industry. Benchmarking helps in enhancing financial, operational efficiencies. It also helps in identification of gaps and supports to frame policies that reduce inefficiencies.

Jackson (2001) reviewed research studies on need and forms of benchmarking studies in Higher Education (HE) of United Kingdom (UK). Study identified key imperatives, agenda of benchmarking HE in UK. Study also proposed scope, mode, and connotations of usage in UK's HE. W. K. Chung (2001) studied benchmarking exercise at Singapore's productivity leaders to trace their levels attained for best practice, strengths and weaknesses, inequalities in maturity of practices, priority areas for improvement, and linkage between Total Quality Management (TQM) maturity and business performance. The study argued that organisations would be at higher level TQM maturity levels due to several factors and benchmarking, as such, provides useful findings to advance and TQM initiatives. (Hackman, Frazelle, Griffin, Griffin, & Vlasta 2001) developed an input-output model covering critical resources to measure and benchmark efficiency levels at warehouse. Study proposed that efficient firms need not be profitable and vice-versa.

Smith (2000) studied potential for generation and evaluation of consumer based benchmarking with a focus on health, education/professional, and retail in service sectors. The study found that information received from customers to be valuable in developing a comprehensive external benchmarking involving both competitive and generic measures. Longbottom (2000) found growing interest among industry towards benchmarking process due to improved results. Study also found critical factors for transfer among organisations and suggested strategic planning process, development of customer benchmarking methods, critical factors for transferring best practices among organisations, and adaption to post-modern attitudes for successful benchmarking.

Kouzmin, Löffler, Klages, & Korac Kakabadse (1999) studying public sector organisations observed that benchmarking process that is resisted by most, is actually, when implemented, bringing competencies in public administration. As a resultant benchmarking has gaining and there is a need to devise suitable measurement instruments meet the requirements of highly-risky information technology driven experiences of developments and failures of public sector.

Love, Bunney, Smith, & Dale (1998) argued that most organisations and people using benchmarking jargon refer it to as competitive analysis of product and equipment and not benchmarking of processes. Authors also observed sparsity of written material based on actual benchmarking experiences.

Bagchi (1996) studying benchmarking experiences of US based companies found improvements in standards of work processes due to benchmarking and proposed a benchmarking process based on their observations at various organisations.

Studies cited and discussed above suggest existence of benchmarking studies in various fields including manufacturing, energy, gas distribution, construction, automobile, transportation, telecom, railways services, tourism, health,

education, warehousing, airports, airlines, and shipping covering both public and private sector entities. Analysis of these research works proves that benchmarking is gaining popularity among business entities as a sustainable technique for improving efficiency. It also proves that existence of stakeholder involvement, clarity in processes to be benchmarked, smooth communication flow, usage of right technique, etc. are required for implementation of successful benchmarking. Techniques used for benchmarking include both parametric and non-parametric in nature are ever evolving and are based on the requirement of organisations that are being considered. The review also proves a greater need for benchmarking of public sector organisations, especially after initiation of privatisation initiatives across the world. This alone can make them competitive and reset their standards of performance to meet the business challenges. Review also proves that reliability of indicators and data hold the key for setting of foolproof benchmarking standards.

III. Benchmarking in port sector:

Measuring of sea port/terminal performance in the form of efficiency and productivity has been an interest of researchers. But, studies on benchmarking of ports/terminals have started recently and are limited in number. It is interesting to note that a majority of existing studies on benchmarking in this sector have considered container ports/terminals.

At the backdrop of privatisation initiatives across the world and resultant improvement in world trade, existence of robust and reliable ports has become a necessity to support foreign trade of nations across the world. Both traders and shipping industry are looking to ports and terminals that have strong hinterland connectivity and support in safe and speedy movement of their cargo. Privatisation of this sector has paved way for establishment of more ports/terminals and resulted in intense competition among the players. This has mandated existence of standards for performance that act as benchmarks for the various stakeholders in the sector. Therefore, port authorities, irrespective of ownership model followed, are opting for benchmark their performance against the best performer to improvise on their inefficiencies. De Langen (2015) in the report on benchmarking of ports, arged that within next five years port performance benchmarking covering both efficiency and effectiveness vectors, with or without the cooperation of port authorities, will happen as users started gaining understanding and measuring end-to-end supply chain performance so as to improve their own competitiveness and create value addition for their own customers. While Wang & Cullinane, 2016) felt that non-existence of comprehensive quantitative benchmarking for port centric studies is a major constraint and dependence on qualitative comparisons and/or measures developed in social network analysis has resulted in non-consideration of 'directed' and 'weighted' network features of maritime container transportation.

Researchers, Vaghi & Lucietti (2016) suggested dwell time as critical for defining scenarios of port competitiveness and benchmarking, as it may be largely reduced by implementation of pre-clearance processes. An attempt to set benchmark standards for Hong Kong Port was taken up, Marine Department (2006) by considering 20 container ports, including Hong Kong Port, for analysis. The study has not used any technique to determine standards but analyzing selected container terminals of the world with variables such as costs incurred, physical features, and usage of IT. While Cuadrado, Frasquet, & Cervera (2004) proposed process of analysis and evaluation with different sequences and phases, processes, and dimensions for benchmarking at a port.

A detailed analysis of 16 research works collected on port/terminal benchmarking is presented in the following Table: 1.

Table: 1 Author-wise Literature Review on benchmarking studies specific to port/terminal efficiency

Author	Context	Technique	Variables	Conclusions	Gaps/Scope for further studies
(Serebrisky et al., 2016)	Developed a model for technical analysis for Latin American and Caribbean container ports using 10 year (1999-2009) panel data on 63 ports.	Scholastic Frontier Analysis (SFA)	**Input**: Berth Length, Terminal Area (m^2), Mobile Cranes with > 14 tons capacity, Gantry Cranes (No.) **Output**: Throughput (TEU)	The model developed bifurcated its input variables – total cranes as ship-shore cranes and mobile cranes, binary variable for taking advantage of cranes mounted on vessels for container handling, and binary variable for form of container cargo as transshipment and import/export. By using trans-log production function proved that with an average combination of inputs, gains in productivity from quay length and quay cranes are largest, followed by mobile cranes and terminal area. Using binary variable, the study proved that transshipment cargo and onboard cranes are significant to productivity. Classifications like container vs. multi-purpose terminals, Country's GDP, shipping liner connectivity, trade openness, etc. also influence output and technical efficiency. Private and land-lord ports bring-in efficiencies.	For further studies, proposed usage of alternative dimensions of efficiency measurement such as dwell times, crane productivity.
(Su??rez-Alem??n, Morales Sarriera, Serebrisky, & Trujillo, 2016)	Assessed container port performance at 203 ports for the period 2000 to 2010 using parametric and non-parametric approaches.	SFA, DEA, & Malmquist Productivity Index (MPI)	**Input**: Terminal Area (m^2), Berth Length (m), Mobile Cranes (No.s), Quay Cranes (No.s) **Output**: Throughput (TEUs)	Technology is not driving force for improvement in productivity. Developing regions improved scale-efficiencies during periods of financial crisis. Pure efficiency determines port productivity. SFA results prove that infrastructure inputs (quay length, no. of quay cranes and mobile cranes) help predict throughput, but, highest elasticities are associated with quay cranes and berth length. Understanding of market conditions and port level operations would help improve efficiencies rather than broad public policies.	

(Lu, 2014)	Assessed capabilities of various non-parametric approaches to measure port efficiency across 61 container ports for the period 2012-13	DEA & Free Disposal Hull (FDH)	**Input**: No. of Berths, Berth Length (m), Ave. Berth Depth (m), Terminal Area (m_2), Storage Capacity (TEU), Quayside Gantry Cranes (no.s), Yard Cranes & Tractors **Output**: Throughput (TEU)	DEA is a better technique to measure and benchmark efficiency than FDH which lacks sensitivity to analyze port efficiency. Study also found ship turnaround time and throughput are needed as output indicators to measure port efficiency.	Variables relating to physical parameters alone are considered.
(Port Regulators Of South Africa, 2014)	Compared performance of South African ports against a other international ports. Performance of a total of 20 Ports is compared.	Review Paper	**Input**: Total Area (ha), Length of berths (m), no. of cranes. **Output**: Throughput (TEU)	Study found South African ports registering variable results in comparison to global ports. It initiated benchmarking a basic activities of port.	More studies are required to benchmarking process to include various terminal performance measures covering marine services, berth productivity related to vessels, and optimal and efficient use of infrastructure ate port.
(Bichou, 2013)	Compared performances of 60 container terminals for the period 2004 to 2010 and formulated numerous hypothesis to test sensitivity of benchmarking results to port market and operating conditions.	DEA	**Input**: Terminal Area (m^2), Max. Draft (m), Quay Length (m), Quay Cranes Index (TEU), Yard -Stacking Index TEU/1000m^2, Trucks & Vehicles (no.s), Gates (no.s) **Output**: Throughput	Variations in terminal operational aspects and market conditions greatly influence terminal efficiency. Study found that exogenous factors and market characteristics can have significant effect on terminal's efficiency ranking even for terminals with similar levels of operational efficiencies. At the same time level of automation, operating policies, work procedures, yard storage policy, gate operating procedures also influences efficiencies of terminals.	Efficiency measurement of container terminals and benchmarking should consider basic structure and mechanism applied for operations at the terminals and ports.

(Park et al., 2012)	Benchmarked performance of 34 international ports and proposed a DEA-Stepwise benchmarking method.	DEA	**Input**: Berth Length (m), Terminal Area, CFS, No. of loading machine **Output**: No. of unloading machines, No. of loadings	Proposed two models Benchmarking Distance Minimization (BDM) and Sensitivity Analysis applied DEA (SA-DEA) that can set benchmarking targets for inefficient ports based on minimization of reduced or expanded resources and identification of preferential resource improvement.	Existence of numerous ports between evaluated port and efficient port makes method ineffective and cumbersome. Further studies needed on reducing number of steps involved in benchmarking.
(Munisamy & Singh, 2011)	Assessed 69 Major Asian Ports to benchmark performance based on their technical and scale efficiency.	DEA	**Input**: Berth Length, Terminal Area, Total Refer Points, Total Quayside Cranes, Total Yard Equipment. **Output**: Total Throughput	The study found pure technical inefficiency as a significant factor than scale inefficiency for overall technical inefficiency at these ports. Study suggested for better port management and operational plans to reduce inefficiency. Study found that size and ownership structure do not influence efficiency at container ports	Ownership actually influence port efficiency. The study on container terminals considered ports that have multipurpose berths and multiple cargo operations.
(Hung, Lu, & Wang, 2010)	Benchmarked 31 container ports of Asia-Pacific Region using operating efficiency, scale efficiency targets, and variability of DEA efficiency estimates.	DEA Techniques	**Input**: Terminal Area (m), Quay Cranes (No.s), Container Berths (No.s), Length of Berths **Output**: Throughput (TEUs)	Suggested improvement in management practices in line with containerization to reduce pure technical inefficiencies which are resulting in technical inefficiencies. Expansion of ports to meet growing business. Setting scale efficiency targets provide guidelines for policy-makers to optimize resource utilization and economic scale. DEA studies should use Bootstrapping to detect reliability of efficiency ranking.	Study has not covered qualitative aspects of efficiency. Further studies with panel data can bring more clarity of efficiency of container ports.
(Sharma & Yu, 2009)	Fused data mining tool, Self-Organizing Maps (SOM) and DEA to develop a new technique to measure efficiency of inefficient container terminals	SOM & DEA	**Input**: Quay Length, Terminal Area, Quay Cranes, Transfer Cranes, Straddle Carriers, Reach Stackers **Output**: Throughput	Usage DEA to measure efficiency and set benchmark for inefficient terminals may give biased results, especially, for terminals that have differ in size, operating practices, and working in different environments.	Decomposing container terminal operations and investigating those processes is proposed as scope for further studies.

(de Koster, Balk, & van Nus, 2009)	Aimed to compare efficiency scores of benchmarking and find reasons for such divergence.	DEA	**Input**: Quay Cranes (No.s), Quay Length, Terminal Area (hc), **Output**: Throughput (TEU)	Results show large terminals work with better efficiency than smaller ones and transshipment terminals performing efficiency in comparison to import/export terminals.	Issues such as non-differentiation between terminals and ports, comparing of small and large ports on same lines, comparing import/export terminals along with transshipment terminals are influencing the conclusions being drawn. Even reliable publicly available data does not reveal true facts on indicators being considered for the study. Assessment of indicators that reveal minute work processes, generally not in public domain, can alone bring the true efficiencies.
(Dias, Azevedo, Ferreira, & Palma, 2009)	Compared efficiency levels at 10 Container Terminals Iberian Peninsula to benchmark	DEA	**Input**: Cranes (no.) Workforce, Terminal area (ha.), Trailers (no.), Yard Equipment (no.), Quay Length (m) **Output**: Throughput (TEUs), Container Moves/hour/ship	Lack of in-depth performance variables constrained the study. Maintenance of such data helps port authorities in identifying their performance.	Study relied on a single year data.

(de Koster et al., 2009)	Compared 38 container terminals with annual throughput of over 500,000 TEUs	DEA	**Input**: Quay Cranes (no.s), Quay Length (m), Terminal Area (ha). **Output**: Throughput	Compared results of benchmarking studies with results of this study.	
(Bichou, 2006)	Proposed an integrative framework for port performance by taking ports under logistics and supply chain management approach.	Review Paper		Conceptualizing of port performance from logistics and supply chain perspective helps in better assessing of performance & benchmarking. Proposed a supply chain framework by linking internal processes and external channel orientations, analyzing and integrating various performance dimensions.	
(Antão, Guedes Soares, & Gerretsen, 2005)	Benchmarking for European Ports for efficiency improvement.	Primary Data Collection using Questionnaire	Port specific information covering: General information, Statistics, Facilities, Services, Organization, Finance, Security and safety, Health, Environment, Employment, and Future developments and miscellaneous issues.	Study found that data required for benchmarking is neither readily available and nor standardized for taking-up benchmarking studies. Most ports are not aware of requirements and regulations regarding health, safety, security, and environmental issues.	Main focus is on small and medium ports.
(Cuadrado et al., 2004)	Proposed processes, dimensions and mapped them for benchmarking of ports services with port management indicator, competitor indicator, and comparative indicator perspectives.	LR; Analysis of reports on public and private ports; Personal Interviews; Administration of Questionnaires	All activities that a port performs are considered.	The study concluded that port services can be analysed with dimensions such as: time, safety, and cost against concrete indicators to know efficiencies and work on improving inefficiencies.	

(Tongzon, 1995)	Compared 23 international ports by dividing them into three groups for the year 1991.	PCA	**Input** : Gantry Cranes (no.s), Location (in binary) Number of Ship Visits, Vessel size and cargo exchange (TEUs per ship), Container Berths (no.s) **Output** : Throughput (TEUs)	Identification of ideal benchmarks is a key constraint in comparison of port efficiency. Assessment of efficiency can be justifiable if homogeneous ports are compared.	No differentiation could be made between input and output variables.

From the above literature on benchmarking at ports, it is clear that studies in this area are less in number but slowly evolving. It can also be noted that most of the studies on benchmarking are taken-up at container terminals/ports. Rise in containerized cargo and container terminals, probably, is the prime reason for phenomenon. Studies used both parametric, non-parametric techniques to benchmark port performances. DEA has been the most popular tool used for studies measuring efficiency and benchmarking. Studies have proven that benchmarking at ports has paved way for performance enhancement. Studies are based on publicly available data which, often times, do not cover key indicators and at the same time are not totally reliable. Researchers argue that availability of data on key indicators would help in devising quality benchmarks.

While studies on benchmarking of ports are gaining ground across the world, no such attempt is made in Indian context. While, studies assessing efficiency and productivity at Indian ports are in existence, no initiative is still taken to set standards of performance in Indian context. Considering benefits of benchmarking on improving standards of performance, as highlighted by various international studies considered in this review paper, the authors propose to set benchmarking standards of performance for the major ports of India.

IV. Conclusions:

The paper reviewed research works pertaining to benchmarking concepts, its need, scope, and contribution to performance enhancement. Review of these research works has given opportunity to understand the significance of benchmarking in performance improvement. This is followed by an analysis of research works relating to benchmarking in various sectors of economies across the world which, has proven considerable improvement in efficiency at organisations that have opted for benchmarking. Finally, review of research works on sea ports/terminals has also proven the existence of huge scope in this area for research. It is observed that most of the existing studies are constrained by data availability. Existing studies have proved that apart from the broad port performance indicators, there exist considerable number of other performance factors at the operational level of a port that can influence performance of seaports. Researchers have started benchmarking port performance basing on some of these latent performance indicators and helped authorities in improving port efficiency. Benchmarking studies on ports are based on indicators that contribute significantly to efficiency, but are not in public domain. Indicators such as level of technology, existence of reliable resources, workforce skillset, customer satisfaction, socio-economic influences etc. are used to set standards of performance. Therefore, it is evident that such a study would bring out the actual factors at the minutest level of port operations that contribute to efficiency/inefficiency of a port. Benchmarking studies on the major ports of India would bring out more factors for setting of standards as most of these ports are equipped to handle multiple cargo and have common facilities for a wide variety of cargo that they handle. It is also observed that DEA as a popular tool to set benchmarking standards at port and terminals due to its ability to handle multiple input and output variables. Taking a cue from the international studies, the authors, as further studies, propose to set benchmarking standards for the major ports of India.

Inferences drawn from the literature gaps makes it evident that, researchers used publicly available data that provided broader picture of port performance. But this data does not reflect true picture of the ground level factors at berth, yard, gate, starboard side operations that influence actual performance of a terminal. Therefore, the authors propose to get data from the actual operations sites involving various processes at a terminal/port for accessing the factors contributing to efficiency/inefficiency and determine performance benchmarks standards. Authors propose to set benchmark standards covering activities such as berth utilization rate, average turnaround time, average pre-berthing time, berth output per crane, equipment utilization rate, gate throughput, throughput per worker, cost per employee, and reasons for resource wastage and underutilization.

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Factors Influencing Purchase Behaviour of Branded Sports Shoes

Preeti Mehra

Abstract

This study offers and validates a comprehensive approach to explain factors influencing the attitude of respondents towards various characteristics of branded sports shoes. In order to attain these objectives a sample of 322 respondents belonging to three cities of Punjab: Jalandhar, Amritsar and Ludhiana, was drawn. Non-probability convenient sampling was adopted for selecting the respondents. It was however; found that brand loyals preferred buying shoes of their fancied companies whereas innovators preferred shoes with the latest state-of-the-art trends and technologies. Consumers desired sports shoes to be colourful and stylish and happened to relate traits of shoes to their personality.

Key words: *Purchase behaviour, consumer behaviour branded loyalty, sports shoes.*

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Indians are becoming mindful about their fitness and this is apparent in the number of health care and fitness centers that have proliferated in the current times. Exposure to various health issues has led to this awareness creation. The Indian shoe market has undoubtedly emerged as a clear winner from this mounting realization about maintaining a healthy lifestyle.

India's sportswear market has evolved from a niche segment, which was exclusively aimed at sportspersons, to a burgeoning consumer sector. The sportswear retail market in India is estimated at INR 365.8 billion and is expected to grow at a robust CAGR of 33% during 2010–2014. The market includes sports apparel, footwear and accessories, with footwear being the largest segment, accounting for around 60% of the total market (www.ey.com). The market is ruled by the four main brands; Adidas, Reebok, Nike and Puma. These are global players and possess over 80% market share of the market, with numerous other brands such as Fila and Lotto escalating their presence by the day. Brands such as Liberty, Woodland and Lotto also have a moderate presence in the market. The segment serves all sections - men, women and children.

The sector is highly unorganised where 80% to 85% of the industry falls under very small micros, small and medium enterprises and hardly any brand names exist (www.economic times.indiatimes.com). The average customer is unable to distinguish between clutters of brands. Reebok is a well-known and popular brand and is more preferable as compared to Nike, Puma and Adidas as it offers affordable shoes, which can be worn with casual attire too.

Review of Literature

Endalew Adamu (2011) expressed that like any other product, consumers see a shoe as a bundle of attributes capable of fulfilling their expectations. He further emphasized that these attributes are mainly the style, quality and price. He also suggested that in order to design competent marketing programs it is essential for companies, especially in foot wear and garment industry, to identify the product attributes that the consumers pay the most attention to.

Banerjee, Bagchi and Mehta (2014), conducted a study in which they explored the influence of twenty-one attributes on consumer purchase behaviour in the footwear segment. They expressed that both intrinsic and extrinsic factors like the price, fit, comfort, variety, design had an effect on a consumer's purchase intentions. The study also suggested that consumers look for convenience and accessibility in their shopping options. Apart from these factors like odour free and lightweight material also mattered up to a certain extent.

Mulugeta Girma (2016) conducted a research aimed to explore the pattern of brand preference towards domestic and foreign footwear products and its antecedents. Age and gender were taken as variables. The study was conducted on 319 usable samples and relevant data was obtained on purchase preference, brand consciousness, normative influences, emotional values and perceived quality using both inferential and descriptive statistical techniques. The finding disclosed that the emotional value of the brand and normative influences are the most and least significant antecedents respectively for brand preference. The study concluded that the emotional value of the brand significantly affected both genders; male and females significantly. It also pointed out that with rising age, their seemed to be a preference towards local brands.

Anand and Akelya emphasized that the mindset of the emerging Indian middle class has changed. They have high ambitions and a desire to improve their standards of living. Their spending patterns are changing and priorities have changed. Their inclination to incur higher expenditure on education, health, and personal care and apparels has increased (Anand and Akelya).

The literature review emphasizes the need to understand the mindset of the customers. Their lies a need to explore the aspirations, preferences and self esteem needs of the consumer. An effort also needs to be made of understanding the role of feel good factor in shaping the buying preferences of the consumer. In the light of the gaps in the review the objectives of the study are mentioned below.

Objectives of the study

The current study explores characteristics of branded sports shoes that have an influence on the Purchase Behaviour of the customers.

Methodology

This is an endeavor to study characteristics of branded sports shoes that have an influence on the purchase behaviour of the customer's preference and decision-making for purchasing sports shoes among the consumers. The population of the study is comprised of three cities of Punjab: Amritsar, Ludhiana and Jalandhar. A sample of 350 respondents comprising of 100–120 from each city was planned. However, after scrutiny of the filled questionnaires, 322 were found fit for analysis; others were not complete or lacked seriousness in response and hence weeded out. Thus, the final sample was 322 respondents comprising 126 respondents from Jalandhar, 123 from Amritsar and 73 from Ludhiana. For selecting the respondents, non-probability convenient sampling technique was adopted as it well suits exploratory studies like this (Tull & Hawkins, 1996, p. 544). However, an effort was made to include respondents across different demographic variables to make the sample representative. The unit of the study was an individual.

Data were collected personally from the respondents by using a pre-tested, structured and non-disguised questionnaire. The information was gathered from the consumers visiting various shoe outlets. The questionnaire was personally administered to the consumers coming out of these stores.

Tools and Techniques

It has been attempted to explore the attitude of respondents towards various characteristics of sports shoes that influence their purchase behaviour. Income variable has been considered for analysis. The four income categories considered for analysis are I_1 (respondents having monthly income below ₹ 20,000); I_2 (respondents having monthly income between ₹ 20,000 and 40,000); I_3 (income between ` 40,000 and 60,000); and I_4 (income above ₹ 60,000). Respondents were asked to give their responses, to a set of thirty statements that were framed on the basis of intuition and discussion with experts. These statements reflected the attitude of respondents towards sports shoes in general. Each statement was measured on five-point Likert scale with 5 representing, "strongly agree" and 1 signifying, "strongly disagree". Mean values of the four income categories were determined. F-ratios were also calculated. After checking whether significant differences exist between the opinion of different income groups, Factor analysis was employed on the aggregate group of respondents. The reliability of scale was measured with the help of Cronbach's Alpha.

The list of statements is given in Table 1.

Table 1
List of Statements Depicting Characteristics of branded sports shoes influencing Purchase Behaviour

Labels	Statements
(S1)	I am most enthusiastic to buy the most reputable brand.
(S2)	I prefer shoes with the most comfortable material.
(S3)	I select the brand name irrespective of its price.
(S4)	I like to try newly launched shoes to try something innovative.
(S5)	I prefer to try shoes that are the most durable.
(S6)	I believe that a well-designed shoe reflects a good quality product.
(S7)	While purchasing, I always pay attention to the difference in the price of the available shoes.
(S8)	I favor a shoe that offers unique features.
(S9)	Sports shoes are more preferable than formal shoes.
(S10)	I have a tendency to pick up shoes, which have the attractive look.
(S11)	I prefer a brand that offers good color choice.
(S12)	I feel that a shoe exposes my personality.
(S13)	An increase in the price of my preferred brand will not effect my buying intent.
(S14)	I prefer a brand which is the most cool and stylish.
(S15)	I prefer the most advertised brand of shoe.
(S16)	I prefer usage of a brand that is widely and easily available.
(S17)	I am loyal to particular brands of shoes.
(S18)	I prefer buying a different brand of shoe in each purchase.
(S19)	I favor a brand that fulfills my expectations.
(S20)	If satisfied with a brand only then I buy it in my next purchase.
(S21)	If there is a wide choice, I buy the shoe of the most popular company.

(S22)	I decide to buy a well-known brand of a shoe because I find it reliable.
(S23)	I prefer buying a brand that justifies my personality.
(S24)	I prefer buying a shoe of a particular brand.
(S25)	Extensive advertising by a competitor company does not effect my choice of shoes.
(S26)	While purchasing I pay the most attention to the economy provided by the brand.
(S27)	I am easily able to identify the brand I purchase amongst all displayed brands.
(S28)	I can easily identify the logo of my preferred brand
(S29)	I feel my brand satisfies my expectations.
(S30)	I prefer a brand that is well displayed.

In order to find the level of agreement/disagreement with the various statements on the basis of income status of respondents, mean scores were calculated. Weights of 5,4,3,2 and 1 were assigned respectively to the responses.

Mean scores are cumulative averages of the responses of the respondents. These help to assess and analyze the level of customer satisfaction on all the selected 30 statements separately. A moderate level of satisfaction is available in the mid- point of the scale, (i,e) 3 and this may be taken as an average. Based on this, variables which have a mean value above 4 depict a high level of respondent agreement, mean value above 2 and up to 3 shows moderate agreement level, above 1 and up 2 shows less agreement level and mean value below 1 shows a high level of disagreement.

In order to examine whether any significant differences exist among the respondents belonging to various income categories with respect to characteristics of sports shoes influencing purchase behaviour the following null hypothesis has been tested

H_O : There is no significant difference among the respondents belonging to different income groups regarding their preferences for various statements depicting characteristics of sports shoes influencing their purchase behaviour.

In order to compare the income-wise mean scores, F-ratios have been calculated to the responses of each statement. Mean values along with F-ratios for various statements are presented in Table 2.

Table 2
Attitude of Respondents towards Characteristics of branded sports shoes influencing Purchase Behaviour (Overall and Income-wise Mean Scores and F-Ratio)

Labels	Statements	Overall Mean Value	I_1 Mean Value	I_2 Mean Value	I_3 Mean Value	I_4 Mean Value	F-ratio
(S1)	I am most enthusiastic to buy the most reputable brand.	2.70	2.68	2.71	2.69	2.72	0.77
(S2)	I like to try newly launched shoes to try something innovative.	2.83	2.83	2.81	2.84	2.85	2.00
(S3)	I prefer to try shoes that are the most durable.	2.74	2.75	2.73	2.74	2.74	2.12
(S4)	I prefer shoes with the most comfortable material.	3.12	3.12	3.11	3.12	3.13	0.72
(S5)	I select the brand name irrespective of its price.	2.99	2.98	2.97	3.00	3.01	0.76

(S6)	I believe that a well-designed shoe reflects a good quality product.	3.23	3.69	3.78	2.69	2.77	0.17
(S7)	While purchasing, I always pay attention to the difference in the price of the available shoes.	2.88	2.86	2.89	2.88	2.90	1.15
(S8)	I favor a shoe that offers unique features.	2.47	3.24	3.05	2.06	1.55	3.40*
(S9)	I feel that a shoe effect my image.	3.40	3.03	3.25	3.67	3.65	1.54
(S10)	I have a tendency to pick up shoes, which have the attractive look.	2.48	2.71	2.79	2.31	2.13	1.71
(S11)	I prefer a brand that offers good color choice.	2.60	2.56	2.63	2.62	2.59	1.42
(S12)	Sports shoes are more preferable than formal shoes.	2.40	2.33	2.40	2.47	2.42	2.08
(S13)	An increase in the price of my preferred brand will not effect my buying intent.	2.35	2.31	2.39	2.33	2.37	2.43
(S14)	I prefer a brand which is the most economical.	2.16	1.99	2.11	2.23	2.32	1.80
(S15)	I prefer a less advertised brand of shoe.	2.21	2.10	2.16	2.32	2.28	0.57
(S16)	I prefer usage of a brand that is widely and easily available.	2.22	2.09	2.22	2.31	2.29	0.93
(S17)	I am loyal to particular brands of shoes.	4.00	4.42	4.31	3.77	3.51	3.49*
(S18)	I prefer buying a different brand of shoe in each purchase.	3.96	3.82	3.99	4.03	4.02	1.07
(S19)	I favor a brand that fulfills my expectations.	3.98	3.98	3.96	4.01	3.99	2.50
(S20)	If satisfied with a brand only then I buy it in my next purchase.	3.97	3.90	4.01	3.98	3.99	1.97
(S21)	If there is a wide choice, I buy the shoe of the most popular company.	4.00	3.99	3.98	4.03	4.02	1.26
(S22)	I decide to buy a well-known brand of a shoe because I find it reliable.	4.03	4.03	3.99	4.07	4.05	1.61
(S23)	I prefer buying a brand that justifies my personality.	4.04	4.19	4.06	3.99	3.91	1.24
(S24)	I prefer buying a shoe of a particular brand.	3.38	3.39	3.41	3.51	3.22	1.61
(S25)	Extensive advertising by a competitor company does not effect my choice of shoes.	3.42	3.23	3.56	3.42	3.47	1.19

(S26)	While purchasing I pay the most attention to the economy provided by the brand.	3.57	3.45	3.42	3.72	3.69	2.40
(S27)	I am easily able to identify the brand I purchase amongst all displayed brands.	3.71	3.68	3.71	3.72	3.74	0.41
(S28)	I can easily identify the logo of my preferred brand.	3.33	3.23	3.42	3.33	3.36	1.24
(S29)	I feel my brand satisfies my expectations.	3.51	3.50	3.53	3.55	3.49	0.66
(S30)	I prefer a brand that is well displayed.	3.69	3.69	3.72	3.63	3.74	0.41

The table shows that the overall mean scores range from as high as 4.04 on statement S23 (I prefer buying a brand that justifies my personality) to as low as 2.16 on statement S14 (I prefer a brand which is the most economical). A high score of statement S23 indicates that most of the respondents consider a shoe as a reflection of their personality. This was validated by a high mean score of 3.40 of statement S9 (I feel that a shoe affects my image). This indicates that people consider a shoe as an essential part of their image and personality reflection. Statement S22 (I decide to buy a well-known brand of a shoe because I find it reliable.) is the next most agreed statement with a mean score of 4.03 thus highlighting the trust; the dependability a brand needs to create in the respondents' mind. The respondents have also shown high agreement with statements S21 (If there is a wide choice, I buy the shoe of the most popular company) and S17 (I am loyal to particular brands of shoes).

Most of the respondents are neutral to statements S2 (I like to try newly launched shoes to try something innovative); S3 (I prefer to try shoes that are the most durable) and S4 (I prefer shoes with the most comfortable material) as mean scores are close to 3.

The mean scores from the table show that most of the respondents disagree to statement S15 (I prefer a less advertised brand of shoe). statement S16 (I prefer usage of a brand that is widely and easily available.) and statement S13 (An increase in the price of my preferred brand will not affect my buying intent.) as the mean scores are close to 2. The lowest score of 2.16 has been acquired by statement S14 (I prefer a brand, which is the most economical.) depicting that the respondent does not consider economy as an important factor while purchasing a sport shoe.

The differences in mean scores of the respondents belonging to different income categories have been found to be statistically insignificant for 28 out of 30 statements. Majority of the respondents belonging to the lower income categories I_1 and I_2 have expressed greater level of agreement to statements: S8 (I favor a shoe that offers unique features) and S17 (I am loyal to particular brands of shoes). The differences between the opinion of lower and higher income groups have been found to be statistically significant with regard to these statements at 5 per cent level of significance.

A comparison of the responses shows that respondents belonging to all income groups carry almost similar views towards various characteristics of sports shoes and its effect on their purchase behaviour. Hence the null hypothesis is accepted.

Taking this into consideration, we have applied factor analysis only on the aggregate group of respondents and not on the individual income groups.

Sports Shoe Characteristics Influencing Purchase Behaviour: A Factor Analytical Approach (Overall Sample)

This section aims at understanding those characteristics of sports shoes that have an influence on the buying behaviour of consumers. Factor Analytic technique has been applied on thirty statements given in Table 2. The reliability of statements as measured by Cronbach's Alpha is 0.937 thus signifying a suitable level of internal reliability (Hair et al., 2010).

Data for Factor Analysis

In order to test the appropriateness of data pro for factor analysis, the subsequent steps were completed:

- Correlation matrix was computed and it portrayed that there were adequate correlations to conduct factor analysis.
- Anti-image correlations were figured. The partial correlations were low thus implying that true factors were present in the data.
- Overall Measures of Sampling Adequacy (MSA) such as KMO value was located to be 0.924, which suggested that the sample was suitable enough for sampling.
- Bartlett's Test of Sphericity (Bartlett, 1950) revealed statistically significant number of correlations amid the variables.

Henceforth, as disclosed by the overhead considerations, the data was established fit for factor analysis.

Extraction Approach and Number of Factors Extracted

The assumptions suggest that the data is appropriate for factor analysis. In our study however, Principal Component Analysis (PCA) has been applied for extraction of factors. The number of factors has been held on the basis of latent root criterion. Thus, only the factors having Eigen values or latent roots greater than 1 have been considered substantial; all the factors with latent roots less than 1 have been overlooked. Barely five components have Eigen values greater than unity. The analysis gave a five-factor solution. Total variance accounted for by these factors is 72.083 per cent and remaining variance is explained by other factors.

Table 3 shows the extracted factors. The last column in the table shows communalities. Normally accepted values of communalities are amid the range 0.40 to 0.70 (Costello and Osborne, 2005). In the current study, all communalities are within this range. Large communalities suggest that a large amount of variance has been accounted for by the factor solution. In the current study, all the communalities are above 0.51.

A factor loading symbolizes the correlation between a variable and its factor. The factor loadings, which were greater than 0.30, have been held. Based on sample size of 500 respondents, it has been specified that factor loading of 0.30 or above has been considered to be substantial (Hair et al., 2010). In the study, principal factors have been orthogonally rotated by the application of varimax rotation. This has resulted in the emergence of five major factors for defining the purchase behaviour of consumers for shoes. Extracted factors, factor labelling, factor loadings and communalities are given in Table 3

Table 3
Principal Component Analysis with Varimax Rotation

FACTORS						
LABEL	**F1**	**F2**	**F3**	**F4**	**F5**	**COMMUNALITIES**
	ADAPTABLENESS	**BRAND RECOGNITION**	**BRAND LOYALTY**	**LOGICAL BEHAVIOUR**	**EXPEDIENCY**	
S29	0.879					0.512
S2	0.859					0.778
S3	0.851					0.557
S4	0.84					0.5
S5	0.838					0.751
S6	0.81					0.782
S7	0.571					0.581
S8		0.844				0.575
S9		0.818				0.57

S10		0.808				0.554
S11		0.801				0.589
S12		0.798				0.735
S13		0.783				0.772
S14		0.59				0.825
S15			0.835			0.805
S16			0.834			0.811
S17			0.82			0.742
S18			0.747			0.807
S19			0.591			0.821
S25			0.579			0.844
S21			0.552			0.798
S22				0.873		0.592
S23				0.871		0.554
S24				0.857		0.521
S26				0.847		0.754
S20				0.802		0.745
S27					0.789	0.759
S28					0.783	0.75
S1					0.773	0.743
S30					0.707	0.777
Eigen Value	5.301	5.053	4.542	3.977	2.551	
Explained Variance (%)	17.571	15.842	15.474	13.258	8.838	
Cumulative Variance (%)	17.571	34.513	49.987	53.245	**72.08**	

Naming of Factors

All the factors have been given suitable names conferring to the variables that have loaded on to each factor. The five factors described in Table 3 are examined below.

Factor 1 (F1): ADAPTABLENESS

This is the first and the most vital factor that accounts for 35.54 per cent of the total variance. Seven variables have been positively loaded on this factor. The factor includes statements S29 (I feel my brand satisfies my expectations), S2 (I prefer shoes with the most comfortable material), S3 (I select the brand name irrespective of its price), S4 (I like to try newly launched shoes to try something innovative), S5 (I prefer to try shoes that are the most durable), S6 (I believe that a well-designed shoe reflects a good quality product) and S7 (While purchasing, I always pay attention to the difference in the price of the available shoes). These statements emphasize that buyers are willing to buy shoes that offer comfort regardless of their cost. Moreover, it is also implied that people look forward to wearing shoes with innovative trends as it offers them with a new look.

Factor 2 (F2): BRAND RECOGNITION

Factor two explains statements S8 (I favor a shoe that offers unique features), S10 (I have a tendency to pick up shoes, which have the attractive look), S11 (I prefer a brand that

offers good color choice.), S12 (I feel that a shoe exposes my personality.) S13 (An increase in the price of my preferred brand will not affect my buying intent.) and S14 (I prefer a brand which is the most cool and stylish). This factor explains 12.72 per cent of the total variance. The factor structure studies the effects of brand traits on its preference. A brand with unique features reflects a good quality product. Consumers pay attention to small details of like: the look, colors and style of a shoe. They have a liking for colourful and attractive shoes. Furthermore, they consider the increase in the price of their preferred brand as an irrelevant factor while making a purchase.

Factor 3 (F3): BRAND LOYALTY

Statements S15 (I prefer the most advertised brand of shoe), S16 (I prefer usage of a brand that is widely and easily available), S17 (I am loyal to particular brands of shoes), S19 (I favor a brand that fulfills my expectations), S25 (Extensive advertising by a competitor company does not affect my choice of shoes) and S21 (If there is a wide choice, I buy the shoe of the most popular company) constitute the fourth factor, which explains 9.57 percent of variance. The factor structure elaborates the level of enthusiasm displayed by a consumer while buying a sports shoe. This factor suggests that consumers prefer shoes that are easily and widely available. In addition to this, brand loyals prefer buying sports shoes of the same company over and over again even if it is lesser advertised as compared to the competitive brands as they feel that their expectations are being fulfilled.

Factor 4 (F4): LOGICAL BEHAVIOUR

The fourth factor includes statements S22 (I decide to buy a well-known brand of a shoe because I find it reliable.), S23 (I prefer buying a brand that justifies my personality.) S26 (While purchasing I pay the most attention to the economy provided by the brand.), and S20 (If satisfied with a brand only then I buy it in my next purchase). It explains 5.87 per cent of the total variance. The factor is titled and understood as logical behaviour of consumers during purchase of a sports shoe. It suggests that consumers act judiciously while buying a sports shoe only if they consider it reliable. However, the consumers believe in buying a brand that justifies there personality and go for repetitive purchases only if immensely satisfied.

Factor 5 (F5): EXPEDIENCY

Statements S27 (I am easily able to identify the brand I purchase amongst all displayed brands.), S28 (I can easily identify the logo of my preferred brand), S1 (I am most enthusiastic to buy the most reputable brand.) and S30 (I prefer a brand that is well displayed.) form the fifth factor 'utility' that accounts for 5.15 per cent of the total variance. It shows that consumers are of an opinion that a brand needs to be well displayed identifiable and reputable. A practical choice is to select a brand that is the most well demonstrated and popular.

Conclusions and recommendations

In this section some viable recommendations are forwarded on the basis of the research findings. The foregoing discussion reveals that consumers prefer a sports shoe that is comfortable. A sports shoe that provides ease and comfort is more desirable among consumers. Consumers are ready to shell out more money, if a shoe provides more relaxation. This implies that companies must offer sports shoes coupled with advanced state of the art technologies, the cost factor will not matter much as consumers are ready to buy even at higher prices.

Moreover, like as in case of any other accessory, people prefer innovativeness in shoes also. Variability in colours, style, and designs is a fad, especially amongst the youngsters. Consumers judge the personality of a person by his clothes and shoes. Shoes form a vital part of the appearance. Companies need to venture into product line extensions, launch new styles, designs that are in co-ordination with the ever-changing trends of these days. Modification of already existing products also needs to be undertaken.

Age has a tremendous effect on consumer's preference of shoes. Attributes are attached different importance by consumers belonging to different age groups. Therefore, it is significant for all companies in the foot wear industry to establish the stage of life of their consumers and also what product attributes they pay the most attention to. This will definitely help shoe companies to undertake effective segmentation and enable them to design effective marketing programs concurring with the attributes that are salient to distinctive consumers age groups.

Product promotions need to highlight, not only the functional benefits sought by the buyers but must also

accentuate the emblematic features associated with shoes. Appearance that inspires mindsets, exaggerates the passion among buyers needs to be projected. Perceived status of users, especially young ones needs to be taken care of. For the older customers prominence can be laid upon the comfort and durability of shoes. These initiatives, topped with a virtuous display and wholesome salesmanship will definitely help in attainment of captivating sales for all brands.

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Perception and Behavioural Intention of Retail Investors : Initial Public Offers in Indian Scenario

S. Saravanan, and R. Satish,

Abstract

This paper identifies a model to understand the relationship among various construct in understanding perception of retail investor towards initial public offers. Proposed model was based on Theory of Planned Behaviour (TPB). TPB in other investment alternatives were widely discussed whereas this research is specific towards the primary market. Data was collected through structured questionnaire from selected sample size and finally 253 responses were used to test the structure. In this model Perceived behavioural control was reframed as Economy, Industry and Company attributes (EIC) with a justification of control that is possible through the attributes mentioned above. Influence of information on EIC and Investor attitude is tested and the relationship was positive. Hypothesis were developed to understand the relationships which concluded with positive relationship between investor attitude to Behavioural Intention, Subjective norms to Behavioural Intention, EIC attribute to Investor Attitude, and EIC attributes to Behavioural intention. Relationship between Subjective norm and Investor attitude was rejected. It was found Investor Attitude is the most influencing factor in forming Behaviour Intentions of an Individual.

Key words : *Initial Public Offers, Theory of Planned Behaviour, Investor attitude, Behavioural Intention*

JEL Code: G19, G40

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This research has been conducted to understand the retail investors perception towards Initial Public Offerings.

Indian stock market is one of the markets among the developing countries that attract more investors and has also surprised being resilient to major turmoils which are evident from the recent situational factors that affected global markets at large, but not the same extent in our exchanges. Participation of domestic institutional investors is increasing with the increase in investor's confidence and awareness in our market. Individual investors are becoming more professional in their investment. There is a drastic increase in the number of investors who have opened Demat accounts post 2013 and counting still. Initial Public Offers are widely discussed and researched topic by many of the researchers and experts. Most of them related to the performance of Initial Public Offers with various factors either to measure long term or short term. When it comes to performance it is

related to the secondary data available, which were tested with performance as dependent and other factors as independent variables. It is imperative that investors behave rational, but decisions are made from the psychological point of view in many situations attributed to awareness level, availability of information etc. Psychological factors have major influence on decision making. Richard H. Thaler (2005). *Advances in Behavioural Finance* explains interaction between human and his/her motivation towards investment, either partially or completely influenced by psychological factors. Our proposed research is from behavioural point of view, to know the variables and its strength in deciding the investor's interest. Theory of Planned Behaviour (TPB) has been a strong theory research for several years applied in variety of fields. TPB is however not widely employed in researching individual investor's behaviour in Initial Public Offers Khoa Cuong Phan, Jian Zhoa (2014). Over confidence, excess optimism, psychology of risk and herd behaviour have significant impact on individuals attitude towards investment. (Phan and Zhoa 2014). Psychological factors without awareness exist in each investor though the factors influence investor's behavioural intentions. Salam Abdallah and Khalil Hilu (2015). Investor's perception of information asymmetry, overconfidence, perception about market can be used to predict risk attitude (Kempf et. al 2013). Positive attitude of investor overweights a stock since a positive investor believe stock to be more profitable and less risky for investing.

1. Research model

Theory of planned behaviour has been applied in various places in the past several years to analyze the human behaviour. Here the model is constructed to measure behavioural intention of retail investors towards initial public offers. The relationships between the constructs that influence the behavioural intentions, their strength in influencing and hypothetical relationships between them are the focal point. Behavioural intentions are motivational factors that influence behaviour of the investors (East 1993, Harrison, Mykytyn Jr et al. 1997, Brown and Venkatesh 2005, Song and Zahedi 2005, Michael 2011). In the case of investment on stock market, behavioural intention is considered to present individual investor motivation to make a specific investing decision. Intention, according to TRA and TPB, is the best predictor of behavior and it is assumed to be the immediate antecedent of behavior (Ajzen, 2002). Hence, attitudes, subjective norms and perceived behavioral control are assumed to have an indirect effect on a given action through their effect on intention.

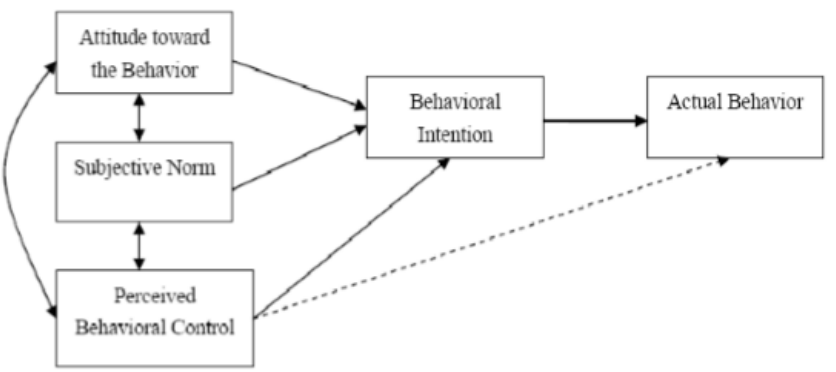

Figure 1 Theory of Planned Behaviour

Behavioural intention determinants: All the below listed constructs have hypothetical relationship with our dependent variable. 1. Attitude, 2.Subjective norms, 3. Perceived behavioural control. Actual Behaviour was not in our objective of measurement. Ngoc (2014). Careful consideration is important in stock selection, but prior loss should not be given too much care for future investments. There are five behavioural factors of individual investors: Herding, Market, Prospect, Overconfidence and Anchoring.

Attitude:

Attitude has long been identified to be a predictor of future behaviour. In the theory of reasoned action, attitude is defined as evaluative effect of individual positive or negative feelings toward conducting a specific behaviour (Fishbein

and Ajzen, 1980). However, behavioural intention is recently defined as individual's favourableness or unfavourableness toward psychological object (Ajzen and Fishbein, 2000). If an individual has a more favourable attitude toward a specific behaviour, the chances are higher that they will have an intention to conduct the behaviour. On the other hand, if they are more unfavourable of the behaviours, they are likely not to have the intention (Ajzen and Fishbein, 1980). Many studies have claimed a significant effect of attitude on behavioural intention (Mathieson, 1991, Teo and Pok, 2003, Shih and Fang, 2004, Ramayah and Suki, 2006, Michael, 2011). As a result, in the context of individual investment, it is reasonable to assume that if an individual investor is more favourable of the investment, they are more motivated to take the action than those who are less favourable. (Ashbury, Isen, and Turken, 1999). Positive mood enhances an individual performance on many cognitive tasks Damasio (1994). LeDoux (1992) indicates that emotion improves decision making in two aspects. First, emotion pushes individuals to make some decision when decision making is paramount. Second, emotion can assist in optimal decision making. (Rostami and Dehaghani 2015). Overconfidence, Ambiguity aversion, and loss aversion are the behavioural biases which are positive impact while investing. (Qadri and Shabbir 2014). Decision of an investor is influenced by overconfidence and illusion of control (Neha Agarwal, T.V. Raman, Ashok Sharma, Vinamra Jain 2016). Illusion of control and loss aversion are the biases that have positive impact on investor's attitude.

Subjective Norms:

The subjective norm is one of the two original constructs from TRA. It captures individual's perception regarding whether most of the significant others think they should or, should not conduct the behaviour (Ajzen and Fishbein 1980). The subjective norm is considered to be one of the immediate determinants of behavioural intention in TRA and TPB. According to TPB, if a person, for instance an individual investor on stock market, sees that those who are more important to them think they should perform certain behaviour, it is highly likely that they will intend to do so. On the other hand, it is believed that if their significant others do not agree with performing the behaviour, chances are higher that they will not have the intention. This means, even if an individual is not favourable of the behaviour, he may conduct it anyway under social pressure and influence (Venkatesh and Davis, 2000). Many experimental studies show the significant relationships between subjective norm and intention (Venkatesh and Davis, 2000, Fu, Farn et al. 2006), while other studies prove insignificant links between the two constructs (Lewis, Agarwal et al. 2003). However, the mixed conclusions regarding the predicting power of subjective norm on intention could still hint a considerable link between them. It is rational to predict that if an individual investor perceives supporting subjective norms, they may have an intention of investing more than those that do not feel similar pressure. Obayumi (2013) states how Socio-Economic characteristics of an individual greatly influences the investment decision.

Perceived behavioural control

The control belief in TPB is represented by perceived behavioural control. The PBC construct is added to overcome the limitations in TRA model and to apply in contexts where individuals do not have the full control of resources in order to conduct the behaviour (Ajzen 2002). Ajzen (2005) defines PBC as individual's perception of the ease or the difficulty in conducting certain behaviour. This means, within TPB model, the stronger one's PBC is, for instance that of an individual investor, the more likely they would conduct the behaviour (Ajzen, 2005). And vice versa, the chances will be less. Consequently, the performance of behaviour is correlated with one's confidence in their ability to conduct the behaviour. Part of PBC is built from past experience and part is from old information acquired via communication with relatives, family, friends, and via factors that help control the perceived ease or difficulty in behaviour performance (Ajzen, 1991). Additionally, increased availability of resources like time, money or opportunities would improve the perceived control and hence the possibility of performing behaviour (Ajzen, 1991). Many experimental studies show that PBC could be accounted for considerable variance in intention and behaviour, and also prove positive link between PBC and intention (Mathieson 1991, Shih and Fang 2004, Fu, Farn et al. 2006). In this research, it is expected that individual with higher PBC would be more likely to have investing intention than those with less PBC. Thinking of the PBC from investment angle, investors tend to follow certain experiences of the past which may be like how they view the prevailing situations and factors. Here in our research the situational factors that influence IPO decision are taken as

Perceived Behavioral Control. For Initial Public Offers factors like history of the company, market conditions and the related concepts are the situational factors which may influence the behaviour and can be considered as a proxy for Perceived Behavioral control. So in this research PBC is framed as the attributes of economy, industry and company. Lo and Repin (2001) have studied the psychological characteristics of professional securities traders while they are engaged in live trading. They reported a significant correlation between market events and physiological characteristics Gunathilaka (2014). Economic condition, and Corporate governance influences decision making of individual investors in investments.

Information Asymmetry

Information Asymmetry is the relationship between desire to learn and desire to prevent an opponent from learning private information. Paek and Gunther (2007). Receiver's perception is affected by information w.r.to given behaviour by attitude change which in turn finally change the behaviour of receiver (Lawrence 2013). Higher quality disclosure of financial part influences investors to take more risk by investing more.

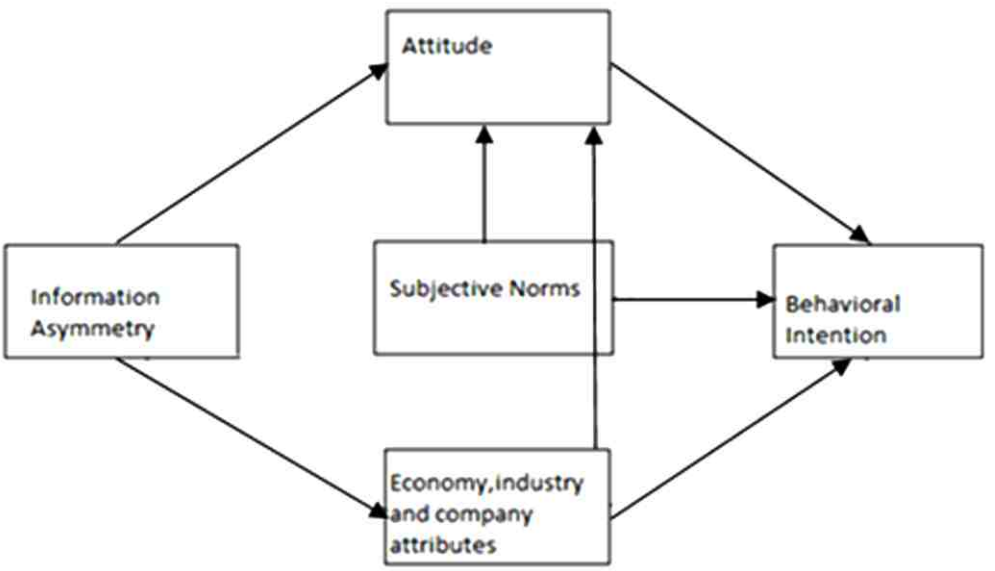

Figure 2. Proposed Model

Information as independent variables is used to test the influence on the dependent variables Investor attitude and Economy, Industry and Company attributes. Information by the word of mouth an influential factor in attitude formation in any kind of research whether related to a financial product or consumables.

Attitude can also be influenced by how people around us motivate our consideration and hence subjective norm as an independent variable is used to test its influence on Attitude formation and Behavioural intention.

Investor's attitude can also be influenced by the product attributes. Here in this research financial product is used and hence its is relevant to link the attributes like economy to understand how it influences investor attitude.

Finally behavioural intention as dependent variable is to be tested with independent variables like Investor Attitude, Subjective norms and Economy, Industry and Company attributes.

2.1 Gaps in Literature:

- Most of the studies available are done with the market data available from the technical point of view related to their performance. Performance is assessed either in short or long run based on the return the IPOs provided in the period considered. Our research is aimed at behavioural view not technical.
- From the Behavioural point of view reviews available were huge enough to know about the

factors but not the specific items that constitute the factors since most of the reviews were either related to secondary market investment or in the non-financial areas.

- Most of the research were conducted in developed countries which has opened arena of discussing from Indian perspective since the penetration level of investment in riskier asset class like shares is lower, of which primary market investment has even lower awareness and penetration

2.2 Research Questions:

1. What is the retail investor attitude towards Initial Public Offers?
2. How the attitudes of retail investor influence their Behavioural intention?
3. What else influence the retail investor's intention on an IPO investment?

2.3 Objective of the study:

- To describe the constructs like information asymmetry, attitude, subjective norms and Economy/industry/company attributes involved in the shaping behavioural intentions on IPO purchase decisions
- To develop and validate a structural model to know the factors that influence retail investors on their behavioural intention pertaining to Initial Public Offers and the relationship pattern between the constructs
- To know the extent to which the constructs like information asymmetry, attitude, subjective norms and Economy/industry/company attributes affect behavioural intention of retail investor's in Initial Public Offers

2.4 Significance of the study:

- To Expand the knowledge level and to provide a deeper insight into the area of Initial Public Offers from the retail investors perspective by providing an explanation through behavioural point of view rather than being more technical by the market data.
- A value addition to the existing research volumes available in Initial Public Offers, provide useful information to retail investors while participating in Initial Public Offer.

2.5 Research Hypothesis:

H1a: Information Asymmetry(IA) will directly and significantly affect Investor Attitude(ATT)

Lawrence(2013) Higher quality disclosure of financial part influence investors to take more risk by investing more. Health and Tversky (1991) argue that ambiguity aversion signifies the confidence individuals have about accessing given information. So an investor's access to information may also affect their perception towards behaviour.

H1b: Information Asymmetry(IA) will directly and significantly affect Economy, Industry and Company Attributes(EIC) . Relationship was developed for the study to test.

H2a: Economy, Industry and Company(EIC) attributes will directly and significantly affect Investor Attitude(ATT). Salam Abdullah and Khalil Hilu (2015) there exists a direct relationship between risk attitude and market perception.

H2b: Economy, Industry and Company(EIC) attributes will directly and significantly affect Behavioral Intention(BI) Lo and Repin (2001) reported a significant correlation between market events and physiological characteristics.

*H3: Investor Attitude(ATT) will directly and significantly affect Behavioral Intention(BI) (*Lee 2009). Attitude is the more relevant variable to explain intention (East 1993, Gopi and Ramayah, 2007). All investment activities of individual investors are guided by their attitude.

H4a: Subjective Norms(SN) will directly and significantly affect Behavioral Intention(BI) Venkatesh and Davis(2000), Fu,Farn et al(2006) proved significant relationship between subjective norms and intention.

H4b: Subjective Norms(SN) will directly and significantly affect Investor Attitude(ATT). Relationship was developed for the study to test

1. Research Methodology:

3.1 Target Population:

Target population in this study considered were investors who are investors in primary market in city of Chennai.

3.2 Sampling Frame:

Sampling frame was the investors in Initial Public Offers listed in National Stock Exchange between the period of April 2016 and July 2016. During these periods following companies have listed in NSE through their IPOs namely Equitas Holdings, Thyrocare, Ujjivan Financials, Parag Milk, Mahanagar Gas, Quess Corp, L&T infotech and Advanced Enzymes. These companies provide a wider investor base which has industries of diverse nature and hence it was decided to concentrate on the investors who have invested in these companies.

3.3 Sample Size:

Our targeted respondents count was 400 of which only 321 was taken into consideration due to no response and certain other issues. Outliers was tested for the sample of 321 and finally ended with 253 respondents.

4. Data Analysis:

4.1 Testing of measurement model:

The Bartlett's test of sphericity was used to determine the appropriateness of factor analysis by testing the magnitude of the correlations of the entire correlation matrix (Hair et al., 1998). Results from the Bartlett's test indicated significant correlations among measurement variables considered for the study, which are exhibited in table number 1.

Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.872
Bartlett's Test of Sphericity	Approx. Chi - Square	6531.317
	Df	435
	Sig.	0.000

Kaiser(1974) has recommended KMO value of greater than 0.7 is acceptable and if stated value is between 0.7 and 0.8 is good. Value of our test 0.872(Inferred through table No.1) confirmed the adequacy of sample size that is considered for the purpose. Significance value of 0.000 indicates existence of relationship between the variables used in the study.

Table 2. Factors derived from Factor Analysis

No	Factor Description	% of variance explained	No of Supporting variables
1	EIC Attributes(EIC)	18.844	5
2	Attitude(ATT)	18.711	6
3	Behavioral Intention(BI)	10.637	4
4	Information Asymmtery(IA)	10.518	3
5	Subjective Norms(SN)	10.016	3

Inference : SPSS output indicated 5 factors that explained approximately 68% of the total variance in the data set shown in Table 2 . These five factors are supported by 21 variables and the remaining 9 were not used of factor loadings less that 0.7 or communality lesser than 0.4.

4.2 Goodness of fit of Measurement model:

Goodness of Fit of a model indicates how well the specified model reproduces the covariance matrix among the measured parameters (Malhotra and Dash. 2011). The various indicators designed to assess the goodness of fit of a model include Absolute Fit Indices, Incremental Fit Indices and Parsimony Fit Indices.

To measure the goodness of fit GFI and AGFI are used. A minimum value of 0.90 for GFI and 0.80 for AGFI is expected by Hu and Bentle (1999). Data from our observations are 0.908 and 0.824 respectively for GFI and AGFI and hence both are acceptable. To measure how bad the model is Chi-Square, RME and RMSEA were used. Segars and Grover, 1993 has recommended Chi-square value of <= .05, CMIN/DF value of <= 3, RMR value of <= .09 and RMSEA value of <= .08 as acceptable. In this model the above parameters were read 0.000,2.505, 0.056 and 0.076 respectively which satisfiy the above criteria that the mode is not bad to be rejected.

To measure the goodness of fit on incremental fit indices, Norm Fit Index(NFI) and Comparative Fit Indices(CFI) were used. A Minimum value of >.9 for both the indices, NFI and CFI have been stated to be acceptable by (Malhotra and Dash. 2011).0.903 and 0.904 were the measurement in this research which as more that the value required to accept the incremental fit.

4.3 Reliability and Convergent validity of measurement model:

Reliability is a measure of knowing the extent to which data is error free or without bias, has consistency for measure at any time and across various items. In this research to test the items Squared factor Loadings(SFL) is used. To test reliability of the constructs Cronbach's Alpha is used. Squared Factor Loadings more than 0.5 is considered as acceptable and Cronbach's coefficient alpha of greater than 0.7 is acceptable. It is evident from Table 3 that all the items have SFL>0.5 or approximated to 0.5 and hence no item is rejected for non-reliability. Also it was evident that Cronbach's Alpha of all the constructs was more than 0.7 and hence no rejection of any constructs too.

Convergent validity is used to know how the items correlate with its own construct. Standardised Regression Weights (SRW) and Average Variance Extracted(AVE) is used to measure the same, SRW>0.70 is used as the criteria to measure the convergent validity. In our case all the items has met the criteria. AVE of all the five constructs satisfy the requirement. SRW of all the items and AVE of the constructs were more than the minimum limit of 0.5 and hence no rejection when convergent validity is tested. Description for the Var No of the below table was explained in Table No.6.

Table 3 Reliability and Convergent Validity

Var No	Constructs	Cronbach's Alpha	SFL>0.5	SRW>0.7	AVE>0.5
B1	Economy, Industry & Company Attributes (EIC)	0.929	0.646	0.709	0.692
B7			0.643	0.765	
C3			0.645	0.967	
C8			0.635	0.949	
C9			0.614	0.733	
A1	Investors Attitude (ATT)	0.913	0.496	0.700	0.615
A3			0.594	0.919	
B2			0.51	0.873	
B3			0.603	0.772	
B10			0.605	0.693	
C4			0.564	0.717	
A8	Behavioral Intentions (BI)	0.751	0.514	0.879	0.629
B5			0.491	0.885	
C2			0.777	0.692	
C5			0.77	0.694	
A7	Information Asymmetry (IA)	0.795	0.529	0.692	0.603
A9			0.721	0.828	
A10			0.628	0.803	
B9	Subjective Norms(SN)	0.83	0.746	0.695	0.643
C6			0.712	0.898	
C10			0.616	0.800	

All the items and constructs that were considered after the initial rejections conformed to the standard measure of validity and reliability.

4.4 Discriminant Validity of Measurement Model:

To measure how the construct is different from other construct to know its unique contribution discriminant validity is done. Correlation between the items is generally used to test this but of overlapping constructs. Fornell and Larcker (1981) suggested that the squared correlations between the constructs should be less than the variance explained by each construct. From the Table No 4 it can be inferred that all the items have loaded strongly on its own construct (diagonal data) and relatively weak on other constructs and hence the discriminant validity is established.

Table 4: Discriminant Validity

	EIC	ATT	BI	IA	SN
EIC	**0.832**	0.635	0.441	0.254	0.153
ATT	0.635	**0.784**	0.523	0.322	0.123
BI	0.441	0.523	**0.793**	0.363	0.308
IA	0.254	0.322	0.363	**0.777**	0.184
SN	0.153	0.123	0.308	0.184	**0.802**

4.5 Structural Equation Modelling Analysis

After the Confirmatory Analysis was established, it's a structural model which can provide a hypothetical relationship between the constructs was developed. All the 21 variables that have defended the validity and reliability test are taken into consideration to develop a structural model. Behavioral Intention(BI) is considered as dependent construct and the remaining 4 constructs Information Asymmetry(IA), Investor's Attitude(ATT), Economy, Industry & Company Attributes(EIC) and Subjective Norms(SN) were considered as independent variables.

Initial Structural Model:

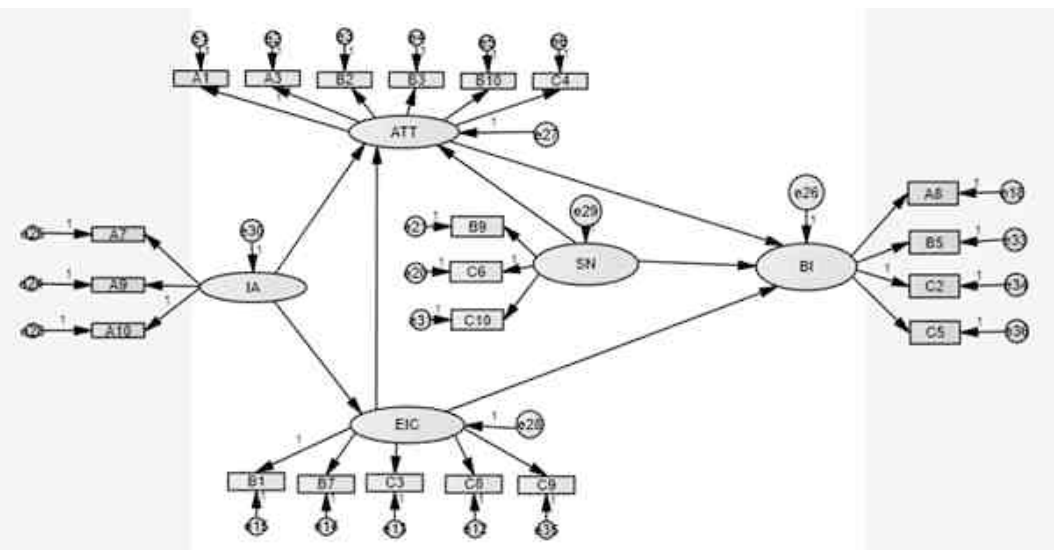

Figure 4 Initial Structural Model

From the figure testing of relationship is done as follows.

Investor Attitude depends on both Information asymmetry and EIC attributes, EIC attributes depend on Information asymmetry, Behavioural intention depends on Investor attitude, Subjective norms and EIC attributes. Hypotheses were developed based on the above explained logic.

5.1 Assessment of fitness of structural model:

Goodness of Fit of a model indicates how well the specified model reproduces the covariance matrix among the measured parameters (Malhotra and Dash 2011). The various indicators designed to assess the goodness of fit of a model include Absolute Fit Indices, Incremental Fit Indices and Parsimony Fit Indices.

To measure the goodness of fit GFI and AGFI are used. A minimum value of 0.90 for GFI and 0.80 for AGFI is expected by Hu and Bentle (1999). Data for our observations are 0.894(Approx 0.90) and 0.822 respectively for GFI and AGFI and hence both are acceptable. To measure how bad the model is Chi-Square, RME and RMSEA were used. Segars and Grover, 1993 has recommended Chi-square value of <= .05, CMIN/DF value of <= 3, RMR value of <= .09 and RMSEA value of <= .08 as acceptable. In this model the above parameters were read 0.000, 2.503, 0.063 and 0.077 respectively which satisfies the above criteria that the mode is not bad to be rejected.

To measure the goodness of fit on incremental fit indices, Norm Fit Index(NFI) and Comparative Fit Indices(CFI) were used. A Minimum value of >.9 for both the indices, NFI and CFI have been stated to be acceptable by (Malhotra and Dash. 2011).0.900 and 0.937 were the measurement in this research which as more that the value required to accept the incremental fit.

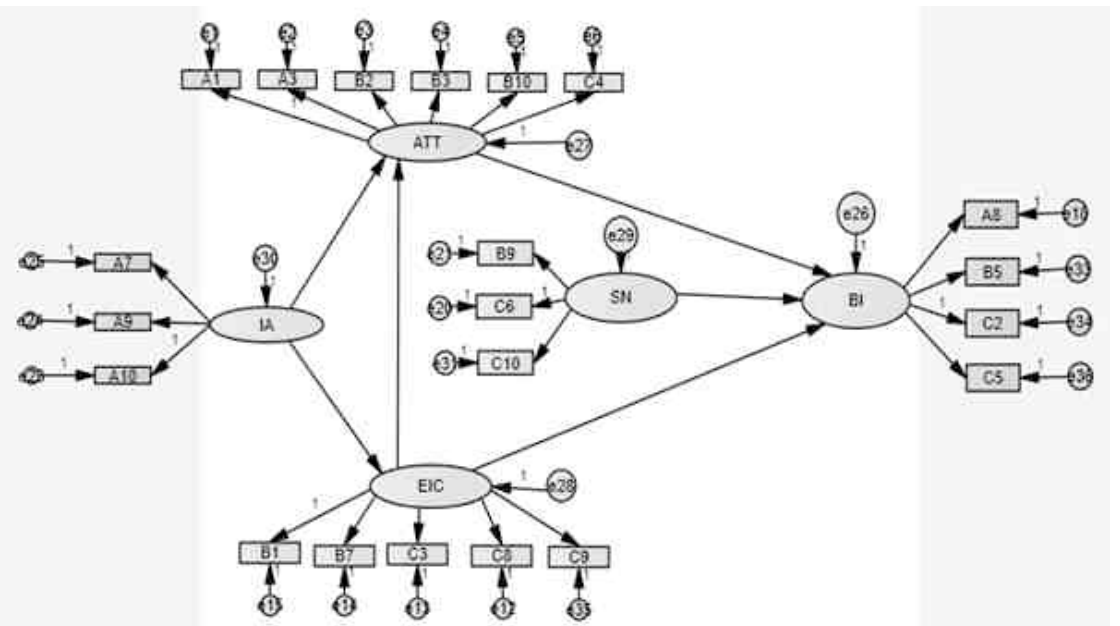

Figure 5 Final Structural Model

On comparing the initial structure with Final structure along with the testing of significance to establish a relationship it is evident that relationship between subjective norm and attitude is getting rejected and no change in the testing of relationship between other variables.

5.2 Hypothesis Testing:

The proposed hypotheses relationships among latent variables in the structural model were tested on the basis of standardized coefficient and related p value is summarized below.

Of the seven hypotheses among the constructs, six were found to be statistically significant and hence the hypothesis related to them was accepted. Investor Attitude has significant impact on the Behavioural Intention and Market attributes too has a significant impact on Investor attitude.

Table 5: Hypothesis outcome and relationship

Hypothesis	Relationship	Standardized Coefficient	Significance At p<0.05
H1a	IA---ATT	0.177	Accept
H1b	IA---EIC	0.252	Accept
H2a	EIC---ATT	0.591	Accept
H2b	EIC---BI	0.158	Accept
H3	ATT ---BI	0.407	Accept
H4a	SN---BI	0.245	Accept
H4b	SN---ATT	0.004	Reject

Inferences from Table 5

H1a: The first null hypothesis of the study "Information Asymmetry will directly and significantly affect Investor Attitude" was supported by the analysis and hence not rejected. R square indicates a positive influence of Information asymmetry on the Investor Attitude.

H1b: The next hypothesis of the study "Information Asymmetry (IA) will directly and significantly affect Economy, Industry and Company Attributes(EIC)" was supported by the analysis and hence not rejected. Relationship was healthy that indicates a strong positive influence of Information Asymmetry on attributes related to economy, industry and company.

H2a: The next hypothesis of the study "Economy, Industry and Company(EIC) attributes will directly and significantly affect Investor attitude (ATT)" was supported by the analysis and hence not rejected. R square was too strong the evidence that Attitude is highly influenced by the market and the related

H2b: The next hypothesis of the study "Economy, Industry and Company(EIC) attributes will directly and significantly affect Behavioral Intention(BI)" was supported by the analysis and hence not rejected. Direct relationship between these construct is not too strong but positive enough to indicate market attributed too influence the behavioural intention.

H3: The next hypothesis of the study "Investor Attitude (ATT) will directly and significantly affect Behavioral Intention(BI)" was supported by the analysis and hence not rejected. Influence of Investor attitude on Behavioral Intention was strong and positive to clearly support the hypothesis.

H4a: The next hypothesis of the study "Subjective Norms(SN) will directly and significantly affect Behavioral Intention(BI)" was supported by the analysis and hence not rejected. A positive R square indicates a good relationship between both the constructs indicating no scope for any ambiguity.

H4b: The last hypothesis of the study "Subjective Norms (SN) will directly and significantly affect Investor Attitude (ATT)" was not supported by the analysis and hence rejected. Relationship between both the construct was too low to support the rejection.

1. Conclusion:

The present study has proposed a structural model to understand the intentions of investor's through various dependent variables that were considered in the research. This is the first of kind empirical study in Chennai. Structural Equation Modelling was employed to understand the relationship. Constructs of Theory of Planned Behaviour was used with one modified construct named as EIC attributes without changing the core idea of PBC. Scales used to measure the construct were identified and refined with best statistical techniques on validity and reliability.

Attitude of an investor seems to be a dominating variable in influence the intention when compared to rest all variables. EIC attributes which was modified for our research purpose instead of the Perceived behavioural Control was the most influencing factor in framing Investor's Attitude. Many retail investors consider the IPO investment though many alternatives available to make a better return and had lot of positive things on their IPO investment.

Confidence of the investor and the subscription scenario of the institutional investors are the dominators in changing the investor attitude which was proven even from the technical point of view by many researchers in analysing performance of Initial Public Offers. Similarly EIC Attributes which was considered proxy for behavioural control provided market condition and company management practices as the controlling items indicating positive relationship between attitude and intention.

This study provides a valuable input to the issuer firms, the behavioural view of retail investors on initial public offers. This input which in turn helps issuer firms on how to attract this kind of investors into this mode of investment stream.

Further scope in research: Cognitive and emotional factors like familiarity, overconfidence and herd behaviour were used in the research. Many other factors like expert

knowledge, feeling, worries and aversion of loss could also be included and tested in further research. Scope of the research can be further extended by including investors from other metros whose penetration are above and below the city of consideration in this research and comparative study could be made. Investigation can be further intensified with measuring the actual behaviour of the investor post investment in any of the IPOs following their response to the research.

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APPENDIX

Var No	Var Description
B1	Pricing of an IPO
B7	Success of IPO's prior to current IPO influence my decision
C3	Good market condition
C8	Better management practice
C9	Age of firm
A1	Knowledge of primary market activities
A3	Confident of my own opinion
B2	Institutional investors interest
B3	Popularity of company's group
B10	Imitate decision of others
C4	Familiar Business
A8	Preference of IPO over other investments
B5	Positive things to express in prior IPO investments
C2	Intention to invest in a good forthcoming IPO
C5	Recommendation to friends
A7	Data sources abundant
A9	Sufficient data
A10	IPO managed by top brokers
B9	Significant others influence
C6	Family Approval
C10	Important others thinking

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"Eating out" as Life Style: Yielding to the Impulsive Temptation

Kalyani Kalita and Mrinmoy K. Sarma

Abstract

Rapid urbanization, changing lifestyle, increasing dual income households and innovative merchandizing techniques have brought major changes on consumer's food consumption habit even in an emerging economy like India. A special occasion is no more the only driver of eating out, rather it has evolved as an occasion in itself. Restaurant services in India have been quite successful in tapping the consumer market in recent past with the offerings of the taste of multinational cuisines. The restaurant industry is expected to grow at a rapid pace in near future which requires a fair understanding of consumer changing consumption pattern. The objective of this work is (a) to examine consumer impulse buying behaviour in terms of eating out activity, and (b) to understand the relative importance of various contributing factors towards such buying behaviour. To meet the research objectives, the study follows both descriptive and experimental research approach. Results reveal that consumers indulge in impulse buying while deciding to eat out. Various demographic, psychographic and external stimuli independently or in combination are found to be asserting strong influence on impulsive eating out decisions. India is distinctive among emerging countries for its fast-growing service sector. The present study will help in understanding consumer in the growing food serving market specifically in delineating the factors responsible for consumers' spontaneous decision of dinning out. This should help in formulating effective marketing strategy for quality as well as sustainable growth of the prepared food industry, which possesses immense potential for economic growth at large.

Key words : *Confectionery Products, Marketers, Children, Advertisements, Purchase Preference, Attributes of Advertisement*

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The lifestyle of Indian consumer has undergone considerable changes in recent past. Food consumption habits are no exception to this (Kaur & Singh, 2013; Srividhya, 2014). There has been a significant increase in eating out, spurring growth to the food service industry. The demand for takeaway and home delivery services have increased over the years, driven by factors like busy working schedule, dependence on convenient food, a large younger population, growing disposable income, online channels and efficient service delivery business (Technopak, 2014).

According to Indian Restaurant Report (2012), an average Indian has started to eat-out twice as much as in just over a year's timeline. It suggests a huge opportunity for India's food services sector owing to fast changing food habits

specially taste for eating out (Chakrabarty and Joshi, 2013; Goyal and Singh, 2007). As per the household spending data released by the National Sample Survey Organisation, the proportion of household expenditure on dining out has increased steadily from 19% in 2000 to over 30% in 2012 (dnaindia, 2013). According to a study by VISA (2014), a payment company, more than half of the affluent Indians are planning to increase their discretionary spending on dining, nights out, holidays and luxury goods, 92% of the respondents from this class regularly spend on fine dining. The propensity to eat out is also positively associated with rising discretionary income, more women joining the workforce and rapid urbanisation. National Council for Applied Economic Research (NCAER, 2011) reported that the growing middle class in India is actively contributing to the development of the formal economy by making most of the discretionary purchases.

The Indian food processing industry accounts for 32 % of the country's total food market, one of the largest industries in India and is ranked fifth in terms of production, consumption, export and expected growth. The current size of the Indian food services market is estimated at INR 3,37,500 crore in 2017 and is projected to grow at a CAGR of 10% over the next 5 years to reach INR 5,52,000 crore by 2022 (FICCI -Technopak report, 2017).

Eating out

According to Warde and Martens (2000), eating out was primarily guided by utilitarian motive, however, in recent years, it is more of a pleasure than necessity which offers moments of distraction and satisfaction (Finkelstein, 1989). Consumption can be distinguished as hedonic or utilitarian based on the value and the level of pleasure it offers (Dhar and Wertenbroch, 2000; Hirschman and Holbrook, 1982; Strahilevitz and Myers, 1998). The utilitarian value is associated with the convenience of saving time and energy in preparing a meal for professional ambitions and personal success (Botonaki and Mattas, 2010). People, particularly single individual have their food out of home during working hours due to convenience. In a study, Wordsfold (2006) found that participants often go to restaurants when returning home from work late or when feeling exhausted. These decisions are sometimes solitarily taken or sometimes in company of others or may be when celebrating a special occasion.

In modern society, food consumption is linked to an individual's lifestyle (Chaput et al., 2010; Kearney, 2010) and, as a result, food is consumed not only for survival, but also for higher-order purposes, such as health, convenience, and entertainment. It is found in a study conducted in India that few people think frequent eating out is not healthy; therefore, decisions should be taken very carefully while eating out of home (Srividhya, 2014). However, some people find it beneficial to eat out because they get the opportunity to try new dishes which are difficult to cook on their own with the same taste and flavor as in a restaurant (Epter, 2009; Srividhya, 2014). Srividhya (2014) also emphasizes that people enjoy the idea of being in a different environment, wearing different clothes, and being with other people. Eating out represents a way to become better acquainted with a stranger, to build or maintain relationships, and to celebrate important events with friends and family (Warde and Martens, 2000).

Eating out as Impulsive buying

Cullen (1994) distinguished eating out as pleasure or convenience, convenience is when motivated by pure utilitarian motives and pleasure is when induced by emotional feeling. According to Gardener and Rook (1998) impulsive eating out happens only when consumers' food consumption is regulated by affective or hedonic states of mind. According to Baumeister (2002), impulses refer to behavioral responses that normally result from the interaction between a motivation and some activating stimulus, such as when the hungry person sees food and feels an impulse to eat it. The indulgence is to gain short-term gratification. Researchers assume that impulses arise from the automatic activation of associative network linking behaviours to known outcomes, and run unless suppressed by the conscious activation of a higher-level, goal-oriented system (Allan, Johnston and Campbell, 2009; Strack and Deutsch, 2004). Impulsive behavior is the experience of a sudden and unplanned urge to behave in a hedonically pleasing manner that is immediately gratifying and acting on the impulse without careful deliberation on subsequent negative consequences (Piron, 2012; Puri, 1996; Shiv and Fedorikhin, 1999; Sengupta and Zhou, 2007). Choosing a hedonically appealing, but unhealthy, cake over a healthy salad because of a strong impulse that favors the former represents example of such behavior (Shiv and Fedorikhin, 1999). Fedorikhin et al. (1999) proposed that impulsive people give more emphasis to affective state over cognitive. Highly impulsive consumers are usually restless, self-

indulgent, variety seeking and risk taking (Rook and Fisher 1995). The instant pleasure of engaging in a novel activity guides their behaviour. The spontaneity in the buying decision stimulates their mood and behaviour. Impulsive buyers are more sensitive to the feeling of positive outcome of a promotion and less sensitive to the negative outcome. When people are faced with hedonically appealing temptations of a food (e.g., a chocolate cake), their impulsive behavior is guided by an instant gratification of satisfying their craving for a rich taste, and at the same time a disregard for the possible negative consequences of engaging in such activity (e.g., added calories) and the potential adverse effects on their health and fitness (Rook 1987; Shiv and Fedorikhin, 1999).

Sensory stimuli such as visual images, tempestuous flavours and fragrances during the consumption of meals provides emotional fulfillment, enjoyment and fun (Hanefors and Mossberg, 2003; Rezende and Silva, 2014). Variety or novelty seeking is an important factor in eating out particularly for tourists when visiting a particular destinations (Au and Law, 2002; Cohen and Avieli, 2004). Ample evidences from impulse buying studies suggest that impulse buying is often associated with a positive affect such as pleasure or excitement (Beatty & Farrell, 1998; Rook & Gardner, 1993). Restaurant is a place where people experience excitement, pleasure and a sense of personal well-being (Finkelstein, 1989). The variety seeking attribute in consumers would often trigger the need for experiencing different cuisines (Beldona, Moreo & Mundhra, 2010).

Globalisation has influenced the production and processing of food as well as its marketing and consumption, particularly in the emerging economies. People nowadays prefer eating out of home more than cooking at home. Nielsen in an online survey found that 96% of the urban Indians consume food from take-away restaurants once a month and 37% of this which comprises adult Indian consumers do so at least once a week (Ali and Nath, 2013; Vijayabaskar and Sundaram, 2012). Among fast-growing developing countries, service sector plays a distinctive role in Indian economy. It has become one of the most promising markets for the international food manufacturing and retailing sector.

Eating out of home has been considerably growing due to changing lifestyles and family demography (Warde et al., 2007). Considering the changing consumption habit of the consumers which is noticeable in the growing interest of eating out, home delivery, take away services, it is very much important to study the buying behaviour of consumer in this sector. Several scholars (Kacen and Lee, 2002; Rook and Fisher, 1995; Verplanken and Herabadi, 2001) have noted that individual differentiation in impulsive consumption could be an important area of research. Herabadi, Verplanken, and van Knippenberg (2004) demonstrated that impulsive buyers have quite different shopping experiences than non-impulsive buyers, both at a cognitive and an affective level. The frequency of eating out differs across socio-economic groups in terms of income, age, region, class, gender and household composition (Warde and Martens, 2000). So far literature has mostly emphasised on the impulsive eating, overeating, eating out in cultural and lifestyle context and from a nutritional point of view (Anand, 2011; Allan, Johnston and Campbell, 2010; Baumeister, 2002; Choi, 2016; Edwards, 2013; Lachat et. al., 2011; Miao and Mattila, 2013; Nederkoorn et. al., 2009; Park, 2016; Sengupta and Zhou, 2007). The existing body of knowledge in the form of government or private reports and scholarly research articles put forward a lot of importance on understanding consumer's impulsive eating out activity. However, from the literature, it has been observed that this area is not given an adequate attention in terms of its marketing prospects. It is important to study impulse buying in eating out and the drivers regulate such buying activity. The present study therefore aims to explore a new paradigm in impulse buying behaviour in food service industry.

Following are the objectives targeted to fulfill through the present study:

1. To examine impulse buying tendency in eating out activity.
2. To study the influence of certain internal and external factors on impulse buying tendency for eating out.

Research methodology

To meet the research objectives, the study adopts both descriptive and experimental research approach. A sample survey with a structured questionnaire is utilized to collect the self reported data which fulfils the first objective of the study. The sampling technique followed here is judgment and convenience. The judgment is exercised to determine the level of age and income of the prospective respondents as a ready-made sampling frame is not available for the desired population. Convenience is sought with regards to

willingness to take part in the survey. The universe of the study is general adults belong to Guwahati city, a major urban area of the state of Assam in India (Census of India, 2011). The urban center is selected because earlier studies of same nature suggest that eating out is more prevalent among urban population compared to that of the rural ones (Dawson, 1991; Lachat et. al, 2011).

Sample selection goes through the following procedures keeping in mind the aim of the study as well as for a generalized interpretation of the results in a broader context. These are,

1. General adults in the age group of 18 to 65 years are considered as a potential respondent.
2. The samples are representative of all occupational groups like students, service personnel, presently not employed, homemakers.

A single group before-after experimental design is utilized to fulfill the second objective of the study. As it is a one group study, the universe is same as that of the first one. In the experimental stage, respondents are given the external stimuli of advertisement, discount and reference group influence as treatments in the form of images and situational questions to generate the required information. Through another structured questionnaire, the same set of respondents is used for both the survey as well as experiment. Responses of a total of 150 samples are conveniently sampled.

Measurements

The internal factors measured through questionnaire are general impulsive buying tendency, optimum stimulation level, lifestyle, self construal. Impulse buying tendency for eating out is also measured using five point likert scale.

The questionnaire (second one) that is used in the experiment includes imagery cue and situational based questions of advertisement, discount and reference group. The imagery advertisement contains symbolic appeal of a restaurant which is presented in terms of ambience and decoration. The scenario based question contains the discount offer, and reference group influence. Respondents willingness to go for impulsive eating out is recorded in a nominal scale (Yes/No) and the responses to external stimuli measured in a five point likert scale (Strongly agree=5, Agree=4, Neither agree nor disagree=3, Disagree=2, Strongly disagree=1).

Following is a brief on the factors under measurement:

1. General impulse buying tendency is a relatively stable consumer trait associated with impulsive buying behaviours which is measured with eight items (Sharma *et al.,* 2011; Puri, 1996; Rook & Fisher, 1995). Consumer impulse buying tendency for eating out is measured by five items adopted from the scale developed by Rook & Fisher (1995) which is measured in context of eating out.
2. Optimum stimulation level is a property that characterizes individuals in terms of their general response to environmental stimuli (Raju, 1980). High score in optimum stimulation level means high sensation seeking and adventurous. It is measured with five items in a five point likert scale.
3. Self-construal is measured with six items, which refers to how people perceive themselves to be linked (or not) with other people (Markus and Kitayama 1991). People with predominantly independent self-construal see themselves as independent and autonomous, tend to place high value on uniqueness, individual accomplishments, and achievement. People with predominantly interdependent self-construal see themselves as part of a larger group, value connectedness, conformity, group harmony, and safety and security.
4. Lifestyle is measured through five items, financial satisfaction, life orientation, novelty seeking, social orientation, security and stability, which are adopted from Kucukemiroglu (1999). High score indicates open minded or independent thinking while low score means adherence to societal norms and traditional orientation.
5. Sales promotion: A questionnaire containing imagery advertisement of picture with sales promotion and a situation describing impulse buying scenario.
6. Reference group: In order to examine the impact of friends/family an imaginary situation is used where hypothetical scenario is used.
7. Demographic variables include gender, age, education, income, family life cycle and occupation (Dholakia, 2004; Rook & Fisher, 1995).

DATA ANALYSIS AND FINDINGS

Both descriptive and inferential statistics are applied to understand the buying behaviour of the respondents with respect to the study objectives.

Out of 150 respondents interviewed 83 are female and 67 are male. The group between 18 to 25 yrs is the largest group followed by 26 to 35 yrs., which is in line with the population in India where majority consists of young adults. In terms of education levels, a majority of the respondents have completed graduation (69) & post graduation (63). 60% of the samples are single or unmarried. Among the occupational groups, majority belongs to students (59) and service personnel (56). Regarding income level, more than half of the respondents have a household monthly income in between Rs. 40,000/- to Rs.1,00,000/-.

Due to non response one sample is excluded from the total of 150 respondents in the final analysis. Out of 149, half (76) tends to eat out weekly. Figure-1 in Appendix-3 shows the average response towards the reasons of eating out. It is seen that the influence of friends/family ($\bar{x}$=3.32) and interest ($\bar{x}$= 3.01) are the two main reasons of eating out. It is already argued by researchers that, need and interest (or involvements) are important drivers of impulse buying behaviour associated with a product (Hirsch, 1995; Mitchell et. al., 1995; Mehrabian and Russell, 1974). According to the findings, the positive interlinks between interest and reference group influence may lead to indulgence in impulsive eating out.

Further, a moderate level of impulsive eating out in terms of internal attributes ($\bar{x}$=3.11) is found. Overall, respondents are seen to follow neither a modern nor a traditional lifestyle ($\bar{x}$=3.20). Their optimum stimulation level ($\bar{x}$=3.08) is also found to be of moderate which means they are less likely to engage in risky decision making. Likewise, a moderate level of independent self construal ($\bar{x}$=3.17) suggests that respondents take decisions on their own as well as ask others. When taking decisions for major life events they may take help of others but for minor day to day activities the decisions are taken on their own.

Table-1 in Appendix -1 outlines the descriptive analysis of participants' impulse buying tendency for eating out in response to external and internal stimuli. Sample's average response on the particular scale is presented here. It shows moderate level of impulsive eating out tendency which is internally driven ($\bar{x}$=2.98). On the other hand, the average score of each of the external factors is above 3.5 which indicate strong influence of external factors on impulsive eating out choices.

Comparing the influence of internal and external factors on impulse buying of eating out

Table-1 suggests that impulsive buying for eating out is comparatively low before exposure to external stimuli. A series of paired sample t-tests are done to understand if the differences are statistically significant or not.

Treatment of missing cases: In the second questionnaire, the respondents who have reported "No" (when asked on their willingness to buy the services) are discarded from the further analysis as missing values. These respondents are considered as not interested in impulsive eating out. There are 18 such cases out of which, it is found that majority i.e., 10 cases are low in internal impulse buying (below 2.5 in a five point scale), 2 cases record medium, and 6 cases are of high internal impulse buying tendency for eating out. As such, finally131 respondents are considered for further analysis.

In order to further delve into the analysis a composite average of external factors is calculated and compared with internal impulse buying tendency for eating out. The obtained result in Table-2 shows that both the factors are significantly differed (p<.01) in terms of their influence on impulsive eating out. It leads to further curiosity of enquiring the impact of external factors on different level of internal factors and their effect on impulsive eating out. For this, respondents are categorized into high, low and medium based on their responses to each of the four internal factors separately. This is done with the help of visual binning using equal percentile cut point. A high level of internal factor indicates higher attributes of the particular internal factor favourable for impulse buying. Same logic follows for other two categories i.e. medium and low impulse buying tendency. Analysis in Table-3 (Appendix-1) suggests that there is significant impact of external stimuli on different levels of internal factors which influence impulsive eating out choices. Interestingly, the respondents who are towards the low internal attributes related to impulsive buying are seen to be more influenced by external stimuli. Even though increase in impulsive eating out is found in the respondents who have medium and higher levels eariler, the degree of influence is comparatively low. The result is partly differed from the findings of Nederkoorn et al. (2009) that highly impulsive people are more likely to experience temptations to eat than less impulsive people, especially between meals when hunger levels are high. Probably when comes to

impulsive eating out, it is not only the food that matters but other aspects such as eating place and accompanying persons also matter. A graphical representation is given in Figure-2 in Appendix-3.

The results establish that external stimuli are successful in inducing impulsive eating out decisions even for consumers with low internal impulsive buying tendency. However, it cannot be conclusively said that if the changes in their decisions are more subjected to situational factors. Overall, the analysis concludes that irrespective of the strength of internal traits external stimuli such as advertisement, discount and reference group (say, peer pressure, word of mouth) can influence impulsive eating out behaviour. There is a chance that influence of external stimuli is higher on consumers with low level of internal impulsive traits.

Demographic factors as determinants of impulsive eating out

One way analysis of variance is conducted in order to check if there is any significance difference in impulsive eating out stimulated by external influence across demographic groups such as age, gender, education and lifecycle stage. The results show significant differences in means across the groups except for gender. This supports the findings of Kollat and Willet (1967) that impulse purchase behaviour is not affected by the gender of the consumer. It has also been found from the analysis that among the three external stimuli, discount is playing a significant role across different levels of demographic factors. Influence of advertisement and reference group across the demographic groups could not, however, be established from the analysis. The results are shown in Table-4 in Appendix-2.

Analysis shows that age groups and consumer impulse buying tendency is significantly differed when there is a discount ($F(3,108)=5.295$ $p<.05$). Post hoc analysis suggests that consumers in the age group *of 18 to 25yrs.* tend to be more impulsive in eating out in response to a discount. Students among all other occupational groups are found to be impulsive in eating out choices. In case of educational background, it is seen that undergraduate students are more driven by impulsive eating out decisions when exposed to a discount than the graduates and post graduates. Likewise, single unmarried respondents are more likely to make impulsive eating out choices influenced by discounts.

Predictive value of internal and external factors on Impulse eating out

A linear regression analysis throws light on how various internal and external factors are successful at predicting impulsive eating out. It is to be noted here that only two factors, lifestyle (internal) and advertisement (external) have some significant predictive value for impulsive eating out. The regression analysis is done taking these two as independent variables.

The results shown in Table-5 of Appendix-2 establish that lifestyle and advertisement may be used to significantly predict impulse buying of eating out, although together they have a moderate (42%) effect on impulsive eating out.

The regression equations for the independent variable lifestyle (internal factor) and advertisement (external factor) is presented below in the form of $y=c+b_1x_1+b_2x_2$,

(Impulse eating out tendency) = .269+.732(Consumer Lifestyle) + .125*(Advertisement)* [Table-6, Appendix-2]

The equation above indicates that the consumer shall take impulsive decision for eating out if he/she follows modern lifestyle and have strong adherence to advertisement appeal. It also suggests that if consumers response to both variables i.e. lifestyle and advertisement is *strongly agree* in a five point likert scale then there is a likelihood of engaging in impulsive eating out. In that case the dependent variable is expected to return a value of 4.6 (agree to strongly agree). It means that congruence between highly oriented modern lifestyle and exposure to advertisement can drive consumers unplanned or impulsive eating out behaviour. Lifestyle explains the tendency for exploration, less regards for monetary consequences, interest in latest trends & fashions and open mindedness.

Discussion & Conclusion

Drawing conclusion from this work, it can be established that impulse buying in eating out does happen and it is influenced by both internal and external factors (with respect to consumer). External factors are found to be more influential in impulsive eating out than internal factors. Interest and the influence of family and friends are some of the main reasons of having food out of home. A detail analysis reveals some interesting facts which are outlined in the following paragraphs:

Demographic characteristics and impulse buying in eating out: Demographic factors such as age, lifecycle stage and

education influence consumer impulsive eating out which is in line with a good deal of literature on impulse buying (Rook and Hoch, 1985; Dittmar, Beattie, and Friese, 1996).

Supporting the findings of previous literature this study also confirms that young population (Rook & Hoch, 1985) shows more impulse buying tendency for eating out. Ali and Nath (2013) reported that younger people mostly spend time away from home in study or work places which makes them more inclined to eat out as compared to the older age group. According to Gaiha, Jha & Kulkarni (2009) in India, younger age-groups are more susceptible to the media exposure and advertisement. Partly supporting this finding Sinha (2003) states that young and working class with higher purchasing power indulge in impulse buying activity because of entertainment and emotional satisfaction. Studies suggests that factors like taste of the food offered, convenience and opportunity to meet friends are mainly the reasons of eating out of home (Lucan, Barg, & Long, 2010; Rydell *et al.,* 2008).

In addition to this it is also found that unmarried single individual is more prone to make impulsive eating out. Single person and single parent households and families with fewer children eat out more frequently (Ali and Nath, 2013; Cullen, 1994). However, unlike other studies (Coley & Burgess, 2003; Dittmer *et al.,* 1995) gender difference is not found in case of impulse buying of eating out.

Internal and external factors and impulse buying in eating out: Consumption experience varies depending on atmospheric cues as well as individual attributes. Sensory elements of a food product can attract the attention of a consumer (Zhang and Seo, 2014). Exposure to sensory stimuli in forms of advertisements may induce an irresistible urge to experience the product which is found to be more effective for individuals with low level of impulsive trait in the present study. Advertisement, discount and reference group are important external stimuli drive impulsive eating out decisions. This finding is supported by the study of Miao & Mattila (2013) which states that sensory stimuli present in the purchase environment makes individual susceptible to impulse buying by creating an indulgence motive. Consumers can experience an urge to impulsively buy when visually encountering cues such as promotional incentives (Dholakia, 2000; Rook, 1987). Discounts help consumers maximize the utility, efficiency and economy of their purchase (Liao, Shen & Chu, 2009).

From the results of the present study, it is evident that even people with low level of impulsive tendency are inclined to impulsive eating out when exposed to external stimuli. Consumers may find it difficult to avoid an emotion provoking situation, e.g. an appealing advertisement, a quality food, some good friends or a beautiful ambience of a restaurant. Among all the internal factors in the study, lifestyle is seen to be an important factor in impulsive eating out decisions. Miao & Mattila (2013) reported that in modern society, food consumption is linked to an individual's lifestyle which is to regulate their affective or hedonic states. With the same view Dawson (1991) states that urbanization is a major driver of the eating out consumption, particularly through the availability of street foods.

Ali and Nath (2013) found that moderately priced restaurants are more popular among middle- to upper-income people in India. In the present study, discount is found to be an important triggering factor among students. Overall, advertisement and lifestyle are two important factors that have strong predictive ability in terms of impulsive eating. Indian consumers prefer to go out for eating with friends and family for pleasure and entertainment (Ali and Nath, 2013). Lifestyle and advertisement together are found to be important in predicting impulsive eating out decisions. Regmi and Dyck (2001) asserted on the influence of urbanization accompanied by economic development and income growth on consumption patterns in developing countries.

Specific Contribution

As discussed above, this study validates many findings which are hypothesized to be true elsewhere in the world. This is of importance because the present frame of reference is an emerging economy i.e, India. Historically, Indians like to have home cooked fresh meals over processed food founded on religious beliefs and individual culture (Goyal and Singh, 2007; Pysarchik et al., 1999; Ling et al., 2004; Thakur, 2001). Eating out used to happen only when there is a requirement or celebration of a special occasion or an invitation in a guest home (Ali and Nath, 2013). The occasional eating out even used to undergo various evaluative parameters such as convenience, price, variety, non-seasonal availability, packaging, cleanliness and freshness (Ali, Kapoor and Moorthy, 2010). It took time and strategic changes for multinational food outlets to win the

heart of Indian consumers (Goyal and Singh, 2007). These perceptions are still thought to be prevailed in small urban cities like Guwahati (Thakur, 2001) in Northeast India which is considered to be less developed within the country (Khanka, 2009; Saikia, 2012).

This work suggests that the tendency of eating out is no longer a phenomenon of the more developed economy or market place, but this is true for a non metro setting like Guwahati in Assam. The emergence of the supermarket and mall culture has given a new impetus to consumer preferences from food habit to fashion. Eating out has become a part of lifestyle and a fashion statement (Ahedo et al., 2007; Goyal & Singh, 2007; Kivela, 2006).

This study contributes to the previous research on impulsive eating out in several ways. First, this study examined internal individual attribute and the effect of external factors. These stimuli are seen to induce the temptation for impulsive eating even in case of individual's low level of internal impulsive attribute. Present study also gives an in-depth view in terms of marketing stimuli suggesting that the appealing characteristics of a restaurant and the company of friends and family could be stronger impulsive decision inducers than the discount on a food. Probably, the experiential elements are more impulse driven when it comes to eating out.

In emerging economy like India, the wave of globalisation has speedily been changing the attitude of the consumer. Research conducted by Warde & Martens (1998) states that eating out has increased and the demand will continue to rise. Therefore, food quality and service along with emotional appeal are important phenomena for marketers to drive impulse buying of eating out. For managers, building link between the internal factors such as personality, lifestyle, age and the external stimuli like advertisements appeal and using reference group influence can be important marketing implications.

The present study throws some insights on future marketing practices as well.

1. As this research suggests that internal individual attribute like interdependence influence majority of the decisions in countries like India where community feeling still exist, marketers may adopt strategies accordingly to offer packages that satisfy the needs of the family, friends or co-workers at a time.

2. Advertisements and discounts are some of the important factors influence the buying behaviour. Major portion of the population in India is at the age of 18 or under, which is again expected to make up 34% of the population by 2020. It is important to target this age group as they are more prone to indulge in novelty and uniqueness of an advertisement appeal in the media, supermarkets and fast-food outlets.

3. Based on the primary and secondary inputs from the study, the marketers have to carefully choose marketing strategy for the food industry in the region. The promotion strategy shall give more importance to the experiential phenomena such as fun, entertainment, variety and quality.

From various industry reports mentioned earlier in the study, it is evident that food service sector is consistently growing in emerging economy like India, it is important for marketers and researchers to keep in track with changing consumer behaviour i.e. figuring out what they want and how they want it to be served. Penetration of the food service market would lead to the quality of the industry which might give the much needed fillip to the Indian economy that is poised to growth at a rapid pace again. The study results could be of important practical implications for the restaurant industry even for other emerging economies.

Limitation and Future Research Scope

Present study suffers limitations due to small number of sample and geographic coverage. Higher number of respondents in each of the occupational and life cycle stages would have fetched more valid and normative results. Hypothetical buying scenario used in the questionnaire is another limitation of the study which may not be as successful at giving as accurate result as real life buying situation.

In future the study may be broadened in its scope by including more number of samples so that a segmentation of the respondents can be made based on food habit or choice. There may be studies that work on different sectors under food service industry which may help in understanding higher order need of consumers and at the same time would help marketers in formulating effective marketing strategy to lure impulse buying.

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APPENDIX 1

Table-1 Descriptive Statistics of internal and external impulse buying of eating out

		N	Mean	Std. Deviation
Internal Impulse buying tendency of eating out		149	2.98	.78
External factors	Discount	112	3.51	1.11
	Advertisement	128	4.20	.59
	Reference group	117	3.85	.69

Table-2 Paired Samples Statistics between internal and external impulse buying of eating out

N=131	Mean	Std. Deviation	t	df	Sig.
Internal impulse buying	2.99	0.78	-12.748	130	.000
External impulse buying	3.93	0.55			

Table-3 Paired t-test Internal impulse buying and external impulse buying within different level in the internal factors

Variable	Level	Count	Internal Impulse buying (Mean)	External Impulse Buying (Mean)	Mean difference	t	df	Sig.
General Impulse buying tendency	Low	41	2.57	3.81	-1.24	-8.62	40	0.000
	Medium	56	3.12	3.91	-0.802	-8.41	55	0.000
	High	34	3.32	4.12	-0.784	-5.37	33	0.000
Lifestyle	Low	54	2.55	3.82	-1.272	-10.98	53	0.000
	Medium	33	3.17	3.95	-0.782	-6.49	32	0.000
	High	44	3.41	4.04	-0.632	-5.33	43	0.000
Optimum stimulation level	Low	36	2.6	3.92	-1.32	-9.44	35	0.000
	Medium	41	3.03	3.91	-0.88	-7.73	40	0.000
	High	54	3.23	3.95	-0.72	-6.26	53	0.000
Independent self construal	Low	43	2.7	3.78	-1.08	-7.98	42	0.000
	Medium	48	3.01	4.02	-1.01	-9.65	47	0.000
	High	40	3.3	3.99	-0.692	-4.96	39	0.000

APPENDIX 2

Table-4 One way analysis of variance between demographic groups and external stimuli

Discount as external stimuli	Levels	Count	Mean	SD	F	Sig.
Age	18 to 25 yrs.	57	3.86	0.93	5.295	.002
	26 to 35 yrs.	35	3.31	1.16		
	36 to 45 yrs.	15	2.93	1.22		
	46 to 55 yrs.	5	2.60	0.89		
Education	Undergrad	13	4.23	.93	3.285	.041
	Graduate	49	3.39	1.13		
	Post graduate	50	3.44	1.07		
Lifecycle stage	Single	73	3.74	0.97	4.913	.009
	Married no children	15	3.13	1.51		
	Married with children	24	3.04	1.04		
Occupation	Student	51	3.98	.90	5.938	.000
	Service	44	3.30	1.04		
	Self employed	7	2.71	1.38		
	Business	3	3.33	1.53		
	Presently not employed	2	3.0	1.41		
	Homemaker	5	2.0	.00		

Significant difference at .05 level.

Table-5 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.649[a]	.421	.413	.594
a. Predictors: (Constant), Advertisement, Lifestyle				
b. Dependent Variable: Impulse Buying in Eating out				

Table-6 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.269	.269		1.001	.319
	Lifestyle	.732	.084	.570	8.697	.000
	Advertisement	.125	.043	.192	2.928	.004
a. Dependent Variable: Impulse Buying in Eating out						

APPENDIX 3

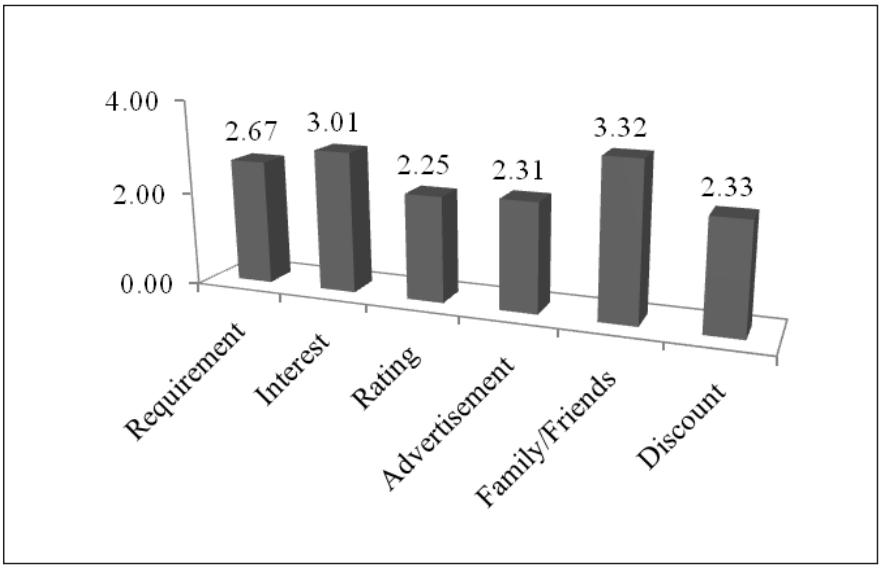
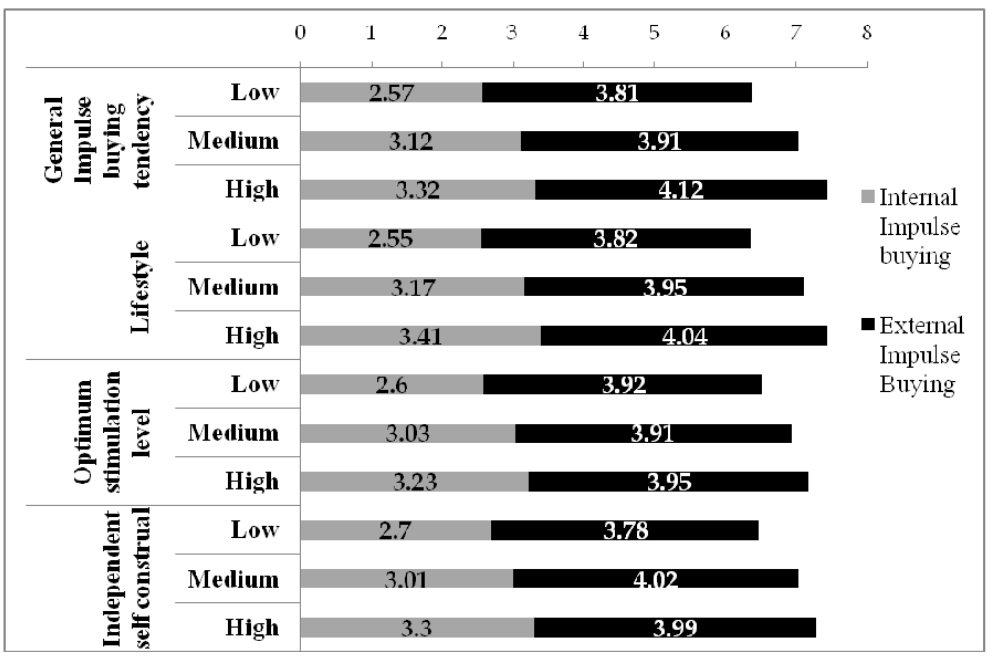


Figure-1 Reasons for eating out

Figure-2 Contrasting Internal impulse Buying and External Impulse Buying within Different Levels across Internal Factors



APPENDIX 4

Questionnaire on buying behaviour -1

Dear Respondent,

I am a PhD student in the Dept. of Business Administration, Tezpur University doing my research in the area of consumer behaviour under the guidance of Prof. Mrinmoy K. Sarma. As part of my research work I wish to gather some information from you. I request your kind cooperation in filling up the questionnaire. The information so collected shall be used only for research purposes and no part of it shall be disclosed with anyone. Thanks for your kind cooperation.

Thanking you,
Kalyani Kalita

A. Following statements are related to your behaviour when buying the mentioned services. Please mark the option th at is most appropriate in your case. Indicate your response in a scale of 1 to 5 where,

1=Never happens, 2=Rarely happens, 3= Sometimes, 4=Mostly happens, 5=Always happens

	Eating out
1. I buy this service on the spur of the moment	☐
2. When I see something new and interesting about this service, I want to buy it immediately	☐
3. I often feel that if I don't buy this service I will miss an opportunity	☐
4. I buy this service according to how I feel at the moment	☐
5. I buy this service for happiness	☐

B. Please read each of the following statement carefully and put a '√' mark on the circle that most suitable in your case.

1=Never, 2=Rarely, 3= Sometimes, 4= Often, 5=Always

	Eating out
1. I buy what I like rather than what I need	☐
2. I plan carefully and stick to it	☐
3. I often end up spending more money than I originally think	☐
4. I get emotional quite easily	☐
5. I regret after a purchase	☐

APPENDIX 5

1=Never, 2=Rar ely, 3= Sometimes, 4=Often, 5=Always

	Eating out
1. I feel a sense of thrill when I act spontaneously	☐
2. I can not control myself of doing things that I really want to do	☐
3. I think a lot before doing something	☐

C. Please read each of the following statement carefully and put a '√' mark on the circle that most appropriate in your case.

	Strongly agree	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagree**
1. I look for exciting experiences even if it involves some danger	○	○	○	○	○
2. I get bored very easily	○	○	○	○	○
3. I am always active and energetic	○	○	○	○	○
4. I prefer a routine & easy life	○	○	○	○	○
5. I am a calm and relaxed person	○	○	○	○	○
6. I often try new and exciting experiences	○	○	○	○	○

D. Please read each of the followin g statements carefully and put a '√' mark on the circle that most appropriate in your case. Do not spend too much time in thinking. There is no right or wrong answers.

	Strongly agree	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagree**
1. I do not spend money unnecessarily	○	○	○	○	○
2. I spend for today let tomorrow brings what it will	○	○	○	○	○
3. I visit places that are quite different	○	○	○	○	○
4. It is important for me to live a fashionable lifestyle	○	○	○	○	○
5. I would prefer a quiet evening than going out with family/friends	○	○	○	○	○

APPENDIX 6

C. Please read each of the following statement carefully and put a '√' mark on the circle that most appropriate in your case. Do not spend too much time in thinking. There is no right or wrong answers.

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1. I prefer to be independent than obedient	○	○	○	○	○
2. I am self sufficient	○	○	○	○	○
3. I always do whatever I feel like doing	○	○	○	○	○
4. I always require my family/friend's approval in my decision	○	○	○	○	○
5. For me group harmony is more important than self identity	○	○	○	○	○
6. I hate to disagree with others	○	○	○	○	○

G. Please provide the following information ('√' mark in the appropriate option)**:**

i. Name _____ **ii. Age** _____ **iii. Gender** Male / Female

iv. Educational qualification O Literate O Upto High school O Undergraduate O Graduate O Post graduate O Others _____

v. Occupation O Student O Service O Self employed O Business O Retired O Homemaker O Presently not employed

vi. Family Type O Nuclear O Joint

vii. Life Cycle Stage: O Single O Married: No children / with children O Children at home / Outside home O Grandparents

viii. Household Income (per month) O Below Rs. 6,000 O Above Rs. 6,000 to Rs. 20,000
O Above Rs. 20,000 to 40,000
O Above Rs. 40,000 to Rs. 1,00,000
O More than Rs. 1,00,000

ix. Monthly Disposable Income _____

x. Preferred mode of Shopping: Online: ____ % Traditional: ____ %

xi. Contact address with mobile number:

APPENDIX - 7

Questionnaire-2

Dear Respondent,

First of all I would like to thank you for your cooperation in my previous study. The present questionnaire is a

First of all I would like to thank you for your cooperation in my previous study. The present questionnaire is a continuation of my previous study. The study investigates the influence of external stimuli on buying behaviour. The questionnaire contains imagery advertisement and scenario based buying questions. There is no right and wrong answers. Information collected through this study will be used only for research purpose. Please read the questions carefully and answer as honestly as possible. Your serious participation and kind co-operation is very valuable to my research.

Q.1. How many times in an average do you buy the following services?

Eating out

i. Weekly ☐
ii. Monthly ☐
iii. Yearly ☐
iv. Randomely ☐
v. Don't buy at all ☐

Q.2. To what extent do you agree with the following factors that influence your willingness to buy the services mentioned below? Please mark your response in the given boxes using the following scale.
(Never-1, Rarely-2, Sometimes-3, Mostly-4, Always-5)

Eating out

i. Requirement ☐
ii. Interest ☐
iii. High rating by public ☐
iv. Advertisement ☐
v. Friends/family's influence ☐
vi. Discount/offer/gift/coupon ☐

Q. 3. Please look at the following advertisement of a restaurant service and respond to the question.

APPENDIX 8

Q. If you have the opportunity to have dinner in such an exotic place like above, would you likely to go *here and now*?

Yes **No**

A. If **No**, because it is not affordable (time/money)

◯ Strongly agree ◯ Agree ◯ Neither agree nor disagree ◯ Disagree ◯ Strongly disagree

B. If **Yes**, because the place is so beautiful

◯ Strongly agree ◯ Agree ◯ Neither agree nor disagree ◯ Disagree ◯ Strongly disagree

Q. 4. *Nick stays in a hostel in the university campus. Usually, he with his friends goes for evening tea. One Sunday, they were having their usual tea and discussing over matters of interest. One of his friends was talking about a newly opened restaurant outside their campus which is very good and the price is also reasonable. As a promotional activity they were offering discount also. Listening to this, everyone is excited to have their dinner at the restaurant.*

Q. If you were in the position of Nick, would you go to the restaurant? **Yes** **No**

A. i. If **No**, because you do not like to have dinner outside

◯ Strongly agree ◯ Agree ◯ Neither agree nor disagree ◯ Disagree ◯ Strongly disagree

ii. If No, because it is not affordable (time/money)

◯ Strongly agree ◯ Agree ◯ Neither agree nor disagree ◯ Disagree ◯ Strongly disagree

B. If **Yes**, because,

i. Your friends are going

◯ Strongly agree ◯ Agree ◯ Neither agree nor disagree ◯ Disagree ◯ Strongly disagree

ii. The popularity of the food and services

◯ Strongly agree ◯ Agree ◯ Neither agree nor disagree ◯ Disagree ◯ Strongly disagree

iii. The restaurant has discounted offer

◯ Strongly agree ◯ Agree ◯ Neither agree nor disagree ◯ Disagree ◯ Strongly disagree

5. Additional information:

Please provide the following information. Your information would be kept completely confidential.

i. Favourite restaurant: _____/ None

Firm Performances in Indian Life Insurance Industry: Non-Parametric Analysis

Joy Chakraborty

Abstract

The present study makes a comparison between 15 life insurance firms in India over a period from 2006-07 to 2015-16. For the purpose of analysis, a single input and a single output performance variable in the form of 'Investments' and 'Gross Premiums Written' of the observed life insurance firms were considered in the present study, under the assumptions of an input-output relationship respectively. The study have used the application of the Kruskal-Wallis and Mann-Whitney non-parametric tests across a non-normal dataset of the sampled firms covering all the years of the period from 2006-07 to 2015-16. The results of the study have pointed out the differences in performance between the observed public-sector and the private-sector life insurance firms in India with respect to the two major performance variables. The present study has further pointed out the dominance of the state-owned Life Insurance Corporation of India (LICI) even after the privatization of the country's life insurance sector.

Key Words: Life Insurance, Investments, Gross Premiums Written, LICI, Non-parametric tests, IRDAI

JEL Classification: C14, G22, L25

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The country's life insurance business remained under the monopoly of the state-owned Life Insurance Corporation of India (LICI), since its inception in 1956. In the late-nineties, however, the scenario changed following the introduction of reform measures in the area of life insurance based on the recommendations of the R.N. Malhotra Committee on Insurance Deregulation (1994). Among its several reform initiatives, the committee suggested the need for a statutory body to monitor and regulate the growth of insurance business in India. This eventually paved the way for the establishment of Insurance Regulatory and Development Authority of India (IRDAI), based on the IRDAI Act in 1999. Since then, the country's life insurance sector witnessed an abrupt increase in the footfall of private players, either independently or in collaboration with foreign partners. From a single state-owned insurer (LICI) till the beginning of the year 2000, the country's life insurance sector registered a phenomenal growth with the number of private players having risen to 15 at the end of the

FY 2006-07, within a span of just six years. During this period, the private life insurers collectively garnered a market share of 18.08 percent in contrast to LICI's 81.92 percent. At the end of the FY 2015-16, the market share of LICI further declined to 72.61 per cent in contrast to 27.39 percent market-share recorded by the 23 private players. As life insurance is a long-term contract, the performances of the life insurance firms over time holds utmost importance from the view-point of safeguarding policyholders' interests in the backdrop of insurance sector reforms. The present study thus makes an attempt to compare the performances of 15 life insurance firms in India who has been consistently in operation during all the years of the study-period from 2006-07 to 2015-16. For the purpose of analysis, two major performance variables in the form of 'Investments' and 'Gross Premiums Written' of the observed life insurance firms in India were considered in the present study, under the assumptions of an input-output relationship respectively. The present study is expected to benefit the regulators and policy-makers in making effective policy decisions and to correct any shortcomings for future improvement in the performances of the life insurance firms in India.

The present study has hence been organized as follows: Section - 2 makes a review of the previous studies on the performances of Indian life insurance firms in the past as well as in recent times. Section-3 discusses the research objectives, sample selection and data-sources, methodologies used, limitations and future scope of the study. Section - 4 presents a brief conceptual framework of the Kruskal-Wallis and Mann-Whitney non-parametric tests as undertaken in the present study. Section - 5 describes the results as obtained from the present study. Section-6 highlights the concluding observations. A bibliography of the research materials used has been provided at the end for future references of the researchers.

2. Literature Review

Having reviewed the past research papers, the researcher did not find enough evidence of relevant studies on non-parametric applications in India or in abroad that exclusively dealt with the performances of life insurance firms in India covering a longer time-horizon. Most of the studies on Indian insurance industry were found to have used the common statistical applications, data envelopment analysis or ratio-based approaches. The present study intended to fill that research gap by adding a new dimension in the field of insurance research through the application of non-parametric approaches. Some of the empirical studies reviewed by the researcher strictly on insurance sector have been briefly enumerated below.

Akotey et al. (2013) assessed the financial performance of 10 life insurance companies in Ghana covering a period of 11 years from 2000 to 2010 using panel regression approach. The study fulfills an urgent need to investigate the determinants that are crucial for the survival, growth and profitability of life insurers in an emerging economy. The authors have designed an empirical model to investigate the determinants of life insurers' profitability. The study also examines the relationship among the three measures of insurers' profitability which are investment income, underwriting profit and the overall (total) net profit. The results of the panel regression indicated that the gross written premiums were having a positive relationship with the insurers' profitability while its relationship with investment income was found to be negative. The results also pointed out that the sampled life insurers have been incurring large underwriting losses due to over-trading and price undercutting.

Bedi and Singh (2011) examined the overall performance of the life insurance industry in India between pre and post economic reform era, the volume of competition and challenges faced by LICI and the effectiveness of its investment strategy undertaken during the period from 1980 to 2009. To measure the performances of the life insurance players based on total life insurance premium income, and to judge the extent of competition prevailing in the country's life insurance sector during the post-LPG (Liberalization, Privatization & Globalization) era, the study included a sample size of 18 life insurance firms covering the period from 2001-02 to 2007-08. The data were analyzed using the t-test and the two-way anova approaches. The study has revealed that there was a tremendous growth in the performance of Indian life insurance industry and LICI due to the policy of LPG. Insurance industry also improved a lot due to the emergence of private-sector and foreign players. Further, there was also a significant change observed in the investment pattern of LICI over the period 1980 to 2009. There was an increasing trend towards investment in stock markets by LICI from 60 percent to 93 percent during the period from 1980 to 2009.

Chakraborty and Sengupta (2016) evaluated the financial soundness and market concentration of the four leading life insurers in India namely the Life Insurance Corporation of India (LICI), ICICI Prudential Life Insurance Company Limited (ICICI Prulife), HDFC Standard Life Insurance Company Limited (HDFC Standard),and SBI Life Insurance Company Limited (SBI Life). The four life insurance players were selected based on their market shares in terms of total premium incomes covering the period from 2008-09 to 2012-13. The researchers has used the application of the ratio-based CARAMELS model for examining the financial soundness of the sampled life insurance firms, as recommended by Das, Davies and Podpiera (2003) for the insurance companies. Further, the application of the widely-used k-concentration ratios, the Herfindahl-Hirschman Index (HHI) and the normalized HHI were used in the study to evaluate the extent of concentration and competition prevailing in the country's life insurance sector over the study-period. The findings of the study has pointed out the dominating performances of the public-sector giant LICI even after 15 years since the privatization of the country's life insurance sector, along with the existence of a fairly competitive market structure owing to the presence of private and foreign players.

Chakraborty (2016[a]) examined the extent of concentration and competition prevailing in the Indian life insurance sector covering the period from 2008-09 to 2014-15, against the backdrop of the global financial crisis. The sample size included 18 life insurance firms in India who has been consistently operating across all the years of the study-period, ignoring the new entrants during the period. The study has used the application of the Herfindahl-Hirschman Index (HHI) and the k-concentration ratios to evaluate the extent of competition prevailing among the 18 life insurance firms over the study-period. The study has further demonstrated the disparity in the performances of the sole public-sector and the 17 private-sector life insurance firms, since the outbreak of the global meltdown. The results of the study has revealed the pre-existing dominance of LICI in the Indian life insurance market, both in terms of market concentration and premiums underwritten, even after 15 years since the privatization of the country's insurance sector.

Chakraborty (2016[b]) assessed the efficiencies of the country's life insurance sector using a panel data-set of 18 life insurance companies covering the study-period from 2008-09 to 2014-15, against the backdrop of the US financial crisis. The paper aimed at understanding the efficiency levels and operating scales of the private life insurance players based on their Technical Efficiency (TE), Pure Technical Efficiency (PTE) and the Scale Efficiency (SE) scores, using the non-parametric Data Envelopment Analysis under both Constant Returns to Scale (CRS) and Variable Returns to Scale (VRS) assumptions. The three input-output framework consisted of a panel data-set of 1 public-sector and 17 private-sector life insurance firms in India that were chosen as the sample of the study. The study utilizes three inputs i.e. 'commission expenses', 'operating expenses' and 'Investments' against the three outputs namely 'net premium', 'benefits paid' and 'income from investments' respectively. The application of the output-orientated non-parametric Data Envelopment Analysis (DEA) has pointed out the inconsistencies in the operational efficiencies of the life insurers during the initial years of the study-period, the reason for which was attributed to the global slowdown post 2007-08.

Chaudhary and Kiran (2011) examined the developments undertaken in the Indian life insurance industry for the period from 2006-07 to 2010-11, in the light of privatization of the country's insurance sector. The study was based on secondary data sources that included a sample size of 23 life insurance companies who has been operational during the period from 2006 to 2011. For the purpose of analysis, the researcher has used the statistical tools such as percentage analysis, ratio analysis, growth rates and coefficient of variation to highlight the changes in the country's life insurance sector during the post-deregulation study-period in terms of certain parameters such as growth in total number of offices of life insurers, growth in number of individual agents working in life insurance industry, number of products and riders, growth of life insurance business and premium income, lapse / forfeiture ratio and settlement of death claims. The findings of the study has pointed out that the solvency ratios of the private life insurers were much better than LICI, despite of the big losses suffered by the former during the initial years of their operations. Lapsation-ratio of private life insurers was found to be higher than that of LICI, whereas the servicing of claims was better in case of LICI as compared to the private life insurers over the study-period.

Gulati and Jain (2013) evaluated the changes in the financial performance of the sole public-sector player LICI w.r.t. market shares and several other aspects, owing to the impact of the Liberalization, Privatization and Globalization (LPG) policy of the Indian Government and the simultaneous rise in the entry of private life insurance players. The study was entirely based on secondary data sources covering the period from 1993-94 to 2008-09. A total of 6 parameters were used which were eventually analyzed to reflect the performance and growth in productivity of LICI after the liberalization policy regime introduced in the year 2000. It was observed that the performance of LICI in terms of growth of new business, business in force in India, new business under group insurance and other performance measures was found to be satisfactory over the years, despite of the rising presence of private players. Moreover, a significant improvement was noticed in the settlement of claims processes especially after the entry of private players in the country's life insurance sector.

Ibrahim and Rehman (2012) analyzed the comparative performances of the public-sector player LICI with 22 private-sector life insurance firms in India, in terms of the parameter i.e. settlement of consumer- grievances, covering the period from 2005-06 to 2009-10. The study has provided insights into consumer protection and awareness with reference to the grievance settlement operations of the life insurance industry in India. The secondary data used for the study was analyzed using descriptive statistics and paired samples t-test using the tools such as Excel and SPSS. The study has shown LICI to be the most consistent performer in resolving consumer grievances during the period under review, as compared to the private life insurers. The consumers' grievance redressal system of the private life insurers manifested fluctuating trends and were found to be lagging behind LICI, thereby implying scope for improvement for the private life insurance industry.

Kotgiri (2013) evaluated the performances of public and private life insurance companies in India in terms of certain parameters such as growth in insurance industry and trend of customers' investments in particular plans. The purpose of the study was to find out the investment habits, change in attitude of customer's investment, growth in investments and premiums underwritten between the public and private-sector life insurers in India. The study was mostly descriptive in nature that included a sample of 22 life insurance firms who has been into operations from 2000-01 to 2011-12. The study has revealed the dominance of LICI in the Indian life insurance sector, with respect to all the parameters, but also pointed out a slow and steady rise in the market shares of the private life insurers during the period under review.

Kumar and Priyan (2012) examined the disparities in the performances of public and private-sector life insurance companies in India in terms of certain parameters such as growth rates of fresh business premium, number of new policies issued and total life insurance premium incomes. The study was based on secondary data-sources covering 23 life insurance companies (inclusive of LICI) covering the period from 2002-03 to 2009-10. The methodology used was the non-parametric Mann-Whitney U-test to test the hypothesis i.e. whether there were any significant differences in the performances of the public and private life insurers over the study-period. The results of the study has shown no significant differences between the life insurers in the growth rates of fresh business premium and number of new policies issued during the study-period, whereas significant differences were observed in the growth rates of total life insurance premium incomes for the public and private-sector life insurers' under review.

Mitra and Ghosh (2010) investigated the macro-economic factors that are responsible for the demand of life insurance in India. The study has tried to find out an empirical relationship between several economic and non-economic factors with the consumption of life insurance in India during the post-reform period from 1991 to 2008. The researchers have used the Augmented Dickey Fuller (ADF) unit root test and the Engle & Granger Co-integration study for the purpose of analysis. The study has found that the economic factors such as 'Income' and 'Financial Development' were the most significant and positively-related in driving the life insurance demand in India; while 'interest rates on other alternative investments' were negatively related with life insurance demand in India.

Nagaraja (2015) vindicated the relationship between the performances of the Indian insurance industry with the country's economic development, followed by a comparative analysis of both private and public sectors of life and non-life insurance industry in India. Four indicators-Premium

incomes, Market Share, New Policies Issued and Claims Settlement Ratio - have been used to analyse the performances of Insurance industry. The researcher made an analytical study of the country's insurance industry based on a sample size of 52 insurance companies, of which 24 are in life insurance business and 28 are non-life insurers, covering the period from 2004-05 to 2013-14. The findings of the study showed the impressive performances of LICI over its private-sector counterparts in the life insurance segment with respect to the parameters undertaken in the study. In the non-life segment, the performance of the public-sector players seemed to be stagnant in contrast to the fluctuating levels of performances among the private-sector general insurers over the study-period. The study concluded with the observation that the country's insurance-penetration and insurance-density was very low in India compared to the developed countries of the world, thereby indicating scope for improvement for the country's insurance industry.

Owusu-Ansah et. al. (2010) evaluated the relative efficiencies of the 10 Ghanaian general insurance companies covering the period from 2002 to 2007, using the non-parametric Data Envelopment Analysis (DEA). The study has used Debt capital, Equity capital and Management expenses as inputs against the total premiums, claims and investment incomes as outputs for the study. The study has also used the hypotheses-testing to find out the contributions made by insurer-related variables (such as dimension/size and market shares) upon the efficiency of the Ghanaian general insurance companies using the non-parametric Mann-Whitney U-tests. The study has found out that the Ghanaian general insurers were operating at an average overall efficiency of 68 percent, technical efficiency of 87 percent and scale efficiency of 78 percent respectively, thereby implying immense scope for improvement for the Ghanaian general insurance industry. The results of the study have also shown higher efficiencies for the Ghanaian general insurers having higher dimension and market shares.

Shreedevi and Manimegalai (2013) analysed the comparative performances of the public-sector and private-sector non-life insurance companies in India covering the period from 2002-03 to 2010-11. The study was based on secondary data sources covering 24 general insurance companies, of which six are in the public-sector. An attempt was made to analyse whether there was any significant difference in the growth rates of number of new policies, gross direct premium collected and net incurred claims among the public- and private-sector non-life insurance companies, through the formulation of a hypothesis-test. For the purpose of data-analysis, the non-parametric Mann-Whitney – U Test was applied. The findings of the study showed statistical significant differences in the growth rates of number of new policies issued, gross direct premium collected and net incurred claims between the sampled public-sector and private-sector general insurers. The study has further pointed out that the public-sector firms have done well in contrast to the private-sector firms during the period under review mostly because of their aggressive pricing and the retention of business. The study finally concluded with the observation that New India Assurance (among the PSU companies) and ICICI Lombard (among the private-sector companies) will continue to hold the leadership position in the country's general insurance sector for the next few years.

Sinha (2013) has analysed the financial soundness of two leading private life insurance companies (in terms of market shares) operating in India, namely Bajaj Allianz Life Insurance and ICICI Prudential Life Insurance, based on 14 FSIs (Financial Soundness Indicators) covering the CARAMELS framework, as recommended by Das, Davies and Podpiera (2003) for the insurance companies. The data-set covered a period of 6 years from 2004-05 to 2009-10 and the life insurers were selected based on the purposive sampling method. The results of the study indicated certain areas for improvement of the selected life insurers. Both the private players were found to wanting in capital due to low capital adequacy ratios. The study also pointed out that the life insurers should cut down on its operational expenses to achieve their break-even points. The liquidity ratios of the two firms also showed a declining trend during the period under review which indicates a serious concern for the firms. Furthermore, the researcher has found that there was a substantial decline in the investment incomes of the two life insurers during the global slow-down period post-2007. The study finally concluded with a suggestion that the life insurance players should take a re-look at their investment-portfolios so that their businesses gets least hurt during such global or domestic events.

3. Research Methodology

3.1 Research Objectives

Based on the research gap as found from the literature review, the present study has two-fold objectives which are listed as follows:-

(a) To investigate any disparity in the relative performances of the 15 life insurance companies in India under review, with respect to the performance indicators i.e. 'Investments' and 'Gross Premiums Written' during the period from 2006-07 to 2015-16.

(b) To determine the nature and extent of differences between the performances of the sampled life insurance firms' through pairwise comparisons covering all the years of the period under observation, against the selected performance indicators.

3.2 Research Hypotheses

In addition, the present study attempts to provide answers to the following null hypotheses:-

H_{01}: No significant differences exist among the performances of the sampled life insurance firms with respect to the variable 'Gross Premiums Written' during the period under review.

H_{02}: No significant differences exist among the performances of the sampled life insurance firms with respect to the variable 'Investments' during the period under review.

Against an alternative hypotheses which is defined as follows:-

H_{A1}: Significant differences exist among the performances of the sampled life insurance firms with respect to the variable 'Gross Premiums Written' during the period under review.

H_{a2}: Significant differences exist among the performances of the sampled life insurance firms with respect to the variable 'Investments' during the period under review.

3.3 Sample Selection

The objective of the present study is confined only in the post-reform period after the liberalization of the country's insurance sector since the financial year 1999-2000, so the subsequent period of reforms has only been considered. Besides this, the reporting of the data was not so much structured before the FY 2006-07 and may be subject to volatile changes. Hence, the period before 2006-07 has not been considered in the present study to ensure authenticity and accuracy of the financial data. The purposive sampling approach has been employed in the selection of the sample that comprises public-sector and 14 private-sector life insurance firms in India, who have been consistently in operation covering all the years of the period from 2006-07 to 2015-16. Thus, the life insurers making entry in between the years covering the study period has not been considered, given their newness in the industry.

3.4 Research Methodology

While deciding on the most suitable tool for analysis, the researcher has zeroed in on the application of the non-parametric analysis in view of the research gap as evident from the literature review on insurance industry. The study has used the application of the Kruskal-Wallis and Mann-Whitney non-parametric estimation techniques across a non-normal dataset of the sampled firms covering all the years of the period from 2006-07 to 2015-16. The results of the study has been presented with respect to two distinct performance variables namely 'Investments' and 'Gross Premiums Written' for the sampled life insurance firms during the period under review, using the IBM-SPSS software *v20*. It has been found from the previous studies that the nature and amount of investments made by the life insurance firms out of their investible funds determines their operational profits. Similarly, the amount of gross premiums collected by the life insurance firms is considered as a major outcome from their business activities. Both these variables are considered as determining variables in examining the performances of any life insurance firm, and hence have been viewed under the assumptions of an input-output relationship respectively in the present study.

3.5 Data Sources

The financial data of the sampled life insurance firms has been collected from the IRDAI reports and from the websites of the respective life insurers during the period under review.

3.6 Limitations & Future Scope of the Study

The data collected for the present study has been derived from the published financial statements of the respective life insurers without any emphasis on primary data. Hence, the

study incorporates all the limitations that are inherent in the published financial statements. The study is restricted to a time span of 10 years primarily focussing on the post-deregulation phase of the country's insurance sector reforms. The study includes 15 life insurance firms in India who has been consistently in operation covering all the years of the period from 2006-07 to 2015-16, leaving aside the newer players making entry in between the years covering the study period. The analysis carried out in the present study has strictly restricted its application based on the non-parametric methods, in examining the performances of Indian life insurance firms' under review, in view of the selected performance indicators.

Hence, the future studies of research in this area could take into account more number of players, covering both the country's life insurance and general insurance sectors, across a larger data-set of performance indicators over an extended time-period. Moreover, many other areas that can be studied include the application of cost-efficiency models, stochastic frontier models, efficiency and productivity models, financial modelling, etc. of the insurance firms, in the backdrop of the country's insurance sector reforms. Like most of the studies in financial services, data availability for this study is also restricted to the information submitted by the life insurers in compliance with the regulatory authority, IRDAI.

4. Conceptual Framework Of Non-parametric Models Used

4.1 Kruskal-Wallis test (or, H test)

The Kruskal-Wallis test, or the H-test as it is popularly known, is a non-parametric test that is used to determine whether or not 'k' number of independent samples have been drawn from the same population. This test is used to test the null hypothesis that 'k' independent random samples came from identical population, against the alternative hypothesis that the means of the populations are not equal. This test is analogous to the one-way analysis of variance approach, but unlike the latter it does not require the assumption that the samples come from approximately normal populations having the same standard deviation. In this test, the entire data is taken together and ranked from low to high or high to low; as if they constituted a single sample.

The test-statistic H is worked out as follows:-

$$H = \frac{12}{N(N+1)} \sum_{j=1}^{k} \frac{R_j^2}{N_j} - 3(N+1)$$

Where, N represents the total size of all 'k' samples taken together, i.e. $N = N_1 + N_2 + \ldots\ldots + N_k$, and R_j being the sum of the ranks assigned to 'k' samples i.e. $R_j = R_1 + R_2 + \ldots.. + R_k$. N_j represented the sample sizes. The sampling distribution of H can be approximated with a chi-square distribution with (k-1) degrees of freedom, provided that the total size of all samples $\geqslant 5$, and that there are no ties in ranks. In case there are ties amongst the observations in the sample data, the value of H is subject to certain corrections. In practice, the correction is usually too negligible to warrant a change in the decision.

If the calculated (or, corrected) H-value falls within the concerned table value of chi-square for (k-1) degrees of freedom at a given significance level, the null hypothesis is accepted. If the calculated H-value exceeds the tabulated chi-square value at a given level of significance, we reject the null hypothesis thereby concluding that the samples do not belong to the same population.

4.2 Mann-Whitney test (or, U test)

The Mann-Whitney test, or the U-test as it is popularly known, is a non-parametric test that is used to determine whether any two independent samples have been drawn from the same population. This test requires less restrictive assumptions in practice, and is a relatively powerful non-parametric test that helps to determine whether there are any significant differences between any two independent samples, from a given population.

Thus in applying U-test, we take the null hypothesis that the two samples come from identical populations, against an alternative hypothesis that the means of the two populations are not equal. Both one-tailed and two-tailed tests can be performed, based on the alternate hypothesis at a given significance level. If the null hypothesis is true, it indicates that the observations come from the same identical population and the means of the ranks assigned to the values of the two samples should be more or less the same. A significant difference between the sum of the ranks assigned to the values of the first sample and to the values of the second sample implies a significant difference between the samples. To test the difference between the rank sums,

corresponding to the first sample, the test-statistic U would be worked out as follows:-

$$U = N_1 . N_2 + \frac{N_1 (N_1+1)}{2} - R_1$$

Where, N_1 and N_2 are the two sample sizes and R_1 is the sum of the ranks assigned to the values of the first sample. For convenience, we normally choose N_1 as the first sample, if the sample sizes are unequal and $N_1 \leqslant N_2$. If N_1 and N_2 are sufficiently large (i.e. both greater than 8), the sampling distribution of the test-statistic U can be approximated closely to the normal distribution with mean (μ_U) as $N_1.N_2/2$ and standard deviation ($\square_U$) as $[N_1.N_2 (N_1 + N_2 + 1)/12]^{1/2}$. That is to say, the assumptions of normality is valid only when both N_1 and $N_2 > 8$, which shows that the sampling distribution of U is symmetrical and follows normal distribution, with N (0, 1). The z-value is hence computed as follows: $Z = (U - \mu_U)/ \square_U$, which is then compared with the relevant z-table to draw the conclusion based on the hypothesised assumptions. Similarly, to test the difference between the rank sums corresponding to the second sample, the U test-statistic can also be calculated by using the sum of the ranks of the second sample as given under:

$$U = N_1 . N_2 + \frac{N_2 (N_2+1)}{2} - R_2$$

Where, N_1 and N_2 are the sample sizes and R_2 is the sum of the ranks assigned to the values of the second sample. But if the sample sizes N_1 and $N_2 \leqslant 8$, then the normal curve approximation to the sampling distribution of U cannot be applied. In such cases, the tabulated values of U are obtained based on special tables showing selected values of Wilcoxon Mann-Whitney (unpaired) distribution.

With regard to the applicability of the non-parametric Mann-Whitney U-test, the following two important thumb rules should be kept in mind:-

1. The aggregate of the U-test statistic, as obtained from the two individual samples, must be equal to the product of the sample sizes. That is to say, $U_1 + U_2 = N_1 . N_2$.

2. The aggregate of the sum of the ranks assigned to the values of both the first and second samples, must be equal to $[(N_1 + N_2) (N_1 + N_2 + 1)]/2$. That is to say, $R_1 + R_2 = [(N_1 + N_2) (N_1 + N_2 + 1)]/2$.

5. Findings & analysis

The descriptive statistics, as shown in Table - 1, depicted the means, standard deviations, minimum and maximum values (in Rs. Crores), followed by the coefficients of skewness and kurtosis of the sampled life insurance firms covering all the years of the period from 2006-07 to 2015-16 against the two financial indicators i.e. 'Gross Premiums Written' and 'Investments' respectively. It was evident from the following table that the mean values, standard deviation, minimum and maximum values were the highest in case of the variable 'Investments', followed by 'Gross Premiums Written'. Nevertheless, the mean values and the relative measures of skewness and kurtosis of the selected variables confirmed the presence of an asymmetrical distribution across the data-set of the sampled life insurance firms.

Table – 1: Descriptive Statistics of Selected Variables

Variables	Sample size	Mean	Std. Deviation	Minimum	Maximum	Skewness	Kurtosis
Gross Premiums Written	150	17776.61	49676.92	51.00	266444.21	3.73	12.87
Investments	150	77359.43	290845.67	145.53	1872755.70	4.42	19.99

Source: - Calculated

In order to ensure a fair and proper application of the non-parametric models in the present study, each of the performance variables were further tested for normality at 1 percent significance level. Table - 2, as given below, presents the results of the two most popularly-used normality tests against the selected variables covering all the years of the study-period.

Table – 2: Normality Tests of Selected Variables

Variables	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	d.o.f	Sig.	Statistic	d.o.f	Sig.
Gross Premiums Written	0.430	150	0.000	0.349	150	0.000
Investments	0.487	150	0.000	0.283	150	0.000

a. Lilliefors Significance Correction Source: - Calculated

The results of both the Kolmogorov-Smirnov and the Shapiro-Wilk tests clearly indicated statistically significant results (p-values d" 0.01) against both the performance variables as considered in the present study, thereby firmly corroborating the presence of a non-normal distribution across the data-set of the sampled firms during the period under review. Thus, the normality test results clearly provided a favourable indication for the proper execution of the non-parametric analysis in the present study.

5.1 Testing of Hypothesis using Kruskal-Wallis H-Test

In the backdrop of the normality-test results, the Kruskal-Wallis non-parametric estimation technique was carried out to test the hypotheses that whether significant differences exist in the sample means of the observed life insurance firms, with respect to the two performance variables, during the period under review. The findings of the Kruskal-Wallis H-test statistic has been presented below in Tables 3 and 4 against the two financial indicators, as considered under the assumptions of an input-output relationship in the present study.

Table – 3: Kruskal-Wallis Test Results (Output Variable: Gross Premiums Written)

Hypothesis	Variable	Life Insurers	Mean Ranks	H-Test Statistics		Result of H_0 *(at α = 0.01)*
H_{01}	Σ Gross Premiums Written by the Life Insurers	LICI	145.5	Chi-Square	131.274	Rejected
		ICICI Prulife	131.7			
		HDFC Std. Life	110.6			
		SBI Life	115.4			
		BAJAJ Allianz Life	108.9			
		Birla Sun Life	84.3	d.o.f	14	
		Max New Yo rk Life	90.2			
		ING Vysya Life	33.9			
		Reliance Life	81.2			
		Kotak Life	59.2			
		TATA -AIG Life	58.4	Asymp. Sig. *(p-value)*	0.000	
		PNB MetLife	48.7			
		AVIVA Life	42.3			
		Sahara Life	6.1			
		Shriram Life	16.1			

Source: - Calculated

Table – 4: Kruskal-Wallis Test Results (Input Variable: Total Investments)

Hypothesis	Variable	Life Insurers	Mean Ranks	H-Test Statistics		Result of H_0 *(at α = 0.01)*
H_{02}	Σ Total Investments made by the Life Insurers	LICI	145.5	Chi-Square	95.395	Rejected
		ICICI Prulife	108.0			
		HDFC Std. Life	100.8			
		SBI Life	117.7			
		BAJAJ Allianz Life	100.3			
		Birla Sun Life	61.6	d.o.f	14	
		Max New Yor k Life	92.3			
		ING Vysya Life	64.6			
		Reliance Life	62.5			
		Kotak Life	57.6			
		TATA -AIG Life	84.7	Asymp. Sig. *(p-value)*	0.000	
		PNB MetLife	57.1			
		AVIVA Life	41.5			
		Sahara Life	19.1			
		Shriram Life	19.2			

Source: - Calculated

Based on the results obtained from Tables 3 and 4, we find that the sampling distribution H approximates closely with the chi-square distribution at 1 percent significance level, based on a total sample size of 150 observations. The calculated values of chi-square, as depicted in Tables 3 and 4 respectively, exceeds the tabulated chi-square value of 23.685 at 1 percent level of significance. The hypothesized Kruskal-Wallis H-test results, as obtained against both the performance variables, were found to be statistically significant (p-values $\leqslant$ 0.01) at given degrees of freedom. Thus, the results of the Kruskal-Wallis H-test clearly provided indications about the rejection of the null hypothesis of equal-sample means among the sampled life insurance firms during the period under observation. The mean ranks of LICI were even found to be the highest among the sample firms thereby indicating significant fluctuations in actual values between LICI and the private players, with respect to the variables 'investments' and 'gross premiums written' during the period under review. The H-test results clearly provided a favourable background for the execution of the non-parametric Mann-Whitney test for the life insurance firms under observation covering all the years of the period from 2006-07 to 2015-16.

5.2 Pairwise Comparisons using Mann-Whitney U-Test

The rejection of the null hypothesis of equal means under the Kruskal-Wallis H-tests leads to a conclusion that not all the group means are equal, but only some of the sample means may be statistically different. The differences among specific sample means may be further examined through the application of the Mann-Whitney U-tests. The application of the Mann-Whitney non-parametric estimation technique, considered as an extension to the Kruskal-Wallis H-test, specifically determines any two sample means that are statistically significant from a given population, with respect to a specified level of significance.

In applying the U-test, the null hypothesis is further considered under an assumption that any two samples come from an identical population, against an alternative hypothesis that the means of any two samples of life insurance firms are not equal. The hypothesized Mann-Whitney U-test thus helps in locating the unequal pair of means among the independent samples of life insurance firms' under review, based on a given population. The Mann-Whitney test outcomes, at 1 percent level of significance, between the sampled life insurance firms (taken in pairs) has been summarised below in Tables 5 and 6, in the backdrop of the two performance variables 'Gross Premiums Written' and 'Investments' respectively during the period under observation.

Table – 5: Mann-Whitney Test Results (Output Variable: Gross Premiums Written)

Life Insurer (I)	Life Insurer (J)	Mean Ranks (I)	Mean Ranks (J)	Sample Size	U-Test Statistics	Asymp. Sig. *(p-values)*	Result of Hypothesis (H_0) *(at α = 0.01)*
LICI	ICICI Prulife	15.50	5.50	10	0.000	0.000	*Rejected*
	HDFC Std. Life	15.50	5.50	10	0.000	0.000	
	SBI Life	15.50	5.50	10	0.000	0.000	
	Bajaj Allianz Life	15.50	5.50	10	0.000	0.000	
	Birla Sun Life	15.50	5.50	10	0.000	0.000	
	MNYL	15.50	5.50	10	0.000	0.000	
	ING Vysya Life	15.50	5.50	10	0.000	0.000	
	Reliance Life	15.50	5.50	10	0.000	0.000	
	Kotak Life	15.50	5.50	10	0.000	0.000	
	TATA -AIG Life	15.50	5.50	10	0.000	0.000	
	PNB MetLife	15.50	5.50	10	0.000	0.000	
	AVIVA Life	15.50	5.50	10	0.000	0.000	
	Sahara Life	15.50	5.50	10	0.000	0.000	
	Shriram Life	15.50	5.50	10	0.000	0.000	

ICICI Prulife	HDFC Std. Life	13.90	7.10	10	16.000	0.010	*Rejected*
	SBI Life	13.90	7.10	10	16.000	0.010	
	Bajaj Allianz Life	15.10	5.90	10	4.000	0.001	
	Birla Sun Life	15.50	5.50	10	0.000	0.000	
	MNYL	15.30	5.70	10	2.000	0.000	
	ING Vysya Life	15.50	5.50	10	0.000	0.000	
	Reliance Life	15.50	5.50	10	0.000	0.000	
	Kotak Life	15.50	5.50	10	0.000	0.000	
	TATA -AIG Life	15.50	5.50	10	0.000	0.000	
	PNB MetLife	15.50	5.50	10	0.000	0.000	
	AVIVA Life	15.50	5.50	10	0.000	0.000	
	Sahara Life	15.50	5.50	10	0.000	0.000	
	Shriram Life	15.50	5.50	10	0.000	0.000	
HDFC Std. Life	SBI Life	9.70	11.30	10	42.000	0.545	*Accepted*
	Bajaj Allianz Life	11.40	9.60	10	41.000	0.496	
	Birla Sun Life	13.70	7.30	10	18.000	0.016	
	MNYL	13.00	8.00	10	25.000	0.059	
	ING Vysya Life	15.50	5.50	10	0.000	0.000	*Rejected*
	Reliance Life	14.00	7.00	10	15.000	0.008	
	Kotak Life	15.00	6.00	10	5.000	0.001	
	TATA -AIG Life	15.20	5.80	10	3.000	0.000	
	PNB MetLife	15.50	5.50	10	0.000	0.000	
	AVIVA Life	15.50	5.50	10	0.000	0.000	
	Sahara Life	15.50	5.50	10	0.000	0.000	
	Shriram Life	15.50	5.50	10	0.000	0.000	
SBI Life	Bajaj Allianz Life	12.60	8.40	10	29.000	0.112	*Accepted*
	Birla Sun Life	14.40	6.60	10	11.000	0.003	*Rejected*
	MNYL	13.80	7.20	10	17.000	0.013	*Accepted*
	ING Vysya Life	15.50	5.50	10	0.000	0.000	*Rejected*
	Reliance Life	14.40	6.60	10	11.000	0.003	
	Kotak Life	15.10	5.90	10	4.000	0.001	
	TATA -AIG Life	15.20	5.80	10	3.000	0.000	
	PNB MetLife	15.50	5.50	10	0.000	0.000	
	AVIVA Life	15.50	5.50	10	0.000	0.000	
	Sahara Life	15.50	5.50	10	0.000	0.000	
	Shriram Life	15.50	5.50	10	0.000	0.000	
	Birla Sun Life	15.00	6.00	10	5.000	0.001	*Rejected*
	MNYL	12.90	8.10	10	26.000	0.070	*Accepted*
Bajaj Allianz Life	ING Vysya Life	15.50	5.50	10	0.000	0.000	*Rejected*
	Reliance Life	14.60	6.40	10	9.000	0.002	
	Kotak Life	15.50	5.50	10	0.000	0.000	
	TATA -AIG Life	15.50	5.50	10	0.000	0.000	
	PNB MetLife	15.50	5.50	10	0.000	0.000	
	AVIVA Life	15.50	5.50	10	0.000	0.000	
	Sahara Life	15.50	5.50	10	0.000	0.000	
	Shriram Life	15.50	5.50	10	0.000	0.000	

Birla Sun Life	MNYL	8.90	12.10	10	34.000	0.226	*Accepted*
	ING Vysya Life	15.20	5.80	10	3.000	0.000	*Rejected*
	Reliance Life	11.50	9.50	10	40.000	0.450	*Accepted*
	Kotak Life	14.60	6.40	10	9.000	0.002	*Rejected*
	TATA -AIG Life	14.30	6.70	10	12.000	0.004	
	PNB MetLife	14.70	6.30	10	8.000	0.001	
	AVIVA Life	14.70	6.30	10	8.000	0.001	
	Sahara Life	15.50	5.50	10	0.000	0.000	
	Shriram Life	15.50	5.50	10	0.000	0.000	
MNYL	ING Vysya Life	14.80	6.20	10	7.000	0.001	*Rejected*
	Reliance Life	12.10	8.90	10	34.000	0.226	*Accepted*
	Kotak Life	13.90	7.10	10	16.000	0.010	*Rejected*
	TATA -AIG Life	14.00	7.00	10	15.000	0.008	
	PNB MetLife	14.60	6.40	10	9.000	0.002	
	AVIVA Life	14.70	6.30	10	8.000	0.001	
	Sahara Life	15.50	5.50	10	0.000	0.000	
	Shriram Life	15.50	5.50	10	0.000	0.000	
ING Vysya Life	Reliance Life	6.40	14.60	10	9.000	0.002	*Rejected*
	Kotak Life	6.90	14.10	10	14.000	0.007	
	TATA -AIG Life	6.40	14.60	10	9.000	0.002	
	PNB MetLife	7.50	13.50	10	20.000	0.023	*Accepted*
	AVIVA Life	8.00	13.00	10	25.000	0.059	*Accepted*
	Sahara Life	15.50	5.50	10	0.000	0.000	*Rejected*
	Shriram Life	15.20	5.80	10	3.000	0.000	
Reliance Life	Kotak Life	14.50	6.50	10	10.000	0.002	*Rejected*
	TATA -AIG Life	14.20	6.80	10	13.000	0.005	
	PNB MetLife	14.60	6.40	10	9.000	0.002	
	AVIVA Life	14.50	6.50	10	10.000	0.002	
	Sahara Life	15.50	5.50	10	0.000	0.000	
	Shriram Life	15.40	5.60	10	1.000	0.000	
Kotak Life	TATA -AIG Life	10.90	10.10	10	46.000	0.762	*Accepted*
	PNB MetLife	13.00	8.00	10	25.000	0.059	
	AVIVA Life	13.40	7.60	10	21.000	0.028	
	Sahara Life	15.50	5.50	10	0.000	0.000	*Rejected*
	Shriram Life	15.40	5.60	10	1.000	0.000	
TATA -AIG Life	PNB MetLife	12.10	8.90	10	34.000	0.226	*Accepted*
	AVIVA Life	13.50	7.50	10	20.000	0.023	
	Sahara Life	15.50	5.50	10	0.000	0.000	*Rejected*
	Shriram Life	15.50	5.50	10	0.000	0.000	
PNB MetLife	AVIVA Life	12.90	8.10	10	26.000	0.070	*Accepted*
	Sahara Life	15.50	5.50	10	0.000	0.000	*Rejected*
	Shriram Life	14.80	6.20	10	7.000	0.001	*Rejected*
AVIVA Life	Sahara Life	15.50	5.50	10	0.000	0.000	*Rejected*
	Shriram Life	15.50	5.50	10	0.000	0.000	
Sahara Life	Shriram Life	6.10	14.90	10	6.000	0.001	*Rejected*

Source: - Calculated

Table – 6: Mann-Whitney Test Results (Input Variable: Investments)

Life Insurer (I)	Life Insurer (J)	Mean Ranks (I)	Mean Ranks (J)	Sample Size	U-Test Statistics	Asymp. Sig. *(p-values)*	Result of Hypothesis (H_0) *(at α = 0.01)*
LICI	ICICI Prulife	15.50	5.50	10	0.000	0.000	*Rejected*
	HDFC Std. Life	15.50	5.50	10	0.000	0.000	
	SBI Life	15.50	5.50	10	0.000	0.000	
	Bajaj Allianz Life	15.50	5.50	10	0.000	0.000	
	Birla Sun Life	15.50	5.50	10	0.000	0.000	
	MNYL	15.50	5.50	10	0.000	0.000	
	ING Vysya Life	15.50	5.50	10	0.000	0.000	
	Reliance Life	15.50	5.50	10	0.000	0.000	
	Kotak Life	15.50	5.50	10	0.000	0.000	
	TATA -AIG Life	15.50	5.50	10	0.000	0.000	
	PNB MetLife	15.50	5.50	10	0.000	0.000	
	AVIVA Life	15.50	5.50	10	0.000	0.000	
	Sahara Life	15.50	5.50	10	0.000	0.000	
	Shriram Life	15.50	5.50	10	0.000	0.000	
ICICI Prulife	HDFC Std. Life	11.20	9.80	10	43.000	0.597	*Accepted*
	SBI Life	9.20	11.80	10	37.000	0.326	
	Bajaj Allianz Life	11.20	9.80	10	43.000	0.597	
	Birla Sun Life	14.30	6.70	10	12.000	0.004	*Rejected*
	MNYL	12.00	9.00	10	35.000	0.257	*Accepted*
	ING Vysya Life	14.10	6.90	10	14.000	0.007	*Rejected*
	Reliance Life	13.90	7.10	10	16.000	0.100	*Accepted*
	Kotak Life	14.50	6.50	10	10.000	0.002	*Rejected*
	TATA-AIG Life	13.10	7.90	10	24.000	0.049	*Accepted*
	PNB MetLife	14.40	6.60	10	11.000	0.003	*Rejected*
	AVIVA Life	15.10	5.90	10	4.000	0.001	
	Sahara Life	15.50	5.50	10	0.000	0.000	
	Shriram Life	15.50	5.50	10	0.000	0.000	
HDFC Std. Life	SBI Life	8.60	12.40	10	31.000	0.151	*Accepted*
	Bajaj Allianz Life	10.50	10.50	10	50.000	1.000	
	Birla Sun Life	13.70	7.30	10	18.000	0.016	
	MNYL	11.30	9.70	10	42.000	0.545	
	ING Vysya Life	13.50	7.50	10	20.000	0.023	
	Reliance Life	13.40	7.60	10	21.000	0.028	
	Kotak Life	14.00	7.00	10	15.000	0.008	*Rejected*
	TATA -AIG Life	12.30	8.70	10	32.000	0.174	*Accepted*
	PNB MetLife	14.00	7.00	10	15.000	0.008	*Rejected*
	AVIVA Life	14.70	6.30	10	8.000	0.001	
	Sahara Life	15.50	5.50	10	0.000	0.000	
	Shriram Life	15.50	5.50	10	0.000	0.000	

SBI Life	Bajaj Allianz Life	12.50	8.50	10	30.000	0.131	*Accepted*
	Birla Sun Life	14.80	6.20	10	7.000	0.001	*Rejected*
	MNYL	13.20	7.80	10	23.000	0.041	*Accepted*
	ING Vysya Life	14.70	6.30	10	8.000	0.001	*Rejected*
	Reliance Life	14.30	6.70	10	12.000	0.004	
	Kotak Life	14.90	6.10	10	6.000	0.001	
	TATA -AIG Life	14.00	7.00	10	15.000	0.008	
	PNB MetLife	14.90	6.10	10	6.000	0.001	
	AVIVA Life	15.20	5.80	10	3.000	0.000	
	Sahara Life	15.50	5.50	10	0.000	0.000	
	Shriram Life	15.50	5.50	10	0.000	0.000	
Bajaj Allianz Life	Birla Sun Life	13.60	7.40	10	19.000	0.019	*Accepted*
	MNYL	11.30	9.70	10	42.000	0.545	
	ING Vysya Life	13.70	7.30	10	18.000	0.016	
	Reliance Life	13.40	7.60	10	21.000	0.028	
	Kotak Life	13.90	7.10	10	16.000	0.010	*Rejected*
	TATA -AIG Life	12.20	8.80	10	33.000	0.199	*Accepted*
	PNB MetLife	13.90	7.10	10	16.000	0.010	*Rejected*
	AVIVA Life	14.60	6.40	10	9.000	0.002	
	Sahara Life	15.50	5.50	10	0.000	0.000	
	Shriram Life	15.40	5.60	10	1.000	0.000	
Birla Sun Life	MNYL	8.00	13.00	10	25.000	0.059	*Accepted*
	ING Vysya Life	10.30	10.70	10	48.000	0.880	
	Reliance Life	10.40	10.60	10	49.000	0.940	
	Kotak Life	11.00	10.00	10	45.000	0.705	
	TATA -AIG Life	8.30	12.70	10	28.000	0.096	
	PNB MetLife	10.80	10.20	10	47.000	0.821	
	AVIVA Life	12.50	8.50	10	30.000	0.131	
	Sahara Life	14.40	6.60	10	11.000	0.003	*Rejected*
	Shriram Life	14.30	6.70	10	12.000	0.004	*Rejected*
MNYL	ING Vysya Life	13.00	8.00	10	25.000	0.059	*Accepted*
	Reliance Life	12.80	8.20	10	27.000	0.082	
	Kotak Life	13.40	7.60	10	21.000	0.028	
	TATA -AIG Life	11.40	9.60	10	41.000	0.496	
	PNB MetLife	13.50	7.50	10	20.000	0.023	
	AVIVA Life	14.20	6.80	10	13.000	0.005	*Rejected*
	Sahara Life	15.50	5.50	10	0.000	0.000	*Rejected*
	Shriram Life	15.30	5.70	10	2.000	0.000	*Rejected*
ING Vysya Life	Reliance Life	10.60	10.40	10	49.000	0.940	*Accepted*
	Kotak Life	11.30	9.70	10	42.000	0.545	
	TATA -AIG Life	8.30	12.70	10	28.000	0.096	
	PNB MetLife	11.30	9.70	10	42.000	0.545	
	AVIVA Life	12.70	8.30	10	28.000	0.096	
	Sahara Life	15.10	5.90	10	4.000	0.001	*Rejected*
	Shriram Life	14.60	6.40	10	9.000	0.002	*Rejected*
Reliance Life	Kotak Life	10.80	10.20	10	47.000	0.821	*Accepted*
	TATA -AIG Life	8.90	12.10	10	34.000	0.226	
	PNB MetLife	10.90	10.10	10	46.000	0.762	
	AVIVA Life	12.00	9.00	10	35.000	0.257	
	Sahara Life	13.90	7.10	10	16.000	0.010	*Rejected*
	Shriram Life	13.80	7.20	10	17.000	0.013	*Accepted*

Kotak Life	TATA -AIG Life	7.80	13.20	10	23.000	0.041	*Accepted*
	PNB MetLife	10.60	10.40	10	49.000	0.940	
	AVIVA Life	12.20	8.80	10	33.000	0.199	
	Sahara Life	14.60	6.40	10	9.000	0.002	*Rejected*
	Shriram Life	14.20	6.80	10	13.000	0.005	*Rejected*
TATA -AIG Life	PNB MetLife	13.00	8.00	10	25.000	0.059	*Accepted*
	AVIVA Life	14.10	6.90	10	14.000	0.007	*Rejected*
	Sahara Life	15.50	5.50	10	0.000	0.000	
	Shriram Life	15.40	5.60	10	1.000	0.000	
PNB MetLife	AVIVA Life	12.10	8.90	10	34.000	0.226	*Accepted*
	Sahara Life	14.20	6.80	10	13.000	0.005	*Rejected*
	Shriram Life	14.10	6.90	10	14.000	0.007	*Rejected*
AVIVA Life	Sahara Life	12.70	8.30	10	28.000	0.096	*Accepted*
	Shriram Life	13.20	7.80	10	23.000	0.041	
Sahara Life	Shriram Life	11.00	10.00	10	45.000	0.705	*Accepted*

Source: - Calculated

Tables 5 and 6 depicted the existence of disparity in the performances of the state-owned LICI with all the private life insurers' under review against the two performance variables i.e. 'Gross Premiums Written' and 'Investments' respectively over the combined years of the study-period. The rejection of the null-hypothesis of equal sample means further acts as a testimony to the above facts based on the evidences of p-values being lower than the 2-tailed significance value of the Mann-Whitney test, against each of the above parameters. At the same time, the performances between the established and relatively new private life insurers were also found to be statistically significant (p-values $\leqslant$ 0.01) against both the performance variables as considered in the present study. Hence, LICI was found to be the dominant player with significant differences being observed with all the private life insurance firms during the period under review. This was further corroborated by the evidence of higher mean ranks being obtained in case of LICI in contrast to the remaining life insurers, against both the performance-related variables. This eventually points out to the fact that with respect to both the performance-related variables, LICI had the greater number of higher scores within it among the sampled life insurance firms during the period under review.

Furthermore, the performances of the established private-sector players significantly differed (p-values $\leqslant$ 0.01) with the performances of the relatively newer private-sector players in the industry, although they came into existence within a brief span of 2 to 3 years during the post-reform era. This can be observed from the above tables 5 & 6 respectively which depicted statistically significant differences in the performances of the established players such as ICICI Prulife, HDFC Std. Life, SBI Life, etc. with the performances of the newly-inducted ones such as PNB MetLife, AVIVA Life, Sahara Life, Shriram Life, etc. At the same time, the performances of a few of the relatively newer private-sector players such as ING Vysya Life, Reliance Life, Kotak Life, etc. were found to be statistically insignificant (p-values > 0.01) with the performances of a few of the established private-sector players such as TATA-AIG Life, MNYL, etc., despite of moving late in the country's insurance sector. This was further evident from the acceptance of the null hypothesis of equal sample means in above such cases with the p-values obtained being higher than the 2-tailed significance value of the Mann-Whitney test. This eventually confirms the presence of a healthy competition in the country's life insurance sector with the newer private-sector players fast catching up with the paces of the established ones in terms of premium collection and total investments through improved marketing strategies, customised product-base, technological inputs and fresh infusion of foreign capital.

6. Conclusion

In view of the study undertaken, the results showed a significant disparity in the performances of the sampled private-sector life insurance firms with the state-owned giant LICI against the two performance variables i.e. 'Gross Premiums Written' and 'Investments' respectively, covering all the years of the study-period from 2006-07 to 2015-16. This was corroborated by the rejection of null hypothesis of equal sample means, based on the hypothesised non-parametric tests that were conducted to investigate the differences in performance between the sampled life insurance firms during the period under review. Though the differences among the sampled private-sector life insurance firms were found to be insignificant, but their differences with the public-sector giant LICI were found to be statistically significant primarily because of differences in firm sizes, customer-base and inexperience of the private players in contrast to LICI. The state-owned LICI continues to remain as the dominant player in the country's life insurance sector with a vast-premium and investment base that has been brought down over the years since its inception in 1956. Despite of the private players were found to be lagging behind LICI in terms of premium-collection and total investments, yet they are fast narrowing down their differences with the state-owned giant LICI through the introduction of customised products, infusion of fresh foreign capital, innovative marketing strategies and technological know-how derived from their foreign partners. In contrast, LICI has been largely banking upon its conventional insurance products that has been rolled over from the past years, with no fresh infusion of capital during the period under review. It was only during recent times in the post-deregulation period that LICI has shown drastic improvements in widening its product-base in a bid to sustain competition from the private players. The observed differences in performance between LICI and the private-sector life insurance firms' over the post-deregulation study-period can be attributed to the stringent government policies that deterred the entry of private players till the late-1990s, until the decision to privatize the country's insurance sector was undertaken by the government. The recent relaxation of FDI norms from 26% to 49% in the country's insurance sector by the Indian Finance minister Mr. Arun Jaitley during the FY 2015-16 also speaks volumes about the consistency shown by the present BJP government towards insurance-sector reforms, in line with their predecessors'. The increase in the entry of private and foreign insurance players would help to bring in more foreign investments into India that would eventually aid the country's insurance sector to remain competitive with the rest of the world.

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Television Advertisements and Consumerism: Implications for Financial Health of Viewers

Namrata Sandhu

Abstract

The current study explores how people satisfy the desires instilled due to television advertising viewing and its implications for their financial health. Empirical analysis of the views of 520 respondents reveals that television advertisements entice viewers to buy products they do not need and cannot afford, thereby encouraging them to borrow money. Television advertisements also play a vital role in purchase decisions and a large proportion of the population buys products based entirely on them. Where reliance on television advertisements for purchase decisions is heavy, people spend greater proportions of their income on the repayment of borrowed money.

Key words : *Television advertisement viewing, financial health, purchase decision, television commercials, product categories.*

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Advertising in contemporary society is designed to attract attention, influence attitudes and modify behavior (Singh and Sandhu, 2011a). It has facilitated a change in societal virtues that has invited a lot of criticism (Muncy and Eastman, 1998). It has been accused of promoting undesirable value schemes in the society that see the hitherto unaccepted principles as commonplace (Pollay, 1986). One such principle is consumerism. A significant and positive relationship between consumerism and advertising has been established by a number of studies (Richins, 1995; Chan and Cai, 2009; Sandhu, 2013).

Critics opine that advertising considerably influences our choice of products, shopping behavior, the way we use the shopped products and in turn the society and culture (Pollay, 1986). It is believed that comparison with the idealized images in advertising influences the perceptions of the viewers regarding how their lives ought to be, particularly in terms of their material possessions. This leads to consumer discontent and an enhanced desire for more (Richins, 1995). Advertisements, thus lead to need creation where it does not exist or where the consumer does not even have the buying capacity.

The viewers of advertisements are susceptible to its charms and find it difficult to resist the temptations it leads them into (Sandhu, 2011). The refined techniques and the right placement of words and images are used artfully to instill desires and evoke the requisite response among the viewers: purchase of the product. With these tendencies on the rise, more and more consumers are taking loans and getting drawn deep into them. Savings are getting downplayed and the new generations are living on the edge. The obvious consequences are financial stress and frustration. What needs to be understood is that the modern day commercials are spreading a culture, which in its fancy is unachievable for the common man, encourages him to buy products beyond his capacity and coerces him to take loans that he cannot afford. Some critics are also of the view that in order to buy the advertised products, people are even ready to commit crimes and resort to corruption (Sangkhawasi and Johri, 2007; Nuta, 2009).

Having established the role of television commercials in harming the society through the promotion of consumerism and materialism, a further insight into their impact on the financial health of the consumers is required. Therefore, within this context the current study aims to examine the means that people resort to in order to satisfy the enhanced desires due to television advertising viewing and its implications for their financial health.

The next section examines the relevant literature surrounding the research problem. Subsequent sections highlight the methodology and data analysis. The last section of the article presents the findings of the study, suggestions, study limitations and the scope for future research.

Review of Literature

Many investigations, which are relevant to the current research, have been done over the past years across many countries. Based on these investigations, it is reasonable to assume that consumerism and materialism are natural consequences of exposure to advertisements.

Pollay (1986) reviewed the work of significant social science and humanities scholars for their thoughts and theories about the supposed effects of advertising. The study found advertising damaging to morality and society and among its other consequences saw it as reinforcing materialism and social competitiveness. With the help of theories originating in social psychology, Richins (1995) attempted to demonstrate the impact of advertising on consumer's perceptions of their lives, specifically with respect to their material possessions. The findings of the study indicated that repeated exposure to advertisements enhances the expectations and desires of the consumers, and leads to dissatisfaction with current material possessions.

In another study, conducted in New Delhi, India, Kavoori and Chadha (2001) found that advertisements create a culture of consumption. They referred to it as 'consumerist culture. The authors reached this conclusion by conducting a textual analysis of advertisements in a mass circulated newspaper and magazine. In line with this study, Rumbo (2002) examined the pervasive influence of advertising on consumer culture, and unveiled that it was 'difficult to resist consumerism, given the control of advertising over cultural spaces'. Further, Scrase (2002), based on ethnographic fieldwork showed a direct and positive correlation between advertising and consumerism.

Ciochetto (2004) explored the profile of contemporary advertising in India, with the help of secondary data. The author established that advertising undermined traditional habits and behaviours and led to the creation of new wants and desires, generally for harmful products. It was pointed out in the study that this was achieved with the help of strategies that reworked cultural values and beliefs. The study concluded that advertising was accelerating India into a culture and ideology of consumerism. Roy (2006) conducted a study with similar findings. With the help of survey method using a questionnaire, it was established that advertising promoted materialism, used manipulation to promote products and in general sent the whole value system down the chute.

It is of interest however to note that in a bold departure from the norm, Arrington (2004) sided with advertisers in the ethical debate and cited in his study that since consumers had the ability to avoid exposure to advertisements, advertisers did not have the ability to control the desires and actions of the consumers, especially where purchase of products was concerned.

Further, some researchers, during the later part of the last decade, tried to focus on certain specific aspects of advertising and materialism. Chan and Cia (2009), based on a survey conducted in 2006, tried to explore whether there

existed a relationship between materialistic values and number of hours of television viewing. The study found that heavy television advertising viewers were more materialistic than light advertising television viewers. Similarly, Pegoraro *et al.* (2010) after a content analysis of 144 unique advertisements found that there was a significant correlation between length of the ad and the use of materialism tactics.

Singh and Sandhu (2011b) found that advertising viewing made the viewers more materialistic. Sandhu (2015) conducted a primary survey that examined the impact of rise in materialism due to television advertising viewing on the quality of life of the viewers. The study established that repeated exposure to television commercials negatively impacted the psychological, social and physical health of viewers.

Although, there has been some substantive research, which establishes a positive correlation between materialistic values and advertisements, very limited research has been done on how these enhanced desires are satisfied by the consumers. The current study is timely as it explores the same, along with its financial implications for the viewers.

Questionnaire Development and Data Collection

The current study was conducted in the state of Punjab in India and data for the same was collected with the help of a well-structured questionnaire. The questions in the questionnaire were designed keeping in mind the objective of the study and the already existing literature reviewed. The questionnaire also contained questions related to the demographic profile of the respondents. With a view to eliminate the potential problems in the questionnaire, it was pretested for clarity and validity on respondents drawn from the relevant population.

For the purpose of data collection, 600 questionnaires were conveniently administered. However, at the end of the survey, only 569 questionnaires were returned. Out of these 569 questionnaires, 520 usable questionnaires were obtained. Missing value analysis was conducted to identify the usable questionnaires (Little and Rubin, 1987). Based on this analysis, questionnaires with over 25 percent missing values were not included in the final analysis (Graham *et al.,* 1996). The percentage of usable questionnaires was thus nearly 87 percent.

Before proceeding with data analysis, the collected data was examined for non-response bias. T-test indicated no significant difference (at 5 percent level of significance) among the responses obtained before and after a reminder was sent to the respondents. This suggests that non-response is not a matter of concern in the present study (Lambert and Harrington, 1990). After examination for non-response bias, the collected data was analyzed (refer to section on data analysis and discussion).

Profile of the Respondents

Table 1: Profile of the Respondents

Gender	
Male	53.65
Female	46.35
Age	
Up to 20 years	11.54
20 - 35 years	50.77
35 - 50 years	26.35
50 - 60 years	7.88
Above 60 years	3.46
Marital Status	
Unmarried	36.73
Married	56.73
Divorced	2.31
Widowed	4.23

All figures in percentages

As we can see from Table 1, 53.65 percent of the respondents were male and 46.35 percent of the respondents were female. 11.54 percent of the respondents were less than 20 years in age, 50.77 percent respondents were in the age group of 20 to 35 years, 26.35 percent respondents were in the age group of 35 to 50 years, 7.88 percent of the respondents were between 50 and 60 years and only 3.46 percent of the respondents were above 60 years in age. Further, as far the marital status of the respondents was concerned, 36.73 percent of the respondents were unmarried, 56.73 percent of the respondents were married, 2.31 percent of the respondents

were divorced and 4.23 percent of the respondents were widowed.

Data Analysis and DiscussionThe current study takes the findings of the previous research, which establish that television commercials boost materialism and consumerism in society, a step ahead, by focusing on investigating the repercussions of the thus enhanced materialistic values on individuals.

An empirical analysis of the views of the respondents was attempted and it revealed that advertisements lure people to buy products they do not really need and cannot afford, and thus encourage people to take loans. This injures the financial wellbeing of individuals, and leads to financial distress in their lives.

Purchase of Products Not Needed

Previous research suggests that television commercials lead to need creation where it does not previously exist and force the viewers to buy products they do not really need (Richins, 1995; Mayne, 2000). The results of the current study support this contention.

Table 2 shows the extent to which television commercials lure the respondents to buy products they do not need. The results of chi-square test show that difference in the various categories of responses is statistically significant (p = .000).

8.85 percent of the total respondents feel that they have been entirely lured by television commercials and 35.96 percent of the respondents feel that they have been lured to a large extent by television commercials to buy products they did not need. Further, 27.69 percent respondents consider television commercials as one of the factors that led them to purchase products they did not need and 19.23 percent respondents feel that to a small extent only, they were influenced by television commercials to buy products they did not need. As indicated by these statistics, it may be of interest to note that only 8.27 percent respondents feel that in no way were they influenced by television commercials to buy products they did not need (for absolute figures refer to table 2).

These statistics are alarming because all in all, there are 91.73 percent respondents who feel that more or less, they have been enticed by television commercials to buy products they did not need. Therefore, it proves that television commercials lead to the creation of needs where they do not originally exist and manipulate the target audience into buying the advertised products. The first two categories of responses are specifically upsetting for the society since they depict the degree to which (entirely and up to a large extent) television commercials can coerce the consumers to buy products they do not need.

Table 2: Extent to which television commercials have lured respondents to buy products they did not need

Category	Frequency
Not at all	43 (8.27 %)
To a small extent	100 (19.23 %)
Was one the factors	144 (27.69 %)
To a large extent	187 (35.96 %)
Entirely	46 (8.85 %)
Total	520
Chi-square	
df	4
Significance	p = .000*

*At 5 percent level of significance

Response on Watching Television Advertisements

The study also investigated the response of the respondents on watching a television commercial. The response is depicted in table 3 (response in absolute figures). Chi-square analysis affirmed the statistical significance of the categorical difference in responses (p = .000).

From the responses of the respondents, it is evident that the majority (56.73 percent) watches television commercials carefully, 23.46 percent ignore them, only 4.42 percent believe them, and 15.38 percent change the channel when they come across them.

As against the common belief that viewers ignore television commercials or change the channel on coming across them, this study indicates that the majority watches them carefully. Another point that is highlighted by the study is that though the majority watches television commercials carefully, only very few people actually believe them. Previous research has indicated that the reason for the low believability of television commercials is the false and untrue claims made in them (Sandhu, 2013). Thus, in order to make advertisements

socially responsible, advertisers should respond to the need of the hour and impart information that is truthful and honest. This would go a long way in ensuring the interest of both parties: the consumers by helping them take informed decisions and the advertisers by enhancing the credibility of their claim and in turn of the advertised product.

Table 3: Response on watching television commercials

Category	Frequency
Change the channel	80 (15.38 %)
Believe it	23 (4.42 %)
Watch it carefully	295 (56.73 %)
Ignore it	122 (23.46 %)
Total	520
Chi-square	
df	3
Significance	p = .000*

*At 5 percent level of significance

Product Categories and Influence of Television Commercials

The current research also tried to find the categories of products for the purchase of which people rely on television commercials. Three categories of products: luxury products, shopping products and convenience products were considered. The respondents had the option of checking one, two or all the categories. This is the reason why the total percentage is greater than 100 percent. Table 4 represents the findings. Chi-square established that the difference in the responses for different categories of products were statistically significant (p = .000). As can be seen from the figure, the category of products for the purchase of which there is a maximum reliance on television commercials is shopping products, followed by convenience products.

Table 4: Categories of products and dependence on television commercials for purchase

Category	Frequency
Luxury product	94 (18.08 %)
Shopping product	250 (48.08 %)
Convenience product	194 (37.31 %)
Chi-square	
df	2
Significance	p = .000*

*At 5 percent level of significance
Total percentage is > 100 because respondents could select more than one option

Reaction if Advertised Product is Needed

The reactions of the respondents in case they need the advertised product are represented in table 5. These reactions are a corollary to the need creation that takes place (as already discussed earlier) due to exposure to television commercials. Statistical significance of the difference in the responses was established with the help of chi-square (p = .000).

As can be seen, 36.15 percent of the respondents buy the advertised product if they can afford it and 44.88 percent respondents decide to buy it at a later date when they can afford it. Particularly troublesome however are the reactions of the 10 percent respondents who borrow money to buy it and the 9.04 percent respondents who buy them on installments.

The above statistics clearly indicate that television commercials lure the viewers to buy products even when they cannot afford them. Television commercials are actually propagating a culture, which is fantastic and unachievable. The standard of living, which is depicted in advertisements, though beyond the reach of the common man, instills in him a desire to achieve it and he tries every way available (borrowing money, buying on installments etc.) to achieve it.

Table 5: Reaction if the respondent needs the advertised product

Category	Frequency
Buy on installments	47 (9.04 %)
Borrow money to buy it	52 (10 %)
Decide to buy when have money	233 (44.88 %)
Buy if capacity is there	188 (36.15 %)
Total	520
Chi-square	
df	3
Significance	p=.000*

**At 5 percent level of significance*

Basis of Purchase Decision

The focus of the current research was also on finding the factors that influence the purchase decision of the respondents. It was found that 52 percent of the respondents base their purchase decision entirely on television commercials, as against 48 percent of the respondents who take into consideration other factors also. These statistics very clearly show that advertisements are a very important factor that influences purchase decisions. Further, an attempt was also made to find how the 52 percent respondents who base their purchase decision entirely on television commercials, were impacted by it. The results were alarming as it was found that 61 percent of the relevant respondents felt that they had exceeded their budget and 39 percent of them felt financially stressed.

Television commercials persuade people to go to great lengths to replicate the standard of living they project. All sorts of measures are resorted to, to achieve it. People are ready to work long hours to earn more, they are ready to borrow money and in acute cases even commit crimes (Sangkhawasi and Johri, 2007; Nuta, 2009). The society is brainwashed into unnecessary spending and a culture is created where by too much importance is placed on materialistic goods (Nuta, 2009). The results of this are manifested in the form of exceeded budgets, too many loans and financial stress, as can be seen from the statistics of the current study. We can thus conclude that, people are living on the edge and meeting their enhanced financial obligations because of television commercials is creating stress in their lives.

Further, for the 48 percent respondents, whose purchase decision was influenced by other factors also, an attempt was made to examine what these factors were. The results are depicted in figure 1 (absolute figures used).

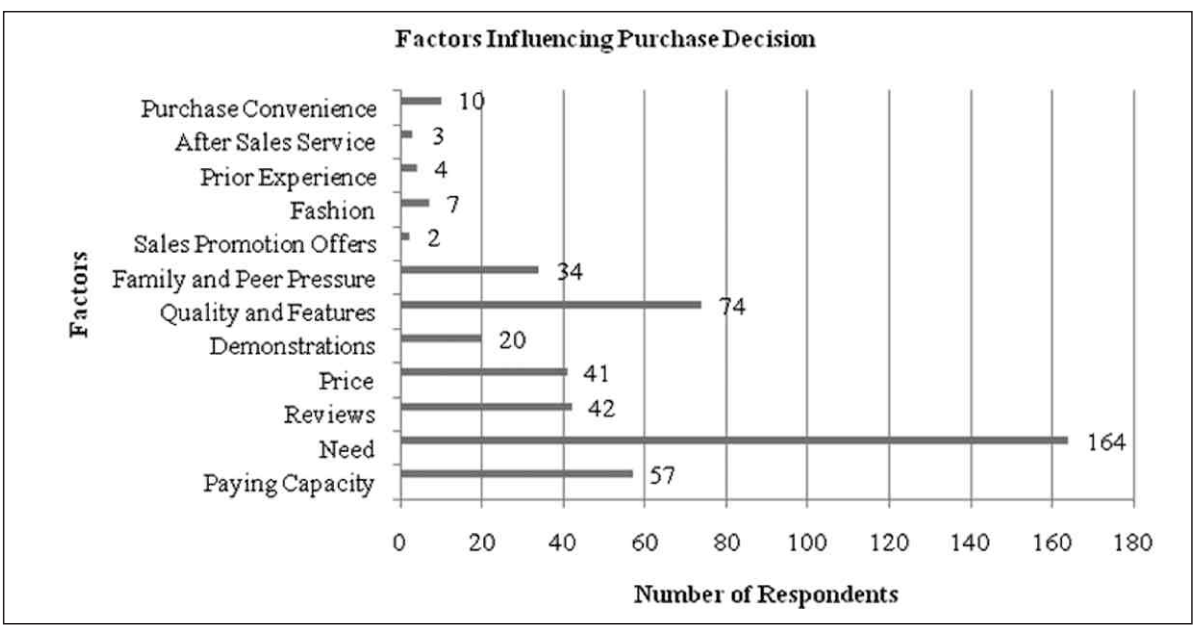

Figure 1

From the collected responses, 12 distinct factors emerge as shown in figure 1. These factors are: paying capacity, need for the product, product reviews (on internet/magazines, views of the owners etc.), price of the product, real life demonstrations and availability, quality and product attributes, family and peer pressure, sales promotion offers, fashion, prior experience, after sales service and purchase convenience. As can be seen from the figure, the most important factor that influences purchase decision is the need for the product, followed by product quality and attributes. Paying capacity of the consumer, price of the product, product reviews and family and peer pressure are other important factors that influence the decision of the respondents. For the remaining factors, the responses are low (between 2 and 20) and hence it can be concluded that their influence on the purchase decision is not substantial.

Repayment of Borrowed Money

The current study also gathered information on the percentage of income that the respondents spent every month on repaying the money that they had borrowed to purchase a product/pay an EMI (including credit cards, store cards and loans). The results are depicted figuratively in figure 2 (response in absolute figures). As can be seen, a majority of the respondents (53.46 percent) fall in the first category, where they use up to 20 percent of their income on the repayment of money borrowed to buy products. 30 percent of the respondents use 20 to 35 percent of their income on the repayment of money borrowed to buy products, 11.73 percent use 35 to 50 percent and the rest (4.80 percent) use an amount greater than 50 percent on the repayment of the money borrowed to buy products.

Past research has indicated that if an individual spends an amount greater than 35 percent on the repayment of borrowed money every month, he/she will be under financial stress (Chaturvedi, 2007). Thus, we can say that the respondents who fall in the last two categories (amounts to 16.53 percent of the population) are under financial stress. Of specific concern however, is the population that spends an amount greater than 50 percent of its income on repayment of borrowed money.

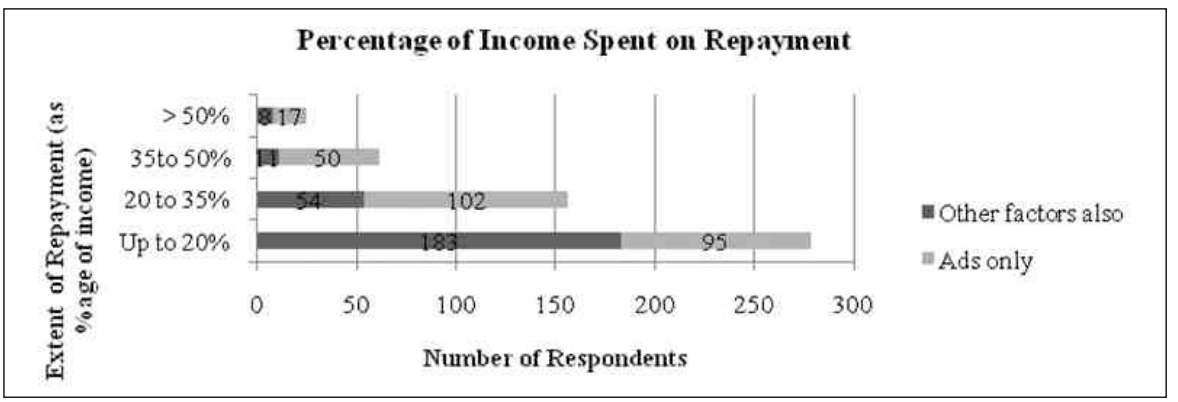

Figure 2

Let us further examine the factors on which the respondents who fall in different categories base their purchase decisions. In figure 2, for each category, the respondents who base their decisions entirely on television commercials are shown separately from the ones who take into account other factors also while considering purchase of products. 82 percent of respondents who use 35 to 50 percent of their income on the repayment of borrowed money base their decisions entirely on television commercials (figure 2). On the same lines, 68 percent of the respondents whose repayment ratio is greater than 50 percent of their income base their purchase decisions entirely on television commercials (figure 2). These statistics reflect the influence that television commercials have on purchase decisions of the respondents and in turn their financial condition. These categories of respondents are under financial stress and most of it is attributable to television commercials. Advertising presents unrealistic or idealized images of people and their lives. Such images alter the expectation of living standards of television viewers because they often compare themselves with what they see and try to catch up through increased consumption (Richins, 1991). This draws the consumers deep into the debt trap as is evident from the current statistics.Another very interesting aspect that is reflected by

the statistics is: where the percentage of income that a respondent spends on the repayment of borrowed money is less, his reliance on television commercials for purchase decisions is also less. In the category where the respondents spend only 0 to 20 percent of their income on the repayment of borrowed money, only 34.17 percent people rely on television commercials for purchase decisions as against the 67.30, 82 and 68 percent people in categories two (20 to 35 percent), three (35 to 50 percent) and four (> 50 percent) respectively. This clearly indicates that television commercials are promoting materialism and consumerism, which in turn is creating financial stress in the society. The dissatisfaction that is created among the masses with respect to their material possessions after comparing their lifestyle with the lifestyle depicted in television commercials is satisfied by buying products on installments and the EMIs run as high as greater than 50 percent of the income. Needless to say, television commercials are promoting a culture where consumption is commonplace and financial stress a natural corollary.

Conclusion, Suggestions and Limitations

It was found from the current study that more often than not, viewers are enticed by television commercials to buy products they do not need and cannot afford, and thus are encouraged to resort to loans. It was further found that advertisements play a very vital role in purchase decisions and a very large proportion of the population buys products based entirely on them. Where the reliance on television commercials is heavy, it people spend greater proportions of their income on the repayment of borrowed money. It can thus be said that the last laugh is with the advertisers who persuade us to spend huge sums of money on goods and services, which we really do not need (Mayne, 2000) and in the bargain create financial stress in our lives.

The findings of the current study, while being in tune with the findings of some of the earlier studies are clearly in disagreement with the findings of some others. Richins (1995) in a study conducted to examine the impact of advertising on materialism, found that exposure to advertisements led to need creation among the viewers. The findings of the current study support this argument and empirically establish that more often than not, viewers are lured by television commercials to buy products they do not need. However, it may be of interest to point here, that this finding is contrary to the findings of the study conducted by Arrington (2004). Arrington (2004) in his study clearly concluded that the advertisers do not have the ability to control the desires and actions of the consumers.

Further, the current study supports the findings of a recent study conducted by Nuta (2009). Both the studies conclude that television commercials persuade the viewers to spend money on products they do not need, and thus create a consumerist society.

This is a classic case of violation of ethics since television advertisements take away the freedom of choice from the consumers and vest it in the hands of advertising agencies, which have been overlooking implications of their actions for a long time now. While being on the right side of law, advertisements are in many cases on the wrong side of ethics. Unfortunately ethics are generally interpreted in conjunction with law, but now ethics must also be studied separately from law. Glamorous images, depiction of unaffordable lifestyles, inappropriate comments etc. while meeting the legal standards leave much to be desired on the ethical front. There do not exist laws against it, but as can be seen from the current research, they go a long way in promoting undesirable values in the society. These values are in conflict with the basic Indian maxim of 'simple living'. Advertisers must thus take a detailed look at the symbolic meanings of ads and their influence on public virtues. They must build moral affirmations into their communication strategies and try to connect with the consumer on an ethical level.

Like every other study, this study too suffers from some limitations. The sample for the study was drawn from the state of Punjab in India, and hence may prevent the generalization of the findings. Also, it may be appropriate to point out that the sample was not randomly selected. Further, because of inhibitions regarding the nature of the questions asked (questions dealt with extent of loans taken), there is a possibility that the respondents may not have revealed factual information. Respondents may have responded in socially desirable ways. Therefore, there is a possibility the results of the study may suffer from a social desirability bias (Fabrigar and Krosnick, 1995).

Limitations of the current research provide implications for future research. To obtain a clearer and more representative picture, it is recommended that future studies may be conducted devoid of the limitations of the current study. Having established that advertisements lead to financial stress, further research may also be undertaken to study the correlation, if any, between financial stress and number of hours of television viewing. Future researchers may try and

find whether heavy advertising viewers were likely to be under a greater financial stress than light advertising viewers.

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