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The BIITM Business Review provides an academic forum for encouragement, compilation and dissemination of research on various aspects of management and business practices. It includes original empirical research as well as theoretical and conceptual works related to the field of management. It also publishes case studies, critical evaluation of existing business models and theories, and reviews of the latest books relevant to the corporate world.

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The Editor, BIITM Business Review
Biju Patnaik Institute of IT & Management Studies
F/4, Chandaka Industrial Estate, Bhubaneswar-24
E-mail: biitmbbsr@yahoo.com

From the Chief Editor's Desk

It is a great pleasure to announce that the 7th volume of our journal “BIITM Business Review” is being published. It contains quality articles with rich inputs on various domains of management. We extend our heartfelt thanks to all the contributors from various institutions and hope their cooperation in future also.

We are trying best to improve the quality of the journal and striving our continuous effort to achieve this goal. We hope the journal will meet its goal by providing quality inputs to corporater students, researchers and to academic fraternity as a whole.

The editorial board would like to extend heartfelt thanks to its Chief Patron, Mr. P. K. Balabantray, Chief Patron and Prof. P. R. Pattanayak, Patron for their encouragement and support for the success of this issue.



Dr. P. K. Tripathy
Chief Editor

From the Editor's Desk

It gives us immense pleasure in informing you that our journal “BIITM Business Review” has become popular and gain acceptance in a short span of time. We are proud to host articles with the ISSN number as it enhances the recognition and credibility of the articles published in the journal.

The articles in this issue are a selection from the work done by a group of researchers and practitioners on some of the important aspects of management and related fields. It is our continuous effort to bring out the versatility of the concepts in the light of providing knowledge and satisfaction to our readers.

I would like to heartily thank its Chief Patron Mr. P. K. Balabantray, Advisor, Principal, members of the editorial board, the authors and other well-wishers for their cooperation and encouragement in bringing out this issue.



Dr. Saraju Prasad

Editor

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Management of Natural Resources and Land Rights of Women; An Analysis in Tribal Districts of Odisha

* Dr. Parikshit Sahu

Abstract

Women's land rights have often been subsumed as those of her husband's. She is not counted as an owner in her own right and this makes her disproportionately vulnerable to losing her entitlement over land. Significant gender biases persisted both in land reform legislation and in personal laws. Most of the land reform legislation was enacted during the 1980s before women's land rights were considered worthy of policy attention. No mention of women's land rights was made until the Sixth Five-Year Plan (1980-85). The Eighth Five Year Plan (1990-95) called for a change in inheritance laws to accommodate women's rights but gave few specifics and called upon state governments to allot 40 per cent of ceiling-surplus or state-redistributed land in the name of women alone, with the remainder to be joint titled. Women and land rights is one of the most crucial issues of any society that is trying to bring in equity and justice. Access to land is a necessary condition for poverty alleviation, and so an adequate legal framework for land rights to women, is more than essential. In the context of a developing country, land rights are crucial as they are linked to issues like right to food, work and other human rights. It is now increasingly understood that the denial of inheritance of land rights especially in a patriarchal system has contributed to the subordinate status of women. Therefore, the Hindu Succession Act 1956 as well as several other legislation has been amended keeping in mind a gender-just approach. The land whether it is forest land or Revenue land, it's rights and entitlement should be with the name of the women. Here the paper tries to analyse a tribal case of five blocks of Nawarangpur and Kalahandi Districts of Odisha with a study mode.

*Programme Officer, Centre For World Solidarity (CWS)

Keywords

[CFR-Community Forest Right, DLC-District Level Committee, FRA-Forest Right Act, FRC-Forest Right Committee, IFR-Individual Forest Right, MFP=Minor Forest Product, NTFPs- Non-Timber Forest Products, PRI—Panchayat Raj Institution, ROR-Record of Right, RL-Revenue Land, SDLC-Sub Divisional Level Committee, VDC-Village Development Committee]

Introduction

The survey of the legislative framework of Odisha taken over by the government confirms that 'land reforms policies have been based on the principle of redistributive justice and on arguments regarding efficiency (land to the tiller, fixation of ceilings, prevention of fragmentation, etc.). Since Independence, nearly 3.01 million hectares has been declared as ceiling surplus in the country. Of this nearly 2.31 million hectares has been taken over by the government and 1.76 million hectares distributed among 5 million beneficiaries, half of whom are Scheduled Castes and Scheduled Tribes. Besides, 7.26 lakh acres of government wasteland has been provided to the landless in the state. In addition, 5.80 lakh acres of *Bhoodan* land has been distributed to the poor in Odisha. Despite all these efforts, access to land still remains a distant dream for the vast majority of the poor

During the post land reforms period, not all intermediaries could be removed, because of lack of reliable records. The large-scale eviction of tenants also took place. No provision was made to record concealed tenancies. The Odisha Survey and Settlement Act could not, in some cases, record the rights of tenants during settlement operations. Large scale transfer of land to adjacent farmers could not stop the fragmentation of land. And due to uneven terrain, farmers in western and southern Odisha neglected the consolidation of their landholdings. Widespread encroachment on both government and common land could not be prevented because often encroachers were both rich and powerful.

The provision of settlement of government land to the landless is not at a "proactive" provision. Even "eligible" encroachers (normally referred to as the landless) cannot "apply" to be regularised as an act of encroachment is considered illegal in the first place.

Similarly, identification and vesting of ceiling surplus land also has many loopholes. Big landholders not only avoid ceiling in the name of distribution of land among family members, they offer their waste or banjar lands as surplus land. Even the distribution of declared and vested ceiling surplus land among the landless has been very slow. The practice of transferring tribal land to non-tribal who uses a tribal pseudonym is very common. In many cases, the

tribal have themselves turned into bonded labourers or underpaid agrarian labourers on their own lands

Objectives

Reflecting on the ground reality and statistical information we have come to realize that there is a huge gap between the statistical determination and the fact. This paper tries to assess the ground reality and reflect on the topic cited above. The context has been tested in three blocks of Nawarangpur (Tentulikhunti, Nandahandi & Dabugaon) and two blocks of Kalahandi Districts (Bhawanipatna & M. Rampur).

The broad objectives of this paper are as follows.

- To Assess the level of awareness on women land right (FRA & Revenue land) with priority on convergences schemes in the study areas
- Access & Control over land through implementation of FRA and Revenue land scheme by women

Methodology

The following methods and procedures have been undertaken in the study.

- Field Visit and individual interaction with target family.
- Focused group discussions with target community including FRC members
- Key informant Collection from secondary sources, village profile & documentary evidences about the Status & Management procedures of IFR/CFR

To have a basic understanding on the management of natural resources this paper tries to present the cases of Forest Rights and Revenue land Rights

Understanding Forest Right Act (FRA)

The very enactment of the historic Forest Rights Act, 2006 by the Indian Parliament after the 60 years of India's independence is a landmark constitutional reform. FRA aims at redressal of a numbers of problems arose due to the draconian Acts like Indian Forest Act, 1927 and Land Acquisition Land, 1894 which were used to evict the tribal's and the forest dwellers from their homes and shelters like goats and cattle. The Forest Rights Act, 2006 not only revived the tribal self governance regime in scheduled 5th area enforced by the Central PESA Act, 1996 but also it extended the provisions of the PESA even to the non scheduled area (whole State) empowering the Village Council, the Gram Sabha to decide over their fate and fate of their resources which has been upheld by the Supreme Court, the highest Court of the nation in the Niyamgiri case on 18th April 2013. All the State's Apparatus has now to accept that "Gram Sabha" is the lowest unit or form of "Government" having its own exclusive legislative, executive and judicial powers and authority over its stipulated areas like any other forms of Government at Block, District, State and Central levels.

Policies in India

Phases	Major Policies	Highlights Points
Phase- I 1947-1970	National Forest Policy (1952)	Commercial exploitation
Phase- II 1971- 1988	National Commission on Agriculture (1976); Forest Conservation Act (1980)	Conservation through powerful legislation such as Wildlife Conservation Act & Forest Conservation Act No place for forest dwellers and tribals in protection and management of local forest
Phase- III 1988 Onwards	National Forest Policy (1988)	Based on three major components: Emphasis on participation of forest dwellers. Increasing access to forest products. Enhancing livelihoods.

Classification of Rights under FRA 2006

Land Rights	No forest dweller can claim user rights over any forest land that he or she was not cultivating before 13 December 2005 and is not cultivating at present. Those who are cultivating such land but do not have documents to prove continuous land use can claim up to 4 hectares if they cultivate the land themselves only for their livelihood. Those who possess government leases for forest land can claim user rights even if the land was taken by the Forest Department or is the subject of a dispute between the Forest Department and the Revenue Department. However, if those lands are re-conferred on an individual, a household, or a community, they cannot be sold or transferred to anyone except by inheritance
Community Rights	The FRA restores the forest dwellers' right to collect minor forest produce such as edible herbs and medicinal plants. But the forest dwellers cannot fell trees for sale. This also includes ownership and right to process and sell. The Amended Rules September 2012 even permits the gram sabha to issue transit permits. The law also recognizes the use of grazing grounds and water bodies by nomadic or pastoralist communities
Rights to protect and conserve	Until the FRA was enacted in 2006, only the Forest Department was entrusted with the duty of protecting forests. This legislation for the first time gives the forest-dwelling communities the right to protect and manage the community forest resource in their community forest within customary boundaries. It authorizes forest dwellers to conserve community forest resources by giving the community a general power to protect wildlife and forests. This is vital, as thousands of forest-dwelling communities are trying to protect their forests and wildlife against threats from forest mafias, industries, and land grabbers, most of whom operate in connivance with the Forest Department.
Relief and Development	The FRA states in Section 4(1) that "notwithstanding anything contained in any other law for the time being in force, and subject to the provisions of this Act, the Central Government hereby recognizes and vests forest rights in (a) the forest-dwelling Scheduled Tribes in states or areas of states where they are declared as Scheduled Tribes in respects of all forest rights mentioned in Section 3; (b) the other traditional forest dwellers in respect of all forest rights mentioned in Section 3." This is a powerful and unambiguous recognition of rights of forest dwellers and an unreserved vesting of such rights on them.

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(Source: Forest Rights Act 2006.)

Provision of Rights under FRA

The FRA lists the following as forest dwellers' rights:

- Right to hold and live on forest land as an individual or community and to cultivate land as a livelihood
- Community rights such as cattle grazing on forest land
- Right to collect, own, use, and dispose of minor forest produce that has been traditionally collected within or outside village boundaries by forest dwellers

- Community rights to fish and collect other products from water bodies
- Right to use traditional seasonal resources such as pastures and water bodies as nomadic or pastoralist communities
- Community rights including tenures of habitat for primitive tribal and pre-agricultural groups
- Right to reclaim any disputed land over which forest dwellers had user rights
- Rights for converting to title leases or grants of forest lands issued by local authorities or state government
- Rights of settlement and conservation of all forest villages, old habitation, un-surveyed villages and villages in forests
- Right to protect, regenerate, conserve, or manage any community forest resource that the community has traditionally protected and conserved for sustainable use
- Rights that are recognised under state law or laws of any autonomous district or regional council or rights that are accepted as rights of tribal people under any traditional or customary law of the concerned tribes of any state
- Right to claim intellectual property rights over traditional knowledge related to biodiversity and cultural diversity
- Any other traditional right enjoyed by the forest-dwelling Scheduled Tribes or other traditional forest dwellers, but excluding the traditional right of hunting or trapping of animals
- Right to relocation and rehabilitation if evicted or displaced from forest land without providing legal entitlement to relocation or rehabilitation before 13 December 2005
- Right to use forest land not exceeding 1 hectare to build schools, dispensaries, fair-price shops, communication lines, minor irrigation canals or other water bodies, vocational training centres, roads, community centres, and drinking water supply pipelines, subject to approval by the Gram Sabha (village assembly)

Land legislation in Odisha & Forest Right Act (FRA)– The broad perspective

The State of Odisha constituting only 4.73 of India's geographical area have around 7% of the total forest area of the country. While the reserved forest is spread over 26329 kms constituting 45.28%, Protected forest spread over 15525 km² constituting 26.70% and the

Un-classified forests are found in 16282 km constituting 28% of the total forest area which is 37% of the total geographical area of the State.

Govt. of Odisha while targeting the implementation of the historic Forest Rights Act, 2006 in the State referred the State of Forest Report, 1999 which stated that out of 46,989 villages in the State, there are 29,302 villages located in close vicinity of forest which are to be covered under FRA. The GoO also has estimated that out of 6420514 rural households, there are 1762342 ST households constituting 27.44 % in the State. Besides, there is large number of Other Traditional Forest Dwellers in the State depending on the forest for their subsistence needs to be covered under FRA. Besides, Odisha has been the hub for the experiment of all the sensational issues in the country and always been in the limelight of media may be for its ample deposit of mineral and natural resources or for displacement, poverty, protest etc.

The central purpose of the Odisha Prevention of Land Encroachment (OPLE) Act, 1972 is to prevent unauthorized occupation of government land. It is even-handed and clearly lays down penalties for all instances of encroachment, to be followed by eviction. Through a 1982 amendment the state has recognized that there are different types of encroachers on different types of lands. While all encroachers are required to be evicted from 'objectionable' lands, landless encroachers are legally entitled to be settled on up to 1 standard acre per family of 'non-objectionable' land (i.e. cultivable wasteland).

Land Alienation from Tribal Groups

Odisha has a large tribal population (22 percent of total population, three times the average for India) and tribal land alienation by moneylenders has long been recognized to be a critical issue. Tribal people, with generally low educational and skill levels and limited access to formal credit markets, have had little option but to seek credit at high rates of interest from moneylenders. In the event of default on loan repayments, moneylenders have tended to appropriate first tribals' forest produce, and later their land itself. Alienation of land held by members of Scheduled Tribes (ST) has been restricted by legislation as a matter of public policy. After Independence, the Constitution of India enabled state governments to make regulations restricting alienation of land by STs in Scheduled Areas.

In Odisha, Regulation 2 (1956) in Scheduled Areas provides that land held by a person belonging to a scheduled tribe cannot, without permission of the appropriate authorities, be

alienated to a person not belonging to a scheduled tribe. The law also allows for a *suo moto* action by the Collector for restitution of alienated tribal lands. Section 22/23 of the OLRA applies to prevent land alienation by tribals in non-scheduled areas. A less understood pattern is the administrative erosion of tribals' communal land rights through survey and settlement operations themselves.

The ownership of land in tribal areas has remained a complex issue for decades in most parts of India. Tribals living in forest areas are yet to receive legal entitlement over land in many areas they have been cultivating for decades. They face the constant threat of eviction and dispossession. Different categories of land and varied ownership, land use and management patterns make land resource management all the more complex. In tribal areas, concentration of land in a few hands, illegal possession of land by the elite, passing off irrigated land as un irrigated land in land records and use of agricultural land for commercial purposes are some of the stumbling blocks in the individual's rightful access to land.

Land distribution at the time of Independence was extremely skewed. Fifty three percent of the land was held by seven percent of the landowners, whereas 28 percent of landowners with sub marginal and marginal holdings owned about 6 percent. The land distribution across the states was also quite skewed. Ceilings on landholdings were essential because of three economic compulsions: (1) there was strong evidence indicating an inverse size - productivity relationship, hinting that the aggregate production efficiency is hampered when land is held in large holdings; (2) there was some evidence that large holders of land left large areas fallow thereby perpetuating uneconomic land use; (3) a large proportion of the population were land-based poor who wanted land as an economic resource for their livelihood. Thus, central policy-makers felt that surplus land could be distributed to the poor.

The general position in favor of land ceilings was based largely on providing social justice and equity and not on the grounds of increasing production and developing agriculture. Land ceiling was imposed to acquire surplus land from the big landlords and redistribute them among the landless.

Main Provisions and Impact of Land Legislation in Odisha

Name	Year	Provision	Impact
Odisha Estate Abolition Act	1952	<ul style="list-style-type: none"> Abolition of intermediaries. Vesting of all land rights in the state. Agricultural land less than 33 acres to remain with the intermediary for personal cultivation. 	<ul style="list-style-type: none"> No provision protection for tenants. Eviction of tenants as the <i>zamindars</i> was allowed land, less than 33 acres, for personal cultivation. Abolition of intermediaries <p>Could not be completed until 1974.</p>
Odisha Land Reforms Act (Amended in 1965, 1973 and 1974)	1960	<ul style="list-style-type: none"> Permanent, heritable and transferable rights in land for the tiller. Ban on leasing of land except under special conditions (in 1972). Under adverse possession, land in continuous cultivation for 12 years or more by a person other than its owner shall pass to the cultivator. Rent not to exceed one fourth of the gross produce. Ceiling on individual holdings at 33 standard acres-later reduce to 20 (in 1965), and to 10 standard acres (in 1972). 	<ul style="list-style-type: none"> Delay in the enactment and actual implementation of the Act provided sufficient opportunities for large landowners to escape ceiling restrictions. By explicitly banning tenancy, the law is unable to address the problem of share-cropping. No provision was made to record concealed tenancies
Odisha Survey and Settlement Act	1958	<ul style="list-style-type: none"> Different laws relating to survey, record-of-rights and settlement amended and consolidated into one uniform law. 	<ul style="list-style-type: none"> Establishment of uniform though defective systems rights of tenants not recorded during settlement operations
Odisha Consolidation of Holdings and Prevention of Fragmentation of Land Act	1972	<ul style="list-style-type: none"> Fragmentation of land declared illegal. First choice of transfer to adjacent farmer 	<ul style="list-style-type: none"> Little impact on land fragmentation. Occasional land sales but rarely to adjacent farmer. Consolidation of landholdings ignored by farmers in western Odisha because of undulating terrain.
Odisha Prevention of Land Encroachment Act (Amended in 1982)	1972	<ul style="list-style-type: none"> Unauthorised occupation of government land prohibited. Penalties on encroachers to be followed by eviction. The 1982 amendment for settlement of two (later amended to one) standard acres of 'unobjectionable' land (i.e. government wasteland) with 'eligible' beneficiaries (e.g. landless). 	<ul style="list-style-type: none"> Disregard of the Act with widespread encroachment on both government and common lands, often by powerful groups. Penalties too low to act as a disincentive to encroachers. The 1982 amendment not a 'proactive' right- encroacher cannot 'apply' to be regularized as act of encroachment is regarded as illegal in the first place. Only Revenue Inspector can initiate regularization of rights. Considerable scope for rent seeking by revenue officials.

Criteria's of lands registration in women's name

- After the death of husband, wife becomes a joint share holder of the deceased's land, along with her children.
- If a family has more land than the ceiling set by the government, the surplus land is recorded in the name of the wife/daughter to avoid ceiling restrictions.
- When there is no male heir in the family, daughters get the ROR transferred to their names.
- Unmarried women (those who could not marry and are living with their parents/brothers) get some land in their name. This does not come automatically, however, and often has to be contested.
- There are cases in which a woman's in-laws transfer the ROR in their daughter-in-law's name, such as in the event that an alcoholic man's parents believe that their son will sell off all their land.
- In some cases, when a woman marries a widower or divorced man, her parents generally insist that the man transfer some land in his new wife's name. This is done to ensure some economic security for the second wife in case the man marries for a third time while the second wife is alive. Another reason is that any children the man may have by his first wife might claim the entire property of the father leaving the second wife with no legal claim.
- Women's legal rights in land conflict with deep-seated social norms and customs, and are rarely recognized socially to be legitimate.

Social Inclusion

Government poverty alleviation programmes are still far from the reach of these women as maximum no. Of women are yet to be fully aware of various schemes and programmes being implemented in their areas . Various reasons can be attributed to the same but some of the major cause are lack of effort at the Govt. Machinery to reach and circulate such relevant information in detail. Rather this has been an adhoc exercise at the people dealing such matters at the grassroots level. Women have relied more on their male counterparts and their opinion. Further it was found that the male counter parts of the Household have also applied for land under IFR or RL. The land record for the household is on the name of Joint awardees. Very few women possess Land Patta but do not have the physical possession over the land. All most all community people possess PDS, BPL Cards . They face problems in getting adequate food grain as per their requirements. Fare price shops do not regularly provide

service at the door steps though the Gram Panchayat has a responsibility to look of such matter .Due to lack of strategic measures they have failed to deliver their service s and people are suffering to get their food grains as per the Government provision.

Steps to overcome obstacles in the path of women's participation

- Awareness about women's daily schedules.
- Sustained meetings and interactive sessions are barely necessary in these areas as by attending such meetings women would first of all be acquainted with the laws a d legislations and then can spring in to action and try to assert themselves.. Accommodate women's request in terms of timing and location. Women are seldom able to visit geographically remote areas for the purpose of attending meetings.
- Analyze decision-making patterns within domestic units.
- It is often the male head of the domestic unit who is viewed as the decision maker and it may be so. It was found out that even though male mebers are in the front seat but women play vital role in the management of daily activities and look after interest of children much more than men.. Receiving independent input from women is essential in the context of land right as they would be more cautious..
- Recognize the different needs of different women.
- All women are not equal. Special attention need to be given to the situation of divorcees, female heads of households and widows.

Major Outcomes

Women residing in Kalahandi and Nawarangpur are the most disadvantaged groups who are illiterate as well as economically poor and face inconceivable challenges because of the society's discriminatory attitude towards them. When they are thrown out from their landholding rights illegally, it is really the most threatening act that must be interfered by the concerned governmental bodies such as the women and children affairs bureau. It is suggested that a provision of an effective legal aid for the Ethiopia women can be a voice for the voiceless.

In addition to the practical problems, the law also has a gap with respect to women in polygamous marriage. It does not specify how they can get their share from the matrimonial property. This legal gap could be filled by amending the relevant law. Significant knowledge already exists about women and land rights in India. Critical insights are also available on the inherent challenges women face in putting land rights into use; particularly in patrilineal family/

social systems. New evidence is emerging from studies linking forest resources, farming, and livelihood and food security around women's land rights.

Recognize women as stakeholders.

The paper could bring out the idea in to surface that importance of women's informed participation & access to water and land is a prerequisite for their overall development and assertion of right. Their active participation is key if their interest is to be taken into account. This participation also has to be in a meaningful way. They have to be informed of their rights and a support system has to be in place to help them defend those rights.

Ensure women's active participation in the processes.

This includes ensuring that women in the community affected are involved in the policy processes, not as an afterthought, but from planning, to implementation, and to evaluation of the result. This is not always an easy process and sensitive ways must be found in some communities to allow women to share their views and experiences openly, especially with strangers. Another way in which women in the community or organization can be encouraged to participate is to provide role models, such as appointing women as key project members and supporting them.

Obtain knowledge of the local situation.

NGOs and other organisations with motive and intent of fostering an enabling environment have to know whether women's access to land may be an issue; there is a need for an adequate assessment of the situation. The level of detail and complexity will depend on the local situation. However, if the situation does appear to have issues directly related to women's rights, then special measures may have to be taken to understand the potential implications. This can be done by obtaining feedback from women as well as male community leaders

· Provide opportunities for women's rights to be explicitly recognized.

If a land registration or information regarding rights to land is to be documented, then decisions need to be made as to: whose names will be documented and based on what evidence? And how will these names be kept up to date? Many women opined that they have no idea on this aspect as this is generally the domain of their male members in family. The decisions made on such issues have to be acceptable to the recipient individuals / community to ensure the sustainability of the systems introduced.

Add the spouse's or partner's name to all legal documents concerning land rights, including any official register of land rights.

In case of family holdings, consent should be given by the spouse or partner. This helps to prevent fraud, adds security for the woman beyond family or legislative recognition and helps to ensure that both partners have idea on what their rights are.

Land administration institution / Revenue / forest departments of Govt. Responsive and accommodating to women as well as men.

Responsive agencies are better able to serve the community especially in these areas as they have the double responsibility to explain the provisions as well as the benefits under such laws. Apart from this they have to convince the individuals and communities on the process followed so that they are convinced about the transparency maintained. Such process can provide opportunities for inclusion.

Simplify registration procedures

Women, especially poor women and female heads of households of these tribal and dalit dominated areas are often unable to comply with excessive documentation requirements and they have shared the same during the course of the study. In their own feeling, such complexities make them uncomfortable to approach any authority and be clarified. They are also unlikely to represent their interests effectively and in a timely manner required in procedures. Female Literacy is certainly an issue here and it could be easily marked during interaction with women SHGs and other groups. Efforts should be made to make women literate and understand the basic elements of land registration, documentation, schemes and programmes and the SC & ST department has to cover lot of ground in this regard.

Recommendations

- It should be taken into consideration that the illiteracy rate is much higher among women than men. Introducing training programmes and pictorial materials for the non-literate women population is essential in the study areas. Employ those forms of media that reach women in rural areas.
- Women should feel comfortable about being title holders. They should understand the rights, responsibilities and opportunities granting title to land and the potential changes and consequences that may bring in terms of their status (i.e. fees to be paid during transaction, possible tension with male members of their families, etc.)

- The need based advocacy with the govt should be needed to provide financial support to FRC
- The involvement of women should be ensured to place the claims (IFRs and CFRs) at DLC level.
- Regarding the sample size of the study, one suggestion came that if the sample was more than 10%, then it would be better for comparative study. But the study had taken 10% sample size due to some constraints.
- Awareness of women is a necessary condition but not a sufficient condition for any development issue. The awareness will lead to empowerment which in turn acts as a base to achieve the desired goal of development.
- Women's experience and knowledge should be part of the initial community assessment. Facts pertinent to the project should be communicated to women by development professionals and women must have opportunity to voice their concerns without being intimidated. Customary laws governing communities at large must be understood before implementing any programme.
- The attendance of women in different CBO meetings at the village level and GP level should be ensured, so that the women will own the programme on FRA or Revenue land.
- Project implementing organisations might be able to establish rapport with women's groups in the communities where women are not allowed to speak publicly in the presence of their male counterparts. It is however equally important that organisations have good understanding of the gender dimensions in the local situation.
- To create awareness among women regarding the FRA or Revenue Land, it is very essential to identify the specific area where the intervention is actually needed.
- The identification of women in the village is the first and foremost duty to form a forum to accelerate the FRA process.
- Meetings and interactive sessions are barely necessary in the project areas as attending such meetings by women would make them acquainted with the laws and legislations and then can spring in to action and try to assert themselves.
- All VSS should be trained and empowered as CBO to make women more aware and participate in the process of women rights issues.

- All women are not equal. Special attention need to be given in case of divorcees, Separated women, PWDs and widows.
- Women's access to land resources can only be sustainable if it is viewed by the community – both men and women – as legitimate. Project should strive to allocate resources equitably and strive to ensure acceptance by the members of the community.
- Policy makers are expected to provide better understanding on the issues, status of the law, and any contradictions.
- Accept and acknowledge the issue where there is a problem regarding women's unequal access to land and associated resources.
- Women's lack of access or insecure access to productive resources is not always visible but is subject to transformation and modernization. Bringing the issue to the attention of appropriate authorities may not always be popular but may be considered part of the organisation.

Conclusion

Land is life blood of rural population. It is the main source of livelihood for men and women. Taking the importance of land into account, the Constitution of India has afforded legal protection for woman's right to equality with men and equal protection before the law. Thus women have equal right to own, administer and control property under the existing laws. Particularly, they have the right to access the land and control it equally as men. The revised laws of the country also uniformly recognize a woman's right to equal share of a common property, including land, upon divorce. Furthermore, women have an equal right to property inheritance too. However, this paper shows that the law is not effectively implemented to its actual meaning in the tribal community because of various practical reasons. The main challenge to women's right to access and control over land in rural areas is the pessimistic attitude of the community towards women. The harmful practices are also prevalent among men who are involved in various government systems at different levels. Moreover, women generally lack legal awareness on the breadth of their right to have access and control over the land. Therefore, legal awareness campaign should be undertaken by concerned bodies for women. Moreover, women face challenges in enforcing their rights due to lack of information and awareness. Thus, there is a need organize to state/central funded programmes which exclusively aim at women's empowerment and enforcement of their land rights .

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A Study on Occupational Stress for Women Employees in Bhubaneswar

**Prof. (Dr.) Lopamudra*

Abstract

Stress is inevitable. Every person in their life experiences certain levels of stress. Due to its complex nature stress has been studied for many years by researchers in psychology, sociology, medicine and even in management. Stress at workplace is such an intensive topic which has held the attention of many researchers and practitioners. Though certain stress which we call eustress has positive impact, the negative stress or the distress has many negative effects not only on the person in stress but also on the organisations as well. India is on a path of robust growth. With its growth, many positive changes are also induced within the society. Exposure to education for girls, focus on rural development etc. has brought more women employees to workplace creating a diversified workforce. Most studies of employed married women in India have reported economic need as being the primary reason for working. When women enter the workplace it obliges them to manage the family and the profession, giving due importance to both. When they are unable to cope with any of the responsibilities, it results in stress. In this connection, this paper aims to study the impact of various factors on the stress level of the women employees. For the study a sample of 24 women employees from various IT companies of Bhubaneswar were taken. Non-probable sampling technique was used to select the sample. Regression analysis was done to find out the impact of occupational stress on stress level of the employees.

Keywords: Occupational Stress, Burnout, Work Life Balance.

* Srusti Academy of Management, Bhubaneswar

Introduction

India is on a path of robust growth. With its growth, many positive changes are also induced within the society. For the progress of nation, women play a major role. In the era of globalization, the role of Indian women at home and work has taken a multifaceted dimension. India being one of the fastest growing economies, the contribution of women is growing at a steady pace. Most Indian women by and large undertake “productive work” only under the economic compulsion. Most of the women are found to be employed in agricultural activities and in the unorganized sector, the employment of women is high in certain works such as part time helpers in households, construction centers, tanneries, match box etc.. The women employees at times face difficulties in managing both the family and professional responsibilities. Such incompatibility between family and organizational lives creates stress among the women employees. Such stress results health problems, absenteeism, reduced productivity, discontinuing the job etc. stress is very critical aspect which is subjective experience. Stress is the reaction of the body and mind to the stressors. A Stressor is an agent, environment condition, external stimulus or an event that causes stress to an organism. There are different Stressors like Environmental Stressors, Daily Stress Events, Life Changes, Workplace Stressors, Chemical Stressors and Social Stressors. This paper focuses on the Workplace Stressors. Stress is inevitable. But it can be managed. Stress at workplace is such an intensive topic which has gathered the attention of many researchers and practitioners. Though certain stress which we call ‘Eustress’ has positive impact but the negative stress or known as the distress has many negative impact not only on the person in stress but also on the organisations as well.

In the path of growth of Indian economy, service sector plays a significant role. During the last few decades, service sector has shown noticeable progress in India. To set India as the world’s fastest growing economy, the contribution of IT sector cannot be ignored. The growth of IT sector in the competitive global scenario makes the employees to work hard. Working late hours, work on holidays etc. became the regular practice of the IT employees. Work for long durations and heavy work load creates stress among the women employees.

Objective

The paper is aimed to discuss the impact of the various factors on the stress level of the women employees of IT industry of Bhubaneswar.

Literature Review

The harmful impact of occupational stress is realized by both practitioners and researchers. Due to this intensity, many researchers have studied occupational stress in various aspects. According to Bowin and Harvey (2001), stress occurs with the interaction between an individual and the environment which produces emotional strain affecting a person's physical and mental condition. Blumenthal (2003), opined that stress is anything that upsets people's ability to maintain critical variables (which can be social, psychological, spiritual or in nature) within acceptable limits. The study by Elloy & Smith (2003) shows that dual career couples experience levels of stress, family conflict, overload, role ambiguity and role conflict than single career couples. Parasuraman and Greenhans (1993) also found gender differences in terms of satisfaction with one's job in their study on role stressors, social support, and well being among two-career couples. Sekaran (1986) also found multiple role stress to significantly impair the mental health of wives but not husbands in a dual-earner relationship. Gove and Geerken (1977) found a positive relation between the number of children and psychiatric symptoms of employed mothers. Cooper and Marshall (1976) proposed seven sources of managerial stress: a) job; b) Career development; c) Role in the organization; d) Organizational structure & climate; e) Relationships within the organization; f) Extra organizational sources: Company vs. family demand, company vs. own interest etc.; and g) The individual himself. Pathak and Sarin (2011) have studied stress among the women employees in BPO industry in India and have suggested that the management must provide continuous learning, mentoring, coaching, counseling, opportunities for self development, time management to handle their responsibility at home along with office to encourage them to take higher responsibilities of onsite projects. At the workplace, stress affects the physical, psychological and financial balance of the employees. In result of stress, employees are absent from organization and loose working hours (Pediwal, 2011). Stress increases the employee turnover from job, which influences the employees as well as organizational productivity (Shehzad et al., 2011). Stress directly affects the employees' productivity and both of them are mutually related to each other, without stress there is certain death of human beings (Salami et al., 2010).

Stress

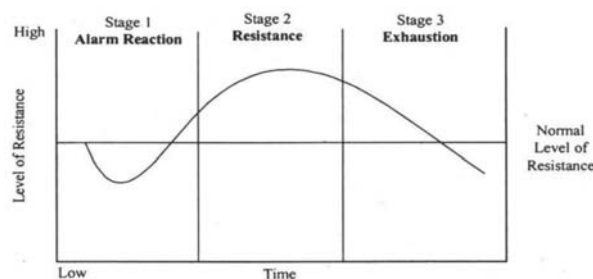
Selye (1956) defined stress as the reaction of our body to the demand made on it and this demand are known as stressors. Stressors can be an agent, external environment, stimulus any condition or situation that causes stress in human body. The capacity to bear pressure can also vary from person to person. Even the same person can display varying degrees of pressure-bearing capacity from time to time and from one situation to another. Intensity and strength of demand and the individual's capacity to respond to such demand may dwell in a state of equilibrium for a longer period. As long as the demand is less or equal to the

capacity of forbearance, stress won't arise and in case it does, it will remain within the zone of tolerance. Demand far below the capacity induces ennui, boredom and lack of focus or purpose. Only when the demand exceeds the individual's capacity to bear that, stress will arise.

In general sense, stress is the pressure people feel in life due to their reaction to situations. In today's changing and competitive work environment, stress level is increasing both in the workers as well as the managers. As a result of this work stress, more and more managers are showing signs of chronic fatigue and burnout. Stress leads to reduced efficiency in even best of the individuals, which in turn leads to reduced productivity. Stress at work resulting from increasing complexities of work and its divergent demands has become a prominent and pervading feature of the modern organizations. Occupational stress is a major hazard for many workers. Increased workloads, downsizing, hostile work environments, shift work etc are just a few of the many causes of stressful working conditions.

General Adaptation Syndrome

Selye (1956) developed a comprehensive model to explain that people have a fairly consistent physiological response to stressful situations. This response called General Adaptation Syndrome (GAS) provides an automatic defense system to help people cope with external/environmental demands. The defense system occurs in three stages: alarm reaction, resistance, and exhaustion.



(Source: http://shodhganga.inflibnet.ac.in/bitstream/10603/19554/13/13_chapter%203.pdf)

Alarm Reaction

It is the first phase, and it refers to is the body's initial response to the stressor wherein a brief period of lowered resistance is experienced followed by enhanced resistance. The body braces itself for quick response through enhanced heart rate, raised blood pressure and release of glucose into the blood stream.

Resistance

This phase is reached when the stressor is prolonged as the immediate or short-term response of the body is substituted by long-term adaptations. The body mechanism of homeostasis always strives to bring the body back to equilibrium.

Exhaustion or Collapse

This is the last stage of the body-stressor interaction where body discovers and realizes that it cannot go on tolerating (coping) with stress forever. Body energy for continued adjustment gets depleted leading to exhaustion. So the sequence of body response can be explained as loss of resistance to stressor, exhaustion, collapse and ultimately death.

Research Methodology

For the study, a sample of 24 women employees from various IT companies of Bhubaneswar were taken. Non probable sampling technique was used to select the sample. Regression analysis was done to find out the impact of various factors identified from literature review on the stress level of the employees. The factors identified from literature are: work life balance, work overload and relation with superior.

Analysis

Table 1: Experience					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-02 Yrs	5	20.8	20.8	20.8
	02-05Yrs	1	4.2	4.2	25.0
	05-10 Yrs	6	25.0	25.0	50.0
	10-15Yrs	12	50.0	50.0	100.0
	Total	24	100.0	100.0	

Table 1 shows the experience wise distribution of the sample of women employees.

Table 2: Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-25Yrs	4	16.7	16.7	16.7
	25-30Yrs	7	29.2	29.2	45.8
	30-35Yrs	7	29.2	29.2	75.0
	More than 35Yrs	6	25.0	25.0	100.0
	Total	24	100.0	100.0	

Table 2 shows the age wise distribution of the sample of women employees.

Table 3: Regression

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.682 ^a	.466	.386	.73751

a. Predictors: (Constant), Work Life Balance, Work Overload, Relation with superiors

Table 3 shows the value of R Square (0.466). It can be interpreted that around 47% of the dependent variable (i.e. Stress Level) is explained by the independent variables. (i.e. Work Life Balance, Work Overload, Relation with superiors).

Table 4: ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.481	3	3.160	5.810	.005 ^b
	Residual	10.878	20	.544		
	Total	20.359	23			

a. Dependent Variable: Stress Level

b. Predictors: (Constant), Work Life Balance, Work Overload, Relation with superiors

Table 4 shows the high significance level of ANOVA, which proves that there exists a significant difference among the variables.

Table 5: Coefficients^a

Table 5: Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.919	1.039		-.885	.387
	Work Life Balance	.488	.276	.330	1.767	.092
	Work Overload	.347	.256	.276	1.358	.190
	Relation with superiors	.402	.339	.243	1.184	.250

a. Dependent Variable: Stress Level

Table 5 shows that stress level is dependent on all the other variables in the following way:

Stress Level = $-0.919 + 0.33(\text{Work Life Balance}) + 0.276(\text{Work Overload}) + 0.243(\text{Relation with superiors})$

Conclusion

Women always play a significant role for the social, political, educational and economic development. They constitute a major portion of the workforce. Apart from the entire above mentioned role of women. They play at home a role which can be neither ignored nor substituted by male. When a woman employee stay for long hour in office and cannot get enough time for self and for home, creates stress. Such negative stress is harmful both for the employees and the organisations. This study reveals that the stress level of the women employees is dependent on the factors such as work life balance, work overload and relation with superiors. Therefore, organisations should take at most care to improve its work life balance practice such as work from home, flexi etc. Overload of work can be managed by hiring more for work from home. Relation between employees and employer matters a lot to make the workplace favorable. Fun at work activities can be planned. Through proper counseling the relation with the employer can also be enhanced.

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A Study on Emotional Intelligence at Workplace: A Necessity

* *Dr. Sibananda Mishra,*

** *Dr. Ramakrusna Swain*

Abstract

Emotions have great importance in personal and professional relationships. Emotions are crucial in motivating us to make choices and in bestowing meaning and purpose on what we do. Having talked about emotional intelligence (EI) in general, it is necessary to know how it can be applied in work situations. Every person has a different kind of mindset and a different personality profile. One should be emotionally efficient to understand different people. Because of this, sometimes there is a lot of stress and burnout present in the work place. These things lead to low productivity, anxiety, absenteeism, low morale of employees. When it continues for a longer period it will create a big threat for the company. In the present study, we are trying to explore what emotions signify what emotional intelligence means and how we acquire an Emotional Quotient. We also try to explore if there is correlation between EI and leadership performance, gender and regional differences.

Keywords: Emotional intelligence (EI), Emotional Quotient (EQ), Leadership performance, EI and Gender, EI and Region, Dimensions of EI.

Introduction

Emotions play a major role in our life. Love, cheerfulness, fear, hate, shame, disgust, surprise, sadness, elation and anger are emotions that directly affect our day to day life. Basically, emotion is a complex state of human mind in which both psychological and physiological changes take place. Without emotions life would appear to us a stream of unconnected events.

It is the capacity for recognizing our own feelings and those of others, for motivating ourselves and our relationships. It describes abilities distinct from, but complementary to academic intelligence or the capacities measured by IQ. (Daniel Goleman, 1998).

* Asst. Professor (OB & HR), Asian School of Business Management, Bhubaneswar.

** Asst. Professor (IT & QT), Asian School of Business Management, Bhubaneswar.

Traits to acquire Emotional intelligence

Emotional competence is a learned aptitude based on emotional intelligence that results in exceptional performance at work. The competencies are :

- 1) Handling Emotional Upsets – Finding ways to deal with anger, fear, anxiety and sadness are essential signs of emotional competency.
- 2) Self-awareness : It is first and chief component of emotional intelligence. Our thinking process is highly affected by our emotions. There are various elements of self-awareness which are : Emotional alertness, Accurate Self-assessment, Self-confidence.
- 3) Self-management : The environment of any workplace is very dynamic. To make ourselves self –comfortable, it is essential that we have a control over our emotions and feelings. The variables which need to be self managed are : self-control, credibility, carefulness, flexibility, initiative, realization drive.
- 4) Social Responsiveness: There are few variables to become social responsiveness: Compassion, service orientation, organizational consciousness.
- 5) Relationship Management: The capability to build up and preserve good associations, speak clearly, encourage and influences others, work well in a team and handle conflict. Other factors are : Motivating others, Influence, Communication, change agent, Build bonds, cooperation and collaboration., building bonds and cooperation and collaboration.
- 6) Empathy : It is all about being sensitive to the feeling of the employees . The person who is able to understand the feeling and emotions
- 7) Motivation: To become a leader it is essential that one should be self- motivated and emotionally intelligent to lead a team.

Social scientists tried to uncover the relationship that emotional intelligence shares with other phenomena like leadership, group performance, individual performance, social exchange and performance evaluations. According to Goleman, “Emotional intelligence , the skills that help people harmonize, should become increasingly valued as a workplace asset in the years to come”.

Objectives of the study

- To study the emotions, emotional intelligence and how do we acquire EQ.
- To study the relationship between emotional intelligence and performance.

Review of Literature

Emotional Intelligence (EI) as a concept has been receiving a great deal of attention recently in social science studies and business management. A number of studies related to Emotional Intelligence have been reviewed.

Research has found that factors like positive attitude, integrity, teamwork, creativity and social skills play a major roles in a person's job suitability and productivity (Goleman, 1995; Salovey and Mayor, 1990; Cooper and Sawaf, 1998; Baron, 1990). Sosik & Megerian, 1999 conducted a survey on 63 managers and 192 subordinates to see whether self-awareness of managers would moderate relationship between aspects of emotional intelligence and transformational leadership behavior, and between transformational leadership behaviour and managerial performance. Results showed a positive correlation between performance and self-awareness of the participants.

McClelland (1998) in a study of the division heads of a global food and beverage company, found that leaders with a critical mass of strengths in emotional intelligence competencies out performed yearly revenue targets by a margin of 15 -20%.

Emotional Intelligence is the freedom to grow from mistrust to trust, self-doubt to self-empowerment, following to leading, incompetence to competence, isolation to synergy, and despair to hope (Madhumati Singh, 2006).

Othman et al. (2008) proposed that in professional services, emotional intelligence is important in assisting employees to achieve highly in five facets of work effectiveness: job role, career role, innovator role, team role and organization role.

Narayan & Narashiman, (2011) studied to know the impact of emotional intelligence on work performance. If the employees know their own emotions and are able to manage them effectively, they can work more efficiently and be more productive for the organization. Emotionally intelligent people are highly satisfied with their jobs. Zainab Naseer & associates (2011) studied to know the relationship between emotional intelligence and performance of

15 teams selected from higher education institutes of Pakistan. Results indicated that emotional intelligence had a positive impact on team performance.

Acquiring the EQ

Emotions are learnt through the persons who make an impact on our thinking process since childhood. They may include parents, relatives, friends, colleagues and many other persons. Emotions are not only learning by these people but also in which individual is brought up. So, it is important for a person to be emotionally literate to survive in the competitive and stressful situations. There are a number of steps to acquire emotional intelligence. They are given below:

- To become emotional intelligent: The person should be a rational decision-maker.
- Observe how to react to people : One should not be stereotype
- SWOT analysis is very important: It is necessary to find out those areas in which you are best and in which you are not expert.
- Estimate how you respond to a stressful situation: Everybody has ups and downs swings in your mood in different situations. Every person is accountable for these things. So, there is a big importance of patience in professional as well as personal life.
- Always try to make comfortable environment: If you find that by your deed you harm somebody, and then you apologize directly- don't ignore the person or avoid the person.

Case studies on Emotional Intelligence

Some of the research evidence present on emotional intelligence were included in the present study.. The one study on emotional intelligence was carried out on emotional competence and leadership excellence by Johnson & Johnson Consumer & Personal Care Group. The basic objective was to conduct this study to identify the relationship between emotional competence and leadership excellence. The study was conducted on 358 managers across the Johnson & Johnson Consumer & Personal Care Group globally.

A three-year study of AMADORI, a supplier of McDonald's in Europe, assesses links between emotional intelligence, individual performance, organizational engagement, and organizational performance. Emotional intelligence was found to predict 47% of the variation in manager's

performance management scores. Emotional intelligence was also massively correlated with increased organizational engagement with 76% of the variation in engagement predicted by manager EQ.

Method of Study

A sample of working men (N = 30) and 30 women (N = 30) were selected for the present study. Both primary and secondary data were collected for the study. For the primary data, an assessment of measuring emotional intelligence (EQ) developed by the Psychologist, Goleman was used. The scale consists of 10 statements. It employs a 4 points scale with the following responses: Strongly disagree = 1, Somewhat disagree = 2, Somewhat agree = 3, , and Strongly agree = 4. It includes all the dimensions of emotional intelligence. EQ can be thought of as the social equivalent of IQ. A score below (70%) (28 of the 40 possible points) may indicate a problem. EQ can be learned and improved upon with experience. The secondary data have been collected from different journals, websites, books, related magazines and case studies etc. For analysing the data, the statistical methods like mean, standard deviation and pearson correlation were used.

Results Analysis & Interpretation

EI and High Performing Leaders

It was found in the present study that there was a great correlation between the high performance leaders and emotional competence.

Table – 1

	Leadership Performance	EI
Mean	35.03	33.03
SD	2.205	2.223
Pearson Correlation	0.729	

Table -1 show that there was a positive correlation between the leadership performance and emotional intelligence. The Pearson correlation value is 0.729. It also proves that working men and women who had high emotional intelligence abilities showed high level of leadership performance in the workplace.

EI and Gender

There were fewer dimensions in which the differentiation occurs on the basis of gender. But, in some emotions females are better than the males like emotional self-awareness, carefulness; developing others, service orientation and communication.

Table -2

(Correlation between mean and standard deviation scores of dimensions of EI and gender)

Sl. No.	EI Dimensions	Male		Female		Pearson Correlation
		Mean	SD	Mean	SD	
1	Self-awareness	7.17	0.65	7.33	0.71	0.549
2.	Self-management	5.20	0.61	5.93	0.83	0.164
3	Social responsiveness	4.90	0.96	5.43	0.94	0.665
4	Relationship management	4.60	0.93	5.47	0.82	0.298
5	Empathy	4.87	0.90	5.53	0.78	0.155
6	Motivation	3.97	1.22	5.07	0.87	0.100

Table -2 indicates that there was a positive correlation between dimensions of emotional intelligence of working men and women. It also shows that on various dimensions of emotional intelligence, women respondents were more emotional intelligent than the men respondents.

EI and Regional Differences

There were some sprinkled differences observed according to region or national boundaries. According to their background, education and experiences people show significant differences in decision making.

Table - 3

(Correlation between Mean and SD scores of Emotional Intelligence and Regional Differences)

	Region or National Boundary	EI
Mean	33.63	31.97
SD	2.266	1.920
Pearson Correaltion	0.274	

Table -3 indicated that there was a positive correlation between the emotional intelligence ability and region or national boundary (with regard to background, education and experience)of the working men and women.

Discussion & Conclusion

- The results of the study support the position that emotional competence differentiates successful leaders. There is a positive correlation between the emotional intelligence ability and the high performing leaders.
- High performing managers at the Johnson & Johnson Consumer and Personal Care Group were seen to possess significantly higher levels of self-awareness, Self management capability, Social skills, all considered part of the Emotional Intelligence domain. Also there was a positive correlation between various components of emotional intelligence of both working men and women in the present study.
- The commitment and systematic approach is consistent with the focused approach necessary to build emotionally competent organizations. It was also observed that there was a positive correlation between the emotional intelligence and the background, education and experience of the working men and women.

Recommendation

- Emotions are within the domain of intelligence.
- Man has two minds- one rational and the other emotional and so two kinds of intelligence.

- It is concluded that emotional intelligence is distinct from academic abilities and a key part of what makes people do well in the practicalities of life.
- Emotional intelligence is a better determinant of success at the workplace. It influences leadership and performance effectiveness at work. It also depends on gender and regional differences.
- For overall development of the personality it is essential to take emotional intelligence as a tool for the organization.

Implications of the study

The study would be useful in educational institutions in terms of identifying the emotional competence of teachers and staff by applying EQ tests, so that it can be possible to know the persons who are emotionally weak and arrange some interventions for enhancing their work effectiveness.

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A Study on: Drivers behind brand preference of SUV car segments in India

** Dr. Saraju Prasad*

Abstract

The automobile industry today is the most lucrative industry. Due to increase in disposable income in both rural and urban sector and availability of easy finance are the main drivers of high volume car segments. Further competition is heating up with host of new players coming in and global brands like Porsche, Bentley, and Ferrari all set to venture in Indian market. This research will be helpful for the existing and new entrant car manufacturing companies in India to find out the customer expectations and their market offerings. Indian Automobile car business is influenced by the presence of many national and multinational manufacturers. This paper presents analysis of research in the area of Consumer Behavior of Automobile Car Customer. Proper understanding of consumer buying behavior will help the marketer to succeed in the market. All segments in Indian Car industry were studied and found that buyer has different priority of behaviors in each segment, whereas main driver for car purchase is disposable income. The objective of this study is the identification of factors influencing customer's preferences for particular segment of cars. Here, methodology adopted to study the purchase decision process and its interaction with behavior parameters across all the segments of car such as hatchback, sedan, SUV (Sports Utility Vehicle) and MUV (Multi Utility Vehicle) segment. This paper also attempts to consolidate findings & suggestions to overcome present scenario of stagnancy in sales and cultivate future demand for automobile car market.

Key Words: SUV, MUV, Factor, Loadings, Eigen, Value etc.

Introduction

In India, until the mid-eighties, consumers had very limited options for passenger cars. As a result people used to buy passenger cars for their luxury. In the past, passenger cars were considered as a luxury, rather than a necessity. Due to the subsequent economic

**Associate Prof. (Marketing), BIITM, Bhubaneswar.*

boom in higher income levels and the growing purchasing power of the Indian urban population, cars have transformed into a necessary ingredient for the Indian middle class families. The Automobile Industry has been in the booming phase for the past 10 years, on the strength of the Indian Government's liberalized economy policy and freedom from the License Raj. The Government of India allowed Foreign Joint Ventures in the industry since early 1990. Subsequently, the Indian Government allowed Foreign Direct Investment with an equity cap in the industry, which saw many automobile giants entering the Indian market with varieties of models, readily available, without much waiting time for the delivery. The sudden entry of major global players has made the Indian auto industry very competitive, as India provides twin benefit of ready market and low cost manufacturing base for them. With the explosion of the automobile industry, due to its globalization and liberalization, car manufacturers introduced much innovative and technological advancement in their models. Customers have started thinking to change over to the new models of cars, with related ease than in the past, to suit their changing life styles. India is the second most highly populated country in the world with unprecedented economic growth rate fostering demand in the automobile small car segment. India is a major market for leading auto giants. The various reasons swaying the growth of the Indian automobile market being high disposal income increase in the need of mobility due to urbanization and leisure travel, lenient car financing options offered by the financial institutions, accessibility of service centers and spare – parts at vicinity and amendment in highway infrastructure. With manufacturers competing to capture one of the fastest growing car markets in the world, the Indian customer is being offered increasingly larger set of cars in various sizes and attributes to choose from. The rapid growth and change scenario, with its potential for affecting local environment and safety, as well as global fuel use and carbon emissions, underscore the need to study this growth and change phenomenon in the country.

The small car market changed very rapidly pertaining to fierce competition, technological advancement, compelling the manufactures to understand consumer preferences on time and take immediate actions to respond to dynamic market. The Indian consumers are very sensitive towards operating cost since the price of gasoline in India is a large fraction of per capita income. Perception of status in owning a specific personal vehicle, negative image of public and non-motorized modes all play their part in a vehicle choice. Annually, the Indian automobile industry is growing at an average rate of 30% and marking itself as one of the fastest growing industries in India. According to the reports of Society of Indian Automobile Manufacturers [SIAM], annual car sales are estimated to reach 5 million vehicles by 2015

and more than 9 million by 2020. Automobile companies like Hyundai Motors, Nissan, Toyota, Volkswagen and Suzuki have expanded their manufacturing facilities owing to India's strong engineering base and expertise in the manufacturing of low-cost, fuel-efficient cars (Biswas, et al. 2014). However growing inflation rate, rise in the rate of interest and other government policies are likely to hit the automobile sector hard and thus bring a temporary slowdown for the sector. The objective of this paper is to identify the major driving factors behind the purchasing decision of cars in the Indian market using a model-based approach.

Indian consumers' perception towards MUVs and SUVs

Introduction Sports Utility Vehicles and Multi Utility Vehicles are now picking up and are setting the trend in the Indian market. In spite of their huge size, they are considered to be very powerful, and economical. Gone are the days when the customers had the mindset of considering a drive in an off road vehicle meant a vibrating engine and jumpy ride or super-exorbitant prices. With SUVs now available at low price of Rs 6 lakh, sports utility vehicles and multi-utility vehicles (MUV) are of late are being preferred by customers in the middle-class segment in India. According to the Society of Indian Automobile Manufacturers (SIAM), passenger cars grew by only 2.19 per cent in 2011-12 while the Utility Vehicles segment grew by 16.47 per cent. The UV segment accounted for 14 per cent of the over 26 lakh passenger vehicles sold in India during the year. Popular SUV's on Indian Roads Renault Duster: The 4WD version of the Renault Duster is sold in several international markets but has not yet been released in India, mainly due to the high price tag that will come attached to it. However, with the launch of Ford's EcoSport nearing, Renault has no choice but to step up and bring out its 4X4 Duster. Team-BHP recently posted spy shots of Duster undergoing testing in Kerala, with the 4WD sticker above its rear tail lights. Since Renault is already producing the 4WD Duster for import purposes, it will not be a very hard task for the automaker to develop one for the Indian sub-continent. The 4x4 version of the compact SUV is likely to retain the same 1.5-litre diesel engine that churns out a maximum power output of 108bhp and 148Nm of torque. Mahindra XUV 500: The home-grown auto major Mahindra & Mahindra is now planning to roll out a low spec variant of its flagship product XUV500, called the W4, which we believe will be the new entry-level variant, considerably cheaper than that of the existing entry level variant. Mahindra & Mahindra faced a low demand in its sales in April 2013 due to additional excise duty imposed on SUVs, so it has now become important for M&M to come up with such strategies. The XUV500 W4 should be

here in next few months. Now, in India, the ration of literate women has increased, which has led to the change in the buying decision in the recent trends. For example: More males in India prefer to buy luxury SUVs, whereas a female prefers to buy more sedans , as they are more comfortable in driving as compared to SUV. This, now this has become challenging for the company to design the appropriate strategies.

This research report mainly focuses on above mentioned elements and tries to study customers brand preference as an outcome of brand equity and to analyze the effect different marketing mix elements might have on consumer's final brand preference in economy segment SUV's & MUV's.

Objectives

- To study the profile of customer selecting hatchback car.
- To study the profile of customers shifting from hatchback to sports utility vehicle.
- To study the factors considered by the customers to shift from hatchback to sports utility vehicle.

Methodology (Research Design)

Methodology used for this research is based on the profile of customers being taken as respondents. Secondary data are collected from the different sources like electronic and print medium respectively and the sources mentioned in references. Primary data are collected from the respondents through questionnaire method. The exploratory study was carried out by interviewing 100 consumers spread across various districts of Odisha(Eastern state of India) based on non-probability convenience sampling method using online survey instrument over the period of two months. The objective of this study was to understand the drivers of brand preference in SUV car segment in India. Statistical Tools like tabulation, weighted average mean and factor analysis are being used for the data analysis.

Brief Literature Review

The prioritization and significance of relationship marketing is highlighted by the research studies conducted by Garbarino and Johnson (1999) and Morgan and Hunt (1994). Many companies have prioritized their attention and focus to the establishment, development and maintenance of close and lasting relationships with their customers, in order to create a differentiating value addition to their products and/or lowering the product costs to engage in a penetration pricing mechanism. This is corroborated in the studies conducted by Weitz and Bradford (1999). Even in the car industry, which is predominantly driven by the product

characterization, classification and orientation, establishing a long-term relationship is being considered to be essential marketing strategy at all distribution levels. Thus, customer knowledge and relationship building, through constantly addressing their needs, are considered to be vitally important selling ingredients to contribute to a car dealer's competitive advantage, as ascertained by Chojnacki (2000). Sharma and Patterson (1999) surveyed that car dealers are implementing a strategy to position themselves, more effectively in the market place than before, by means of continuous improvement of quality maintenance through services delivery packages, as car dealers are increasingly being confronted by demanding and technologically knowledgeable consumers, shortened product model life cycles, intensified competition and fragmented market segments. Moreover, past studies also evaluate concepts of price fairness and customer satisfaction and empirically demonstrate the influence of perceived price fairness on satisfaction judgments. Andreas et al. (2007) seek to study specific factors that influence fairness perceptions, including price perception and consumer vulnerability, in the context of car purchases in major German car dealerships. Their research paper shows that price perceptions directly influence satisfaction judgments as well as indirectly through perceptions of price fairness. Newman and Werbel (1973) and Kasper (1988) hypothesized in their papers that customer satisfaction is often used as a predictive measurement of future consumer purchases. Satisfied customers are more likely to resort to repeating purchases in the time of actual instance, as reported by Zeithaml et al. (1996). Moreover, highly satisfied customers will convey their success stories of satisfaction and directly recommend that others try the source of satisfaction, as stated in the studies conducted by Reynolds and Arnold (2000) and Reynolds and Beatty (1999). Fitzell (1998) suggested that such satisfied customers shall become less receptive to the competitor's offerings. Whereas, Ball et al. (2004), Copeland (1923) observed in their study that the customer loyalty is demonstrated by repeated purchase. In practical terms, firms want repeated purchases mainly because such behavior in consumers can apparently show the customer preference for a brand or product, as stated by Bowen and Shoemaker (1998). Customers, who purchase specific category of products for the first time, were found to focus on the product benefits, and not on the brand as evaluated by Keller (1993). According to Keller (1993), the emphasis is on the tangible attributes of the product, which are visible and accountable to the buyer. Customers looking for low-price car, to meet their budget, may necessarily focus on the characteristics of the car, regardless of brand. Unlike earlier, now days, car owners desire to upgrade their models and brands to avail of the new features and environmental changes and comforts of competing brands. On that account, whether to remain loyal to their existing brand / product or to switch over to a

new brand / product is a million dollar question that bother many car owners. This provides an opportunity for many automobile manufacturers and retailers for innovation. In this confusing scenario, some of the car buyers switch from one brand to another at trade-in time, whereas some other car owners display consistent choice of sticking to their brand / product from purchase to purchase, as hypothesized by Sambanandam and Lord (1995).

Sagar et al. (2004), discuss in their approach paper, as to how the Indian car industry has leaped forward technologically, driven by a confluence of factors such as intense competition, demanding consumer preferences, government policies (especially strict emission standards), and the global strategies of the various players. They elaborate that cars manufactured in India are based on designs, incorporating advanced technologies, that are often comparable with those available globally and Indian car exports are also growing. Show-off buyers now prefer to have cars with the space, comfort and luxury of a mid-size saloon or sedan as per Kotwal (2009). With the growing affluence and technological advancement, there develops a certain maturity in taste, as evidenced by the growing popularity of the Indian Hatchback market. The “third box” or the boot space does not seem to have the same importance, which it once had. Many customers buy cars with the space and comfort, as it is easy to negotiate in our ever-increasing congested cities. That is where the premium hatchback commands a respect in its segment. Though they are costing more money, customers buy them for their practicality and the comfort they offer, without sacrificing the feel-good factor. Motivational measures implemented by the Reserve Bank of India to support the economy and boost up the demand, Indian banks have reduced the interest rate for car loans, which gives a hope for the industry. While the new generation banks in the private sector concentrate their car financing activities in the cities, Public Sector Banks are turning the heat on, in the small and medium towns and rural area, where they have more coverage and influence, as reported by Ajit (2009).

Srivastava and Tiwari (2011), studies the consumer behavior for A3 segment vehicles such as Honda City and SX4 in a particular region Jaipur. Data collected from 100 respondents 50 each from Honda City and Maruti SX4. Respondents were considered from various backgrounds like gender, occupation, income class. Also customer purchase parameters considered for study are Price, Safety, Comfort, Power & Pickup, Mileage, Max Speed, Styling, After Sales Service, Brand Name and Spare Parts Cost. Based on above parameters and analysis made in this it revealed that, while purchasing A3 segment car Customer give much importance to Safety, Brand Name and seating and driving comfort. Also word of

mouth publicity and advertisements in car magazines are more effective communication medium for promotion of Cars. Raj et al. (2013), studied the factors influencing customers brand preference of the economy segment SUV's and MUV's. Data collection was made through direct interaction and customer intercept survey using questionnaire. Descriptive analysis was used to transform data into understandable format and factor analysis was used for identification of factors influencing customer preference. In light of study findings, the preference of a given brand can be explained in terms of six factors namely Product reliability, monetary factor, trendy appeal, frequency of non-price promotions offered, trustworthiness and customer feeling or association towards brand. There is need for marketers to take these factors into consideration when crafting product innovations in the SUV segment of Automobile market. Monga, et al. 2012), this research attempts to answer some of the questions regarding brand personality of selected cars in India by conducting the market research. This personality sketching will help in knowing what a customer (or a potential customer) thinks about a given brand of car and what are the possible factors guiding a possible purchase. Similarly, the idea of measuring the customer satisfaction will serve the same purpose of determining the customer perception. Thus, by measuring the willingness of existing users of a car to recommend it to others will help the car manufacturers to check out the entire customer Buying Behavior. The study shows that brand perception is something which starts building up before a car is purchased and goes on with its use and is reflected in the recommendations. The customer makes to his acquaintances for the same car. Also it is seen that the customer might not be using the car still he holds the perceptions about it. Brand personality of a car is enforced by the sellers in the mindsets of the customers and customers react to it by forming their perception about the car and this reflects in the overall brand image of the car. So brand image and brand personality complement each other and the brand perception aids the building of brand images. As per the study findings, dealers play a very important role in building up the brand perceptions of the cars. Rezvani et al. (2012), this paper reviews the country of origin and different variables that influence consumer purchase intention, also highlight the relationship of variables and customer purchase intention. Study demonstrate that people care about which country products come from and where they are made and consider these factors when evaluating the quality of product. Stereotypes of country and the preferences of customers, influence the purchase intention. Political system, culture and the economy of the country can be a cause of sensitivity to people. There are many factors that have an impact on consumer purchase intention. Research and methodologies have shown that even when consumers can evaluate all the intrinsic product characteristics by expressing the product, the effect of extrinsic

cues has more influence on consumer product evaluation. Country of origin is one of the extrinsic cues; in addition, there is no doubt that country of origin has considerable influence on the purchase intention process. Verma and Rathore (2013) studied the luxury car segment of India. Researches and studies have revealed that the luxury car market is growing at a steady speed of 25% per annum with more and more numbers of luxury cars entering Indian car market. Luxury cars are preferred by HNI (High Net worth Individuals). HNI wants to differentiate themselves from crowd for various reasons. Change in attitude of the customer accounts for the sudden acceleration in the Luxury car Market in India, as the emphasis has been shifted from price consideration and affordability to design, quality and pleasure.

Chauhan, (2012) stated that the increasing popularity of SUVs and 'soft-roaders' is actually causing a shift in customer preferences. Sagar and Chandra (2004) discussed in their paper, how Indian car industry has leaped forward technologically with intensified technological capabilities. The industry is driven by a confluence of factors such as strong competition, changing consumer preferences, government policies especially with tightening of emission standards, and the global strategies of the various players. They detailed about cars manufactured in India with better designs & incorporating advanced technologies that are often comparable with those available globally and also commented Indian car exports are also growing in leaps and bounds. Kaur and Sandhu (2006) tried to find out the important features a customer might consider while purchasing a new car. The respondents recognized that safety and comfort were the most important features of the passenger car followed by luxuriousness. Chidambaram and Alfred (2007) proposed that there are certain factors which influence brand preferences of customers. The study revealed that customers give more importance to fuel efficiency than any other factor and believe brand name inform them about product quality, utility, technology. They prefer to purchase passenger cars which offer high fuel efficiency, good quality, technology, durability and reasonable price.

Analysis & Presentation

Demographic Profile

Sample Characteristics from the table-1a it is observed that most of the respondents are aged between 20 to 40 years of age. Also it is observed that the major occupation of the interviewed respondents is service that is they are employed salaried persons. At the same time it observed that the income level is mostly between 400000-1200000 INR, which indicates the predominance of the middle class income level in the sample market. Most of

the individuals already own a car (76%). Among these individuals Maruti, Tata, and Mahindra and Mahindra are the highest preferred brands showing the preference of consumers towards Indian companies in the automobile market.

Table 1: Sample Characteristics

Demographics		Frequency (%)
Age (in Yrs.)		
	20-30	45
	31-40	45
	41-50	6
	51 and above	4
Occupation		
	Student	8
	Self-employed	21
	Govt. employee	22
	Private employee	47
	Others	2
Annual Income (INR)		
	100000-400000	3
	400001-800000	43
	800001-1200000	42
	Above 1200000	12
Have own cars		
	Yes	76
	No	24
Brand of car owned		
	Maruti	42.1
	Hyundai	25.0
	Tata	10.5
	Chevrolet	7.9
	Mahindra & Mahindra	10.5
	Toyota	3.9
Type of car consumer wants to buy		
	Hatchback	48
	Sedan	25
	SUV	20.0
	MUV	7.0

- a. **Age:** The age factor plays pivotal role in this. The studies show that the SUVs are preferred by younger people. Normally, people in the age group of 25-40 form the major part of SUV customers, while this goes up to 50 years for MUVs. Older people above 50 years prefer small cars or luxury cars, depending on their income level.
- b. **Sex:** It is a clear differentiating factor of SUV buyers. Most of the customers are males in this segment. Men are more aggressive and prefer flashy things compared to women. Though the trend is slowly changing, males still form the major chunk of SUV buyers and users. Females do not like to buy SUVs because they feel SUVs are for males as depicted by promotions as well and they prefer small cars or sedans.
- c. **Income levels:** Buying an SUV or a luxury car is a characteristic indication of high income and lifestyles. The individuals with higher household incomes are more likely to choose SUVs and luxury cars. As already mentioned, few people with high incomes buy an SUV as their second car to use it for particular occasions such as weekend drives. Income is positively associated with the purchasing behaviour of luxury cars and SUVs.
- d. **Occupation and Marital Status:** Occupation and marital status play a negligent role in decision making of an SUV buyer. It's the need or lifestyle more than the occupation and marital status that drives the behaviour of customers. Some cases of occupation, for e.g. politicians prefer an SUV over any type of car.
- e. **Size of the family:** Size of the family is a very great influencer. Since SUVs come with more seating and luggage space, families with more people would prefer SUVs. It is found that the SUV driver group has higher proportion in larger households with children. Children sometimes influence parents' choice in buying SUV as they are more spacious and have more glass area that makes them enjoy the surroundings while travelling. Table-1 shows that majority of the customers are purchasing hatchback car (48%) followed by sedan (25%), Sports Utility Vehicle (SUV) (20%) and finally multi Utility Vehicle (MUV) (7%). This explains that there is still high demand of hatchback car in India.

Factor Analysis

The study has been made to know the attitude of Indian Customers towards SUVs especially the different shopping internet websites with reference to Bhubaneswar. 18 statements are generated for measuring respondents' opinion on a 5-point Likert scale card.

Table-2

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.842
Bartlett's Test of Sphericity	Approx. Chi-Square	3202.166
	df	153
	Sig.	.000

In table-2 Kaiser-Meyer-Olkin Measure of Sampling Adequacy for the factor analysis came 0.842 which is more than 0.5 and quest acceptable for the research which shows the sample adequacy. Again Bartlett's Test of Sphericity should be significant at the level 0.01 but here it is more significant as the value is lesser than 0.01. The total variance accounted for by all the three factors is 67.094% which is quite high and it establishes the validity of the study in table -3.

Table-3
(Eigen values and Cumulative %age)

State ments No.	Statements	Initial Eigenvalues		
		Total	% of Variance	Cumula tive %
S1	Better ground clearance in SUV.	7.158	39.768	39.768
S2	More engine power of SUV.	2.240	12.447	52.215
S3	Better visibility in SUV.	1.551	8.616	60.831
S4	Rough and Tough Driving in SUV.	1.127	6.263	67.094
S5	More maintenance in SUV.	.889	4.938	72.032
S6	More interior space in SUV.	.836	4.646	76.678
S7	Better driving comfort.	.680	3.778	80.456
S8	Good for rough roads or Indian roads.	.578	3.209	83.666
S9	More space availability for long trip.	.544	3.024	86.689
S10	Lighting is better for a long tour.	.446	2.477	89.166
S11	Heavy vehicle for better control.	.362	2.009	91.175
S12	Heavy vehicle for good comfort.	.319	1.770	92.945
S13	Wider tyre for better road grip.	.288	1.601	94.547
S14	Wider tyre for better brake.	.255	1.416	95.963
S15	SUV has better stylish look than hatchback.	.216	1.199	97.162
S16	SUV is safer than hatchback in national highway.	.195	1.085	98.247
S17	Small SUVs having better running costs.	.177	.985	99.232
S18	Easier driving during raining.	.138	.768	100.000

Factor matrix and their corresponding factor loading after the varimax rotation are presented in the table-3. Here the Eigen values above 1 are considered for the study and by

these three factors can be generated. These factors having different Eigen values, percentage of variance and cumulative variance are represented in this table-3.

Table-4

(Loadings of selected variables on key factors (Factor Loading Criteria >0.5))

State ment No.	Rotated Component Matrix				
	Statement	Component			
		F1	F2	F3	F4
S1	Better ground clearance in SUV.	.773			
S2	More engine power of SUV.	.702			
S3	Better visibility in SUV.	.856			
S4	Rough and Tough Driving in SUV.				.832
S5	More maintenance in SUV.				.691
S6	More interior space in SUV.			.736	
S7	Better driving comfort.			.673	
S8	Good for rough roads or Indian roads.			.648	
S9	More space availability for long trip.				.569
S10	Lighting is better for a long tour.	.630			
S11	Heavy vehicle for better control.	.707			
S12	Heavy vehicle for good comfort.		.856		
S13	Wider tyre for better road grip.		.860		
S14	Wider tyre for better brake.		.597		
S15	SUV has better stylish look than hatchback.			.614	
S16	SUV is safer than hatchback in national highway.		.571		
S17	Small SUVs having better running costs.	.551			
S18	Easier driving during raining.	.613			
Eigen Values		7.158	2.240	1.551	1.127
%age of Variance		39.768	12.447	8.616	6.263
Cumulative Variance		39.768	52.215	60.831	67.094

The statements of factor loadings less than 0.5 are grouped and are shown in the Table-4. Factor F1 has an Eigen value of 7.158 and explains 39.768% of the total variance. The Eigen value of Factor F2 is 2.240 and explains 12.447% of the total variance. Factor F3 has an Eigen value of 1.551 and explains 8.616% of the total variance. Factor F4 has an Eigen value of 1.127 and explains 6.263% of total variance. The total variance accounted for by all the five factors is 67.094% which is quite high and it establishes the validity of the study.

Table-5**(Grouping of Factor Loadings for Identifying Key Factors)**

	Rotated Component Matrix				
	<u>Statement</u>	<u>Component</u>			
		F1	F2	F3	F4
S1	Better ground clearance in SUV.	.773			
S2	More engine power of SUV.	.702			
S3	Better visibility in SUV.	.856			
S10	Lighting is better for a long tour.	.630			
S11	Heavy vehicle for better control.	.707			
S17	Small SUVs having better running costs.	.551			
S18	Easier driving during raining.	.613			
S12	Heavy vehicle for good comfort.		.856		
S13	Wider tyre for better road grip.		.860		
S14	Wider tyre for better brake.		.597		
S16	SUV is safer than hatchback in national highway.		.571		
S6	More interior space in SUV.			.736	
S8	Good for rough roads or Indian roads.			.648	
S7	Better driving comfort.			.673	
S15	SUV has better stylish look than hatchback.			.614	
S4	Rough and Tough Driving in SUV.				.832
S5	More maintenance in SUV.				.691
S9	More space availability for long trip.				.569

The factors are named after grouping the key variables and looking at the communality of the variables in explaining at typical attribute of SUVs. The table-5 represents the grouping of factors. The grouping of factors takes into consideration of the high factor loadings of statements under each factor.

Table-6
(Factors of Customers preference for Online Shopping)

(F1) Performance	Better ground clearance in SUV. (Statement-1)
	More engine power of SUV. (Statement-2)
	Better visibility in SUV. (Statement-3)
	Lighting is better for a long tour. (Statement-10)
	Heavy vehicle for better control. (Statement-11)
	Small SUVs having better running costs. (Statement-17)
	Easier driving during raining. (Statement-18)
(F2) Safety	Heavy vehicle for good comfort. (Statement-12)
	Wider tyre for better road grip. (Statement-13)
	Wider tyre for better brake. (Statement-14)
	SUV is safer than hatchback in national highway. (Statement-16)
(F3) Comfort	More interior space in SUV. (Statement-6)
	Good for rough roads or Indian roads. (Statement-8)
	Better driving comfort. (Statement-7)
	SUV has better stylish look than hatchback. (Statement-15)
(F4) Serviceable	Rough and Tough Driving in SUV. (Statement-4)
	More maintenance in SUV. (Statement-5)
	More space availability for long trip. (Statement-9)

The table-6 depicts the variables under each of the four desired factors. The factors are represented below:

Factor 1: Performance: This factor measures the performance related parameters while purchasing a SUV vehicle. Ground clearance, overall performance etc. load on this factor.

Factor 2: Safety: Only one variable, safety of the passengers is loaded on this factor. The questionnaire was designed specifically to gauge the customer's inclination towards safety equipment installed in the vehicle.

Factor 3: Comfort: Experience This factor consists of features that are related to comfort and ease of driving. It measures the user experience and comfort while driving the vehicle.

Factor 4: Value: Life Time Cost both the attributes - price and fuel efficiency tells about the monetary value that customer looks while purchasing a vehicle. Price of the car is the initial investment for the customer, mileage tells us about future operating expenditure. Price conscious people will give higher rating, if it gives good mileage and less maintenance cost.

Table-7

(Ranking of Factors on Satisfaction Level)

Factors	Factor Loadings	Rank
F1(Performance)	4.832	1
F2(Safety)	2.884	2
F3(Comfort)	2.671	3
F4 (Value)	2.092	4

According to the ranking the most prioritized factors can be known from the customers' response. In the table-7 customers have given highest priority to the factor like "Performance" followed by "Safety", "Comfort" and "Value" respectively. The research was carried out to identify the factors influencing brand preference of economy segment SUVs and small cars. There is need for marketers to take these factors into consideration when crafting product innovations in the SUV segment of Automobile market.

Discussion

India is still dependent on the gulf countries for its fuel requirement. Uncertainty and dependability for fuel on other countries followed by currency fluctuations restricts the growth of Indian automobile industry. Manufacturers thus resort to alternative fuels to propel the future of car industry. The growing demand for hybrid cars in Europe can sway the choice of Indian consumers' towards similar brands in near future. Growth in disposable income and higher education will remain the main drivers of future advance car purchase decisions. Car

manufacturers thus need to track the changing trends for alignment of product strategies. Reduction of tax burden on green vehicles or hybrid cars or safe drive vehicles can ensure availability of better quality cars on Indian roads. In the category of personal preferences, comfort factors, value for money, pricing regime and after sales, brand equity of company, car dimensions and technicalities should be given due consideration. Marketers might consider these aspects for designing cars, to attract consumers who are prone to decide models based on these criteria.

Indian consumers are now mainly comprised of the middle class. Their preferences are changing from being only price conscious to checking about car technical specifications as well. Advertisements are too showing an effect on the Indian consumer as promotional offers are altering or effecting purchase decisions as well. Indian consumers are thinking similarly across age and occupation levels. However when it comes to Income disparities the opinions and preference are changing (Biswas, et al. 2014). This should be taken into consideration while segmentation of markets by various companies. Car technical specifications and technology is emerging as an important factor in deciding about the purchase and preference of cars. With the rise of Internet and increased literacy and awareness among consumers, consumers ready to go through the intricate details of the car related to its design, engine etc. before taking any major decision. As observed in the multinomial logit analysis the mini car segment is the rising and most dominant section along with sedan segment. However the beta coefficients indicate that most of the car segments will be suffering or will post decreased sales if the factor levels were increased. This is because most of the beta coefficients are negative in nature. However most of the beta coefficients of SUVs are positive indicating a positive trend for SUVs. Thus it can be safely assumed and concluded that SUVs and Mini cars would be the dominant car segments in the future.

The Indian car makers have shown remarkable agility to cope with global players. The expected rise in income levels, wide choice of models and easy availability of finance at lower interest rates has driven the growth of MUV's / SUV's car segment. The future scope also looks even better. The Indian Automobile Industry has seen a lot of international car manufacturer's entering India. The Indian road has seen the change with new technology cars coming in with more luxury and affordability. There has been a drastic change from two wheelers to four wheelers ruling the Indian roads. Hence, the vast change has resulted on the wide range of cars running on the Indian roads. The value of possessing a car has changed from time to time. While the car was introduced in the country, only few would have the

privilege of driving and owning a car. Slowly the transformation happened, now a common man could earn himself the pleasure of owning a car. This was made possible due to the high potential buying power from the middle class segment. Understanding the fact, the car manufacturing companies realized to tap the untapped potential in the Indian car market. The cars that were introduced in India in the pre-economic liberalization years of 1991, did not focus more on the safety measures, luxury, interior and other features. However the automobile market was matured with Globalization of the economy, which has changed the situation and today the car manufacturers have produced cars with latest technology cars with superior quality and with low price. Please purchase PDF Split-Merge on www.verypdf.com to remove this watermark. 191 In the current study it has understood that the MUVs / SUVs 'Segment Cars' have attracted a large users with the ruggedness and multi utility features of the car, it has attracted the customers who were having large family size, business class and sports customers. From the detailed study it could be revealed that the MUVs section is the one that invites the maximum number of luxury features and other similar unique features of safety and much more. The Sedan segment in the Indian market started to mature recently with the sudden growth in the economy in the Indian families. As the buying capacity increased so did the other major car making companies started to introduce their best sedans in their stable for the Indian market. The MUV / SUV models of different manufacturer are being launched in the Indian market they are even getting quick makeovers so that they are the four runners in the race to grab the biggest share in the pie of Indian car market.

Limitations and Scope for Further Research

Sample data is limited to Bhubaneswar territory and prediction is on the basis of Bhubaneswar territory only. However consumer buying is a complex process in which number of factors like economic factors, social status and psychographic factors influence the buying of the consumer. The changing demographic profile of the population like education, income, size of family are necessary by what's going to be changed in days to come regarding understanding Psychographics of customers as to how they feel, assume or behave. Marketers are required to constantly monitor and identify the core psychographics to map the sectors movement and review what ought to be done, by adding value that motivates consumers to opt from the company's product range which may influence the long term business structure and market share. The car usage and its brand value rule the market and determine the sales of any product. The potentiality of implementing vehicle usage and its brand name is picking up as a trend nowadays. This thesis has been framed in making a study on the consumers'

buying behavior towards branded MUV's / SUV's available in the market at the study region. The researcher considers the following areas as potential researchable issues.

The substantial changes in lifestyle patterns of the consumers have caused tremendous changes in market place which is a result of globalization and integration of world economies. The measure of behavior of consumer of current generation has become difficult to gauge as time tested marketing concepts have failed. The preference is characterized by distinctiveness of an individual's expectations, for multiple options, heavy tendency of abandoning Brand loyalty and switching towards competitor brands which provide higher value to the consumer. The new generation consumers are difficult to classify by conventional demographic factors and unless their thought process and buying behavior preferences are fully understood, decisions on product designs, product variants, branding and distribution channels are likely to be misled. With change being unavoidable, Indian companies must learn to recognize the reason and direction of this change most likely to affect India in the coming future, and identify new competencies that will enable producers to respond to these fast changes. Consumer preference can definitely not be exactly predicted but it can be done to an extent with the consumer research activity. Globalization has heralded along with it competition in the passenger car segment and the businesses will have to concentrate on analyzing the consumer preference to satisfy the consumers in the long run. The income changes and increasing petrol prices is driving demand of small cars in India. Small car sector offers huge potential as penetration and consumption of small cars is very less in India compared to its Population. Further research can be made on focusing the below dimensions: customer attitude, preference towards various categories of car, comparison of indifference in service quality and its effect on buying behavior towards cars, analyzing the brand image, extension towards branded MUV's / SUV's in various states in India and comparative study towards buyer behavior of MUV's / SUV's and other category of passenger cars.

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A Study on Behaviour of Stock Market Investors – a Case Study with Reference to Purba and Paschim Medinipur District in West Bengal

* Arup Kumar Sarkar

** Dr. Tarak Nath Sahu

Abstract

At the time of investment investors' emotional inclinations ingrained thought patterns, psychological biases, and other factors may affect their investment behaviour. In this backdrop we make a study on behaviour of stock market individual investors in Purba and Paschim Medinipur district and our main focus is to investigate the effect of investor awareness and perceived risk attitude on the behaviour of individual investor and the study is done by collecting primary data from the stock market individual investors in Purba and Paschim Medinipur district in West Bengal. Analysis of the association between investor awareness and individual investor behaviour shows that knowledge of stock market of an individual investor, following stock market news on T.V and attending seminars affects only his/her heuristics, markets and herding behaviour but it does not affect the prospects behaviour individual investor in Purba and Paschim Medinipur district in West Bengal. Whenever, following websites of the NSE or BSE affect individual investor behaviour in stock market on heuristics, markets and herding behaviour but it does not affect on herding behaviour individual investor in stock market in this two districts. Consultation with licensed brokers or any other intermediary for getting financial advice affect individual investor behaviour in stock market on prospects and markets dimensions but not on heuristics and herding. As per analysis of the association between perceived risk attitude and individual investor behaviour we find that having a fear to invest in stocks that have a sure gain, having hope when undertaking investment in stocks that have exhibited a sure loss and attraction to invest in stocks significantly affect the individual investor behaviour in stock market.

* Research Scholar, Department of Commerce with Farm Management, Vidyasagar University, Midnapore-721 102, West Bengal, India

** Assistant Professor, Department of Commerce with Farm Management, Vidyasagar University, Midnapore-721 102, West Bengal, India

Cautions about stocks which show sudden changes in price or trading activity significantly affect the individual investor behaviour in stock market in heuristics and markets dimensions, but not in prospects and herding dimension.

Keywords: Stock Market, Behavioural Finance, Investor Awareness, Perceived Risk Attitude. **JEL classification:** G1, G02

Background of the study

The initiative of Make in India hopes to attract capital and technological investment in India. For a layman, investment means some monetary commitment. A person's commitment to buy a flat or a house for his personal use may be an investment from his point of view. This cannot be considered as an actual investment as it involves sacrifice but does not yield any financial return. To the economist, investment is the net addition made to the nation's capital stock that consists of goods and services that are used in the production process. A net addition to the capital stock means an increase in the buildings, equipments or inventories. These capital stocks are used to produce other goods and services. Financial investment is the allocation of money to assets that are expected to yield some gain over a period of time. It is an exchange of financial claims such as stocks and bonds for money. They are expected to yield returns and experience capital growth over the years. The financial and economic meanings are related to each other because the savings of the individual flow into the capital market as financial investment, to be used in economic investment. From above discussion we can say that investment is the employment of funds on assets with the aim of earning income or capital appreciation. It has two attributes namely time and risk. Present consumption is sacrificed to get a return in the future. The sacrifice that has to be borne is certain but the return in the future may be uncertain. This attribute of investment indicates the risk factor. The risk is undertaken with a view to reap some return from the investment. Behavioural finance has emerged as a new concept in the research area in recent times. Within this framework many countries in the world take effective steps to develop the capital market to achieve good economic growth. Under this concept, it is presumed that information structure and characteristics of capital market participants (individual/retail investors) systematically influence their own decisions as well as market outcomes. For example, in a country like India, the information content of the market and the change of economic climate systematically influence individuals' investment decisions as well as market outcomes. However, an investor's investment decisions in any one particular market, say for example stock market, tend to rely highly on

their behaviour derived from psychological principles of decision making as only this psychological principle of decision making can explain why people buy or sell particular stock. Therefore, a better understanding of behavioural processes and outcomes is important for financial planners, companies, government, etc., because an understanding of how investors generally respond to market movements will help them devising appropriate asset allocation strategies, future financial plans, required legislations and macroeconomic policy respectively. In conventional financial theory, investors are assumed to be rational wealth-maximisers, following basic financial rules and on the basis of their investment strategies purely on the risk-return consideration they generally take their investment decision. Traditional economic theory assumes that people are rational agents who make decisions objectively to take advantage of the opportunities available to them. Investors also think of themselves as rational and logical. But at the time of investment investors' emotional inclinations, ingrained thought patterns, psychological biases, and other factors may affect their investment behaviour. ***In this backdrop, our main focus is to investigate the effect of investor awareness and perceived risk attitude on the behaviour of individual investor*** and the study is done by collecting primary data from the stock market individual investors in Purba and Paschim Medinipur district in West Bengal. The rest of the study is organized into four sub sections. Section 2 discusses review of some related literature to find out research gaps; section 3 discusses the data and methodology used in the study i.e. the research design; while section 4 presents the analysis and interpretation of the study; and finally, section 5 summarizes the result and concludes the study.

An Overview of the Existing Literature

Investor behaviour is an area of great interest for the researchers for analysing decision making process and the factors that influences on investment behaviour. A good number of researchers have completed and some others are doing their research work on this area. This section highlights some of the research works on this area. Suman and Warne (2012)¹ make an attempt to understand individual investor behaviour in stock market. Finally they find that there are different factors which affect the investment behaviour of individual investors such as their awareness level, duration of investment etc. Paul and Bajaj (2012)² try to understand the level of awareness of the investors and to see whether any association exists between the level of awareness about equity market and the demographic profile of existing equity investors. Equity investors possess a moderate level of awareness about equity market. They also observe that gender and age of the existing equity investors and level of awareness about

equity market are not significantly associated. However, there is a significant association between occupation and income and level of awareness level of awareness about equity market. Thus, investment in share market by the retail investors is influenced by their occupation and income. Lodhi (2014)³ has made a study to examine the impact of financial literacy, accounting information, openness to experience and information asymmetry on individual investors' decision making through the empirical research of the people living in Karachi city. He says that financial literacy and risk taking are in positive correlation which proves that the financial literacy of a person increases his risk taking capability. He also finds that as investors' experience will increase he will invest in less risky instruments; it may be fixed deposits or high pay dividend stocks. Study also proves statistically that accounting information and risk aversion are in direct relationship that is along with experience, as person's accounting information increases he prefers to invest in less risky investments. It may be investor accepts to get lower but is not ready to suffer huge loss. Usually old age people or the retired people are found with this concept. Survey statistics show high response who say that information asymmetry leads to adverse selection of investments. The more and detail, investor will study the financial statements of the desired company; better will be his investment decision. Benett, Selvam, Indumathi, Ramkumar and Karpagam (2011)⁴ aim at identifying the factors influencing the retail investor's attitude. They are, namely, investors' tolerance for risk, strength of the Indian economy, media focus on the stock market, political stability and finally government policy towards business. Babajide and Adetiloye (2012)⁵ find strong evidence that overconfident, loss averse, framing, status quo biases and myopic loss averse exists in the Nigeria security market, though not dominant in the market because they show a low negative relationship, the resultant effect is that the market depreciates in value as investors exhibit behavioural biases. The result obtained is significant for all the behavioural biases identified except for confirmation biases and anchoring. This suggests that behavioural biases are exhibited by individuals from all sphere of life in their everyday trading activities in the market but most Nigerians do not trade directly on the market, they trade through their stockbrokers who are probably well trained to handle such behavioural biases. They conclude that being aware of behavioural biases is the crucial first step in ensuring that the decision making process is not adversely affected by them.

Rational decisions are more likely when there is sufficient information available to decision-makers and when that information is presented and analysed to recognise common pitfalls. Investors should be aware of the potential impacts behavioural biases can have in their

investment decision making process at all levels, either as individual or institutional investors trading on the floor of the stock market, and also investment managers, consultants and trustees. Market participants should enter the decision making process with the objective of using the information, education, and understanding at their disposal to derive a solution being dispassionate in decision making. They recommend that Individual investors in the market should allow professionals to manage their portfolios; this will reduce personal biases in the management of the portfolio. Professionals in consulting and investment management should be exposed to the field of behavioural finance through workshops and seminars such that when decisions are been taken, behavioural finance tendencies will reduce. Capital market analysts and information providers in the Nigerian security market should think of a proper way of releasing information about the market to the public as this have a way of affecting the decision taken by the investor about the market. Institutional investors should impose limits on concentration on any one stock or sector that can be held by the organization. Collective views on an investment should be applied by fund managers and investors as this has tendencies of reducing individual personal biases on an investment. Formation of committees could be employed, though the use of committees has its own implications.

Maditinos, Sevic and Theriou (2007)⁶ investigate the various methods and techniques used by Greek investors (both professional and individuals) when evaluating potential additions to their investment portfolios. They find that individual investors rely more on newspapers/media and noise in the market when making their investment decisions, while professional investors rely more on fundamental and technical analysis and less on portfolio analysis. The investment horizon seems to have a direct association with the relative importance of the techniques that professionals use for stock analysis. Also, the use of specific techniques seems to have a different impact on the performance of professionals.

Salimov (2012)⁷ studies aggregate aspects of individual investors' behaviour such as choices of the share of risky assets and amount of investment, choice of investment instruments and the duration of relationship with the investment company. He attempts to explain the variations in these parameters by using demographic, socioeconomic and, most importantly, personality trait variables such as aversion to risk, cognitive skills and several others. He makes a particular emphasis on the decisions related to the share of risky assets in the overall portfolio of the investor. He eliminates standard risk and ambiguity aversion measures as possible explanatory variables for the share of risky assets but provides an intermediary measure that is defined

over actual behaviour of the subjects in situations involving risk. He finds out that the choice of the aggregate level of risk by the investor is actually quite rational and relies mostly on the ability of the investor to quantify and control the risk meaning that the irrationality appears only on the specific level. Wamae (2013)⁸ makes an attempt to establish the behavioural factors influencing individual investors decisions at the Nairobi Stock Exchange. He concludes that herding effect, risk aversion, prospecting and anchoring influences the investment decision making in stock market. He recommends that since herding effect or behaviour is relevant to the individuals, market environment and atmosphere, the investment banks should give their investors the relevant information to ensure that they are well versed with the prevailing market and economic situations. He also recommends that since risk aversion influences investment decision of the individuals in stock market, there is need for the relevant organizations to ensure that their investment in the stock market are well chosen to ensure that the interests of the investors are well taken care of. He further recommends that since prospecting influences the investment decision making in stock market the investors respond differently to equivalent situations depending on whether it is presented in the context of a loss or a gain. Finally he says that since anchoring has an influence on the investment decision in the stock market and mainly investors assume current prices are about right then the investors should be offered with the right information in the right time since it plays a role when investors form expectations about future returns.

Luong and Ha (2011)⁹ try to explore the behavioural factors influencing individual investors' decisions at the Ho Chi Minh Stock Exchange in Vietnam. Furthermore, they also examine relations between these factors and investment performance. They begin the study with the existing theories in behavioural finance and based on that they propose the hypotheses. Then they test these hypotheses through the questionnaires distributed to individual investors at the Ho Chi Minh Stock Exchange and they analyse the collected data by using SPSS and AMOS softwares. They conduct some semi-structured interviews with some managers of the Ho Chi Minh Stock Exchange to have deeper understanding of these behaviours. They show that there are five behavioural factors affecting the investment decisions of individual investors at the Ho Chi Minh Stock Exchange: Herding, Market, Prospect, Overconfidence-gamble's fallacy, and Anchoring-ability bias. Most of these factors have moderate impacts whereas Market factor has high influence. They also try to find out the correlation between these behavioural factors and investment performance and they find that among the behavioural factors mentioned above, only three factors influence the Investment Performance: Herding

(including buying and selling; choice of trading stocks; volume of trading stocks; speed of herding), Prospect (including loss aversion, regret aversion, and mental accounting), and Heuristic (including overconfidence and gamble's fallacy). The heuristic behaviours have the highest positive impact on the investment performance while the herding behaviours influence positively the investment performance at the lower level. In contrast, the prospect behaviours give the negative impact on the investment performance.

Riaz, Hunjra and Azam (2012)¹⁰ describe the impact of risk propensity, asymmetric information and problem framing on investor's behaviour while making decisions through the mediating role of risk perception; also they determine how much weight is attached to each independent variable by the investors when they make their decisions. They conclude that the investor's behaviour depends on how the available information is being presented to them and how much they are prone to taking risk while making decisions; thus playing a significant role in determining the investment style of an investor.

Lutfi (2010)¹¹ explores the relationship between demographic factors, such as gender, age, marital status, education, income, and family members, and investor's risk tolerance as well as investment preference. He shows that demographic factors explain investor's risk tolerance and investment preference. He also reveals a significant relationship between investors' risk tolerance and their investment preferences. He concludes that investors' demographic characteristics positively correlate with investors' behaviour and type of investment chosen. Furthermore, investors' risk behaviour positively correlates with the type of investment. Risk seeking investors prefer to invest in capital market instruments, than do risk avoiding investors who prefer to put their money in bank accounts and real assets. By investing their funds in riskier assets, risk seeking investor may expect higher returns from those assets. Caution should be exercised when generalizing the results. He also recommends that bank executives and investment managers need to understand the demography of their clients in order to design an appropriate product for that client. They should offer high yielding investments to risk seeking clients, and offer stable and less risky products for risk avoiding clients. Bank executives may offers mutual funds consisting mainly of stock to single, well educated, relatively wealthy, and small family clients. Investment managers, on the other hand, may offer less risky or risk free assets, such as government securities and Bank Indonesia Certificate, to attract bank clients who are tend to risk averters.

Lao and Singh¹² examine herding behaviour in the Chinese and Indian stock markets. They employ the Cross Sectional Absolute Deviation (CSAD) approach proposed by Tan, Chiang, Mason and Nelling (2008) to measure herding behaviour. The findings of their study suggest that herding behaviour exists in both the Chinese and Indian stock markets depending on some market conditions. In the Chinese market, herding behaviour is greater when the market is falling and the trading volume is high. On the other hand, in India the study finds herding behaviour during the up market. Herding behaviour is more predominant during large market movements in both markets. Relatively, there is lower prevalence of herding behaviour detected in the Indian stock market. Deck, Lee and Reyes (2010)¹³ use laboratory methods to compare risk attitudes as measured by the Holt and Laury (2002) procedure within two different frames. They find that, as in Deck et al. (2009), one's willingness to take financial risks (as measured by Weber et al. 2002) significantly affects behaviour; however the effect is significantly greater when the task is framed as a financial decision. This paper also asks whether personality can explain the well documented behavioural difference between first price and Dutch auctions. While one's gambling attitude (as measured by Weber et al. 2002) affects bidding behaviour, it does not do so differentially between auction formats.

Mainul Ahsan and Sarkar (2013)¹⁴ examine herding in Dhaka Stock Exchange (DSE) in Bangladesh. Daily and monthly returns for all the stocks listed on DSE for the period of January, 2005 to December, 2011, including the market crash in December, 2010, have been used in this study. Using Cross-Sectional Standard Deviation (CSSD) and Cross-Sectional Absolute Deviation (CSAD) technique, this study did not detect existence of herding in Dhaka Stock Exchange for the above mentioned time period. Absence of herding in Bangladesh depicts that investors in DSE are rational and make investment decisions based on information available in the marketplace rather than following the market consensus.

Bashir, Azam, Butt, Javed and Tanvir (2013)¹⁵ investigate the influence of demographics (residential area, age, gender, marital status, education background) and personality traits (extraversion, openness, conscientiousness, neuroticism, and agreeableness) on the financial behavioural biases (overconfidence, herding/mass behaviour and disposition effect) and risk taking behaviour in Pakistan. The results of their study show that big five personality traits have a significant relationship with overconfidence, herding/mass behaviour and risk taking except disposition effect. From the literature review it is observed that a good number of studies have been made to determine the factors influencing investment behaviour.

Undoubtedly, the above mentioned research studies have a great contribution in this field. But the output of a research work depends on various important factors like choice of countries, variable selection, the time period studied, methodology used, etc. It is difficult to generalize the results because each market is unique in terms of its own rules, regulations, and type of investors. The present study under the title “Behaviour of stock market individual investors in purba and paschim medinipur in the context of make in india” is an endeavour to overcome these limitations through the empirical analysis to come to a valid conclusion.

Data and Methodology

Variables under Study

In the present study, the awareness of the investor and perceived risk attitude are considered as independent variables and investment behaviour is considered as dependent variable.

Investor Awareness

Awareness refers to the consciousness about a given aspect. There are two types of investors, aware and unaware. Aware investors may know for example the existence and characteristics of a risky asset (bonds and stocks) and have the same information on the probability distribution of the stock return. The others are not aware of stocks. Hence, they can only invest in bonds, regardless of the entry costs. The shadow cost of ignorance is the expected excess return. In stock markets, information is usually transmitted from issuers to investors through several channels mainly through mandatory public disclosure by issuers, voluntary public or private disclosure by issuers; and private acquisition by investors from sources other than the issuer, such as purchasing research reports from stock analysts, examining the firm's products or services, and consulting the firm's competitors among others. In the case of small investors, information relied on is mainly from public disclosure, when professional investors use all channels. In particular, some professional investors are selected by the issuer to receive material information, for example, through quarterly analyst conference calls. Many issuers favour such selective disclosure for practical reasons, such as concealing information from their competitors leading to an information gap within the financial market. Similarly, awareness of stocks is exogenous to the investor's set choice. Therefore, the question as to what size and composition of the investor's portfolio choice depends on how aware an investor is. Issuers and distributors of financial assets have strong incentives to inform the pool of potential investors. Besides, learning from issuers and distributors, individuals often learn about investment

opportunities from peers who have been informed by financial intermediaries (Social learning) and this often occurs depending on the specific process of social learning and on how people interact. On the other hand, awareness can be through financial awareness which is majorly determined by the investor's resources such income, financial wealth), age, and education status.

Perceived Risk Attitudes

Perceived risk attitude addresses a person's judgment (belief and opinion) towards taking or avoiding risk when making decisions under uncertainty. Investing is clearly risky and people routinely have to make decisions under uncertainty due to incomplete information. Depending on the amount of information an investor has regarding various stocks on the stock market determines one's risk perception. The perceived degree of uncertainty by individuals affects their decisions regarding consumption, saving and investing. Perceptions encompass psychological and emotional aspects, which subsequently guide judgment and decision making. And this makes perceived risk attitudes of investors more subjective rather than objective to risky situations. Therefore, the attitudes we form and express are likely to be influenced both by emotions and a more "logical" cognitive assessment.

Investor Behaviour

Investing in various types of assets is an increasing activity that attracts people from all walks of life irrespective of their occupation, economic status, education and family background. When a person has more money than he requires for current consumption, he would be coined as a potential investor. The investor who is having extra cash could invest it in securities or in any other assets like gold or real state or could simply deposit it in his bank account. The companies that have extra income may like to invest their money in the extension of the existing firm or undertake new venture. All of these activities in a broader sense mean investment. The investment behaviour of individual investors is somewhat different from that of institutional investors. Individuals tend to invest relatively more in non-tradable assets such as real estate, hedge funds, or structured products. The term institutional investor is generally used to describe an organization that invests on behalf of others, such as a mutual fund, pension fund, or charitable organization. According to Gerald Appel (2006), investor behaviour is one that an investor displays in searching for purchasing, using, evaluating, and disposing of goods, services, ideas, or experience to satisfy their needs and desires. Individual investor behaviour is influenced by four types of biases such as heuristics biases, prospect biases, market biases and herding

biases. Heuristics are defined as the rules of thumb, which makes decision making easier, especially in complex and uncertain environments (Ritter, 2003, p.431) by reducing the complexity of assessing probabilities and predicting values to simpler judgments (Kahneman & Tversky, 1974, p.1124). Prospect theory describes some states of mind affecting an individual's decision-making processes including regret aversion, loss aversion and mental accounting (Waweru et al., 2003, p.28). Waweru et al. (2008, p.36) identifies the factors of market that have impact on investors' decision making: price changes, market information, past trends of stocks, customer preference, over-reaction to price changes, and fundamentals of underlying stocks. Herding effect in financial market is identified as tendency of investors' behaviours to follow the others' actions.

3.2 Statistical Tools

To test the association between the independent variable and dependent variable the study uses chi-square test. It is a non-parametric test which is used most frequently to test the statistical significance.

$$X^2 = \sum_{i=1}^n \frac{(O_i - E_i)^2}{E_i}$$

Where, O_i = Observed Frequency

E_i = Expected Frequency

R = Number of Rows

C = Number of Columns

n = Number of Variables

$E = (\text{Row Total} * \text{Column Total}) / \text{Grand Total}$

Analysis and Interpretation

Awareness of sample investors

First, from the following table it is found that 55% of sample respondents agree that they are somewhat knowledgeable about stock market activities, 31% strongly agree that they are somewhat knowledgeable, 10% are not sure that they are somewhat knowledgeable or not, 1% of sample respondents say that they are disagreed and 3% also say that they are strongly disagreed that they are somewhat knowledgeable about stock market activities. So it can be

said that Indian investors are aware of stock market activities (Figure 1). Second, out of the 150 sample respondents it is found that 41% of sample respondents strongly agree that they follow T.V for stock market activities, 43%, 5% and 7% of sample respondents agreed, strongly disagreed and disagree that they follow T.V for stock market activities respectively. So, we can say that Indian individual investors are aware investors (Figure 2). Third, it is found that 47%, 12%, 11%, 26% and 5% of sample respondents are strongly disagreed, agreed, strongly agreed, disagreed and not sure respectively that they attend stock market related seminars, conferences, etc. we can say that Indian individual investors are not aware in respect of attending seminars, conferences, etc. (Figure 3). Fourth, it is found that 37%, 7%, 35%, 15% and 6% of sample respondents say that they strongly agree, strongly disagree, agree, disagree and not sure respectively that they follow websites of NSE and BSE on a timely basis for stock market purpose. So, we can say that Indian individual investors are aware (Figure 4). Lastly, the following table shows that 9%, 13%, 33%, 38% and 7% of sample respondents are strongly agree, agree, strongly disagree, disagree and not sure respectively that they consult with the licensed brokers, intermediaries or financial service companies when they need financial advice (Figure 5).

Perceived Risk Attitude of Sample Investors

First, out of the 150 sample respondents 17% strongly disagree that they have a fear to invest in stock, that have a sure gain, 14% disagree, 7% not sure, 42% agree and 20% strongly agree that they have a fear to invest in stock that have a sure gain. It indicates that the most of the investors have a fear to invest in stocks that have a sure gain (Figure 6). Second, it is found that 40% strongly disagree that they are hopeful undertaking investment in stocks that has exhibited a sure loss, 19% disagree, 5% not sure, 14% agree and 22% strongly agree that they are hopeful undertaking investment in stocks that has exhibited a sure loss. It shows that most of the individual investors are not hopeful undertaking investment in stocks that has exhibited a sure loss (Figure 7). Third, it is found that 3% of the sample respondents strongly disagree that they are cautious about stocks which show sudden changes in price or trading activity, 7% disagree, 9% not sure, 43% agree and 38% strongly agree that they are cautious about stocks which show sudden changes in price or trading activity. It indicates that most of the individual investors are cautious (Figure 8). Fourth, it is found that 14% strongly disagree that they usually have worry investing in stocks that have exhibited a past negative performance in trading, 13% disagree, 15% not sure, 36% agree and 22% strongly agree that they usually have worry investing in stocks that have had a past negative performance in trading. It indicates

that most of the individual investors usually have worry investing in stocks that have had a past negative performance in trading (Figure 9). Fifth, out of the 150 sample respondents, it is found that 32% strongly disagree that they are always attracted to investing in Stocks, 41% disagree, 7% not sure, 9% agree and 11% strongly agree that they are always attracted to investing in stocks. It shows that most of the individual investors are always not attracted to investing in stocks (Figure 10). Lastly, it is found that 8% of the sample respondents strongly disagree that they are often not afraid to invest in stocks that have shown a past positive performance in trading, 6% disagree, 10% not sure, 52% agree and 24% strongly agree that they are often not afraid to invest in stocks that have shown a past positive performance in trading. The result indicates that most of the individual investors are often not afraid to invest in stocks that have shown a past positive performance in trading (Figure 11).

Behaviour of Individual Investor in Stock Market

First, out of 150 randomly taken sample respondents, it is found that 39% strongly agree that they rely on the previous experience for making a further investment in stock market. 45% agree that they rely on previous experience, 7% are not sure about their behaviour whether they rely or not, 3 % are strongly disagree and 6% also disagree that they rely on. We can say that there is a heuristics bias on the Indian individual investor behaviour in stock market (Figure 12). Second, from the survey it is found that 32% of the sample respondents strongly agree that they always prefer holding the looser stocks (that have decreased in value) and selling winners (that have increased in value). 33% agree, 14% strongly disagree, 12% are not sure and 9% of the respondents disagree that they always prefer holding looser stocks and selling winners. It indicates that there is some prospect bias in the individual investor behaviour in stock market (Figure 13). Third, out of randomly taken 150 sample respondents 50% strongly agree that market information is important for their investment in stock market, 40% agree, 5% strongly disagree, 4% not sure whenever, 1% of respondents disagree that market information is important for their investment in stock market. It indicates that there is some effect of market bias on the individual investor behaviour in stock market in these two districts (Figure 14). Lastly, from the survey it is found that 47% of the respondents strongly disagree that they follow other investors at the time of investing in stock market. 27% disagree, another 13% agree, 11% are not sure about their behaviour and another 3% strongly agree that they follow others at the time of making investment in stock market. It indicates that herding dimension is not strong in individual investor behaviour in stock market in these two districts (Figure 15).

ssociation between investor awareness and individual investor behaviour in stock market

From the above table, we can say that in case of investor's awareness through following T.V and attending seminars the calculated value of chi-square is more than the table value in respect of heuristics, markets and herding behaviour of individual investors. So, the null hypothesis, investor awareness does not influence the individual investor behaviour in stock market in Purba and Paschim Medinipur district, is rejected in these cases. It indicates that somewhat knowledge, following T.V and attending seminar significantly affects the individual investor behaviour in stock market in these two districts only on heuristics, markets and herding behaviour of individual investors. But somewhat knowledge, following T.V and attending seminar has no affect on prospects behaviour as calculated value of chi-square is less than the table value of chi-square. The table also shows that following websites has significant effect on individual investor behaviour in stock market in these two districts on heuristics, prospects and markets dimensions only as calculated value of chi-square is more than the table value of chi-square. But no significant effect on herding dimension as calculated value of chi-square is less than the table value of chi-square. From the table we can also see that in case of consultation with the license brokers has significant effect on individual investor behaviour in stock market in Purba and Paschim Medinipur district on prospects and markets dimensions only as calculated value of chi-square is more than the table value of chi-square. But no significant effect on heuristics and herding dimensions as calculated value of chi-square is less than the table value of chi-square. (Figure 16)

Association between perceived risk attitude and individual investor behaviour in stock market

From the above table, we can say that in case of having a fear to invest in stocks that have a sure gain, having hope when undertaking investment in stocks that have exhibited a sure loss and having been attracted to invest in Stocks the calculated value of chi-square is more than the table value in respect of heuristics, prospects and markets dimensions. So, the null hypothesis, perceived risk attitude does not influence the individual investor behaviour in stock market in Purba and Paschim Medinipur district, is rejected in these cases. It indicates that having a fear to invest in stocks that have a sure gain, having hope when undertaking investment in stocks that have exhibited a sure loss and always attracted to invest in Stocks significantly affect the individual investor behaviour in stock market in these two districts in

heuristics, prospects and markets dimensions but not in herding dimension as the calculated value of chi-square is less than the table value of chi-square. From the above table, we can say that cautious about stocks which show sudden changes in price or trading activity significantly affect the individual investor behaviour in stock market in these two districts in heuristics and markets dimensions but not in prospects and herding dimension as calculated value of chi-square is more than table value of chi-square in heuristics and markets dimensions while calculated value of chi-square is less than table value of chi-square in prospects and herding dimensions. (Figure 17)

Concluding Observations

This study investigates the effect of investor awareness and perceived risk attitude on the stock market individual investor behaviour in Purba and Paschim Medinipur district. Existing financial and economic literatures advocate a significant effect of investor awareness and perceived risk attitude on the individual and institutional investor behaviour in stock market and in other commodity market. However, some literatures give some contradictory findings on this aspect. These contradictions are the principal motivation behind conducting this research study in the Indian context. As per analysis of the association between investor awareness and individual investor behaviour we see that knowledge of stock market of an individual investor, following stock market news on T.V and attending seminars affects only his/her heuristics, markets and herding behaviour but it does not affect on prospects behaviour of individual investor in stock market in these two districts. Whenever, following websites of the NSE or BSE affect individual investor behaviour in stock market on heuristics, markets and herding behaviour but it does not affect on herding behaviour individual investor in stock market in these two districts. Consultation with licensed brokers or any other intermediary for getting financial advice affect individual investor behaviour in stock market in these two districts on prospects and markets dimensions but not on heuristics and herding.

As per analysis of the association between perceived risk attitude and individual investor behaviour we find that having a fear to invest in stocks that have a sure gain, having hope when undertaking investment in stocks that have exhibited a sure loss and always attracted to invest in Stocks significantly affect the individual investor behaviour in stock market in heuristics, prospects and markets dimensions but not in herding dimension. Cautious about stocks which show sudden changes in price or trading activity significantly affect the stock market individual investor behaviour in Purba and Paschim Medinipur district in heuristics and markets dimensions

but not in prospects and herding dimension. So, in line with the earlier findings made by Suman and Warne (2012), Paul and Bajaj (2012), Benett, Selvam, Indumathi, Ramkumar and Karpagam (2011), Babajide and Adetiloye (2012), Salimov (2012), Wamae (2013), the findings of this study reveal that there is effect of investor awareness and perceived risk attitude on individual investor behaviour in stock market.

To conclude, the study would help different interested parties to take care of the factors influencing the behaviour for proper planning and decision making. This study suggests some future research to enhance our understanding about the effect of investor awareness and perceived risk attitude on the investor behaviour. Further research studies could either eliminate some of the limitations or expand the scope of investigation in this study. The possible extension of this study is to consider the institutional investors also besides the individual investor, the use of larger sample size and the more diversity of the respondents. But these are beyond the aim of this present study. These are left for further research.

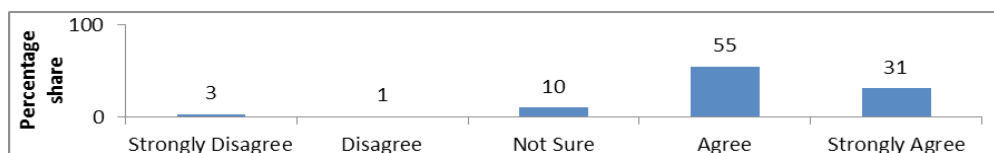
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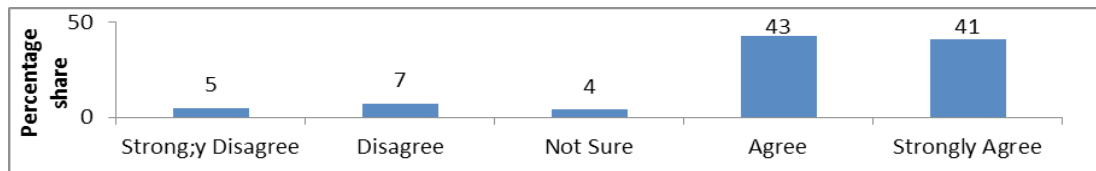
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Annexures

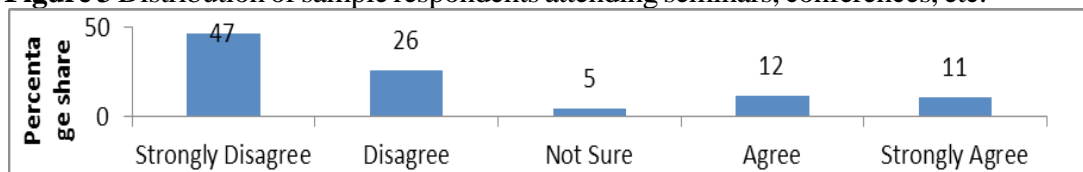
Figure 1 Distribution of somewhat knowledgeable sample respondents



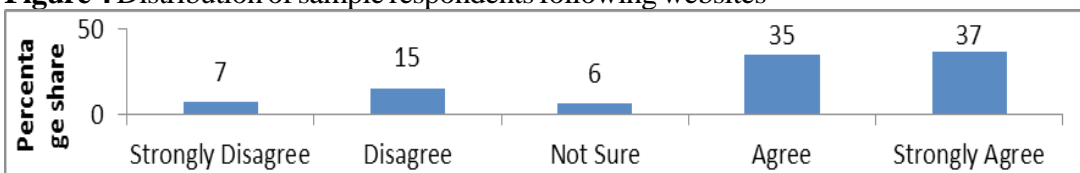
Source: As calculated from primary data

Figure 2 Distribution of sample respondents following T.V

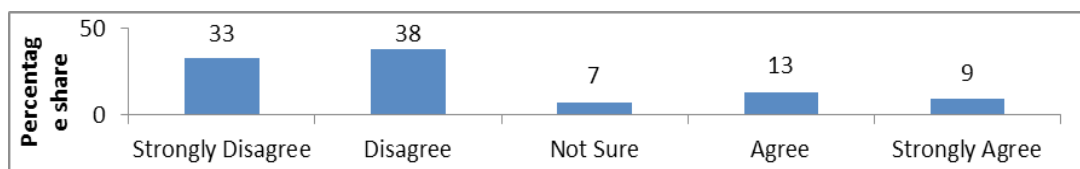
Source: As calculated from primary data

Figure 3 Distribution of sample respondents attending seminars, conferences, etc.

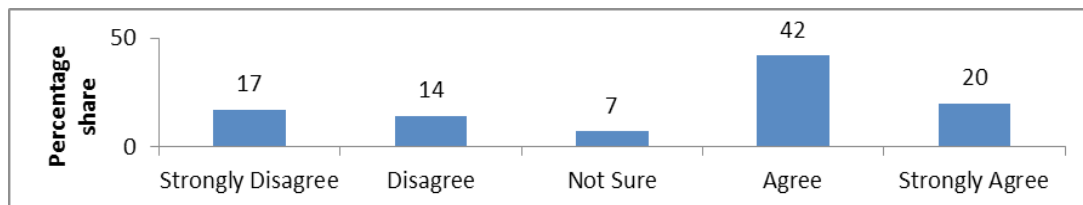
Source: As calculated from primary data

Figure 4 Distribution of sample respondents following websites

Source: As calculated from primary data

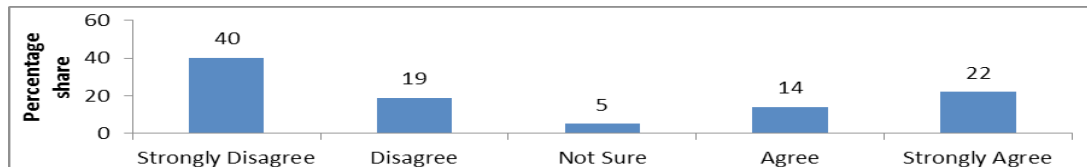
Figure 5- Distribution of sample respondents consulting share brokers and others.

Source: As calculated from primary data

Figure-6 Distribution of sample respondents on the basis of having a fear to invest in stocks that have a sure gain

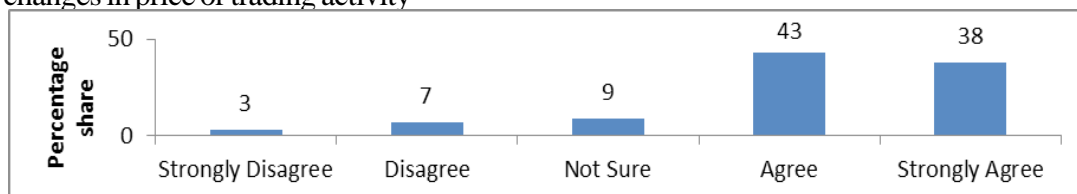
Source: As calculated from primary data

Figure-7 Distribution of sample respondents hopeful when undertaking investment in stock that has exhibited a sure loss



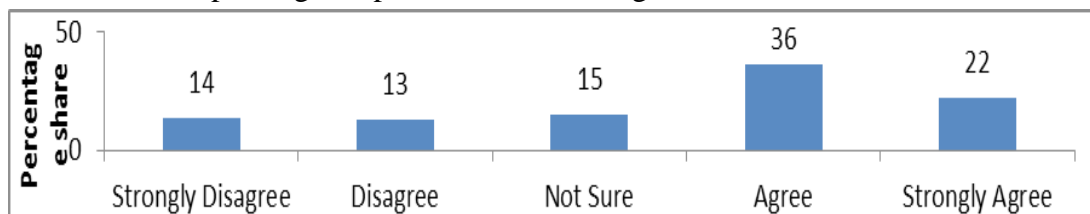
Source: As calculated from primary data

Figure- 8 Distribution of sample respondents cautious about stocks which show sudden changes in price or trading activity



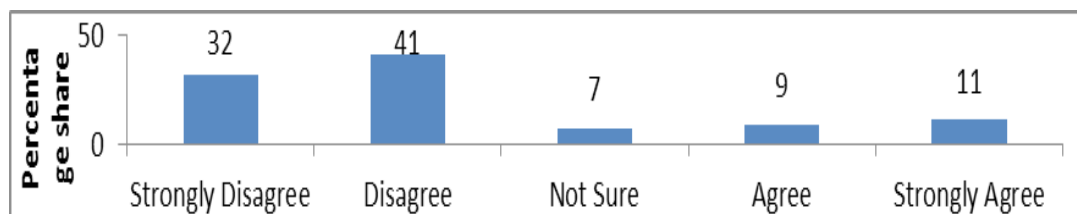
Source: As calculated from primary data

Figure -9 Distributions of sample respondents usually have worry investing in stocks that have exhibited a past negative performance in trading.



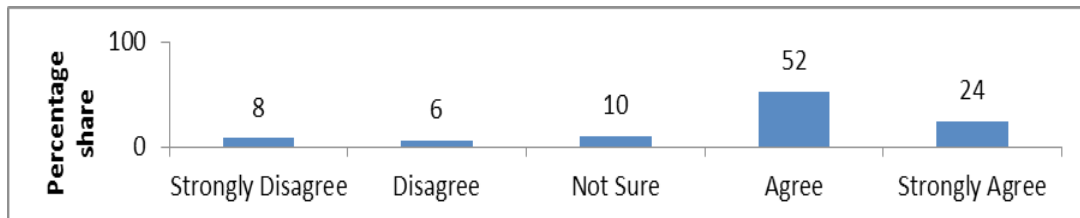
Source: As calculated from primary data

Figure-10 Distribution of sample respondents on the basis of always attracted to investing in Stocks



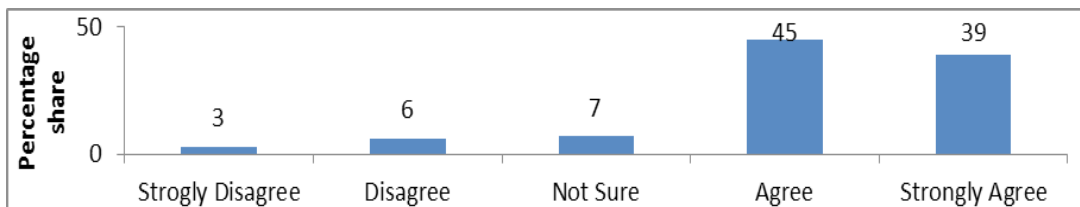
Source: As calculated from primary data

Figure-11 Distribution of sample respondents often not afraid to invest in stocks that have shown a past positive performance in trading



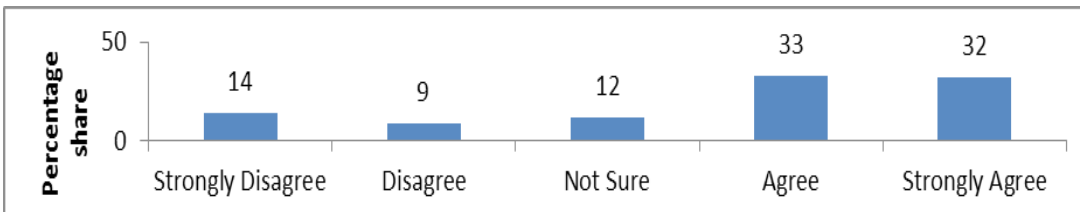
Source: As calculated from primary data

Figure -12 Distributions of sample respondents on heuristics dimension



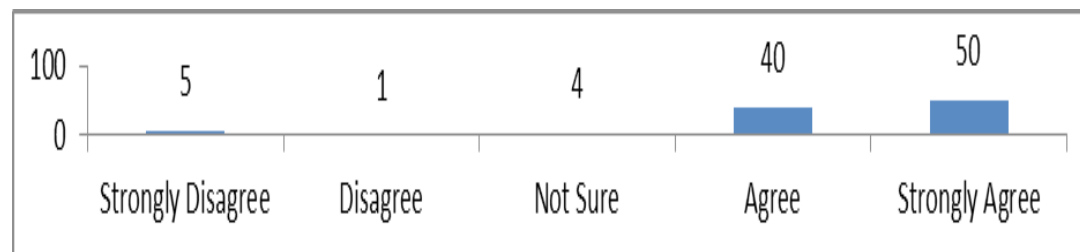
Source: As calculated from primary data

Figure -13 Distributions of sample respondents on prospect dimension

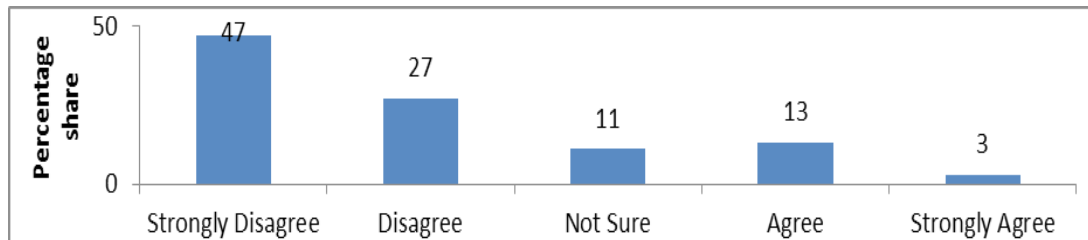


Source: As calculated from primary data

Figure -14 Distributions of sample respondents on market dimension



Source: As calculated from primary data

Figure -15 Distributions of sample respondents on herding dimension

Source: As calculated from primary data

Figure 16 Test of Association between Investor Awareness and Individual Investor Behaviour by Chi- Square

Investor Awareness	Investor Behaviour								Level of Significance (5%)
	Heuristics		Prospects		Markets		Herding		DOF
	Calculated Value	Table Value	Calculated Value	Table Value	Calculated Value	Table Value	Calculated Value	Table Value	
Somewhat Knowledgeable	6.05	3.84	0.0031	3.84	5.17	3.84	9.87	3.84	1
Follow T.V	53.86	3.84	2.77	3.84	37.71	3.84	13.76	3.84	1
Attend Seminars, Conferences, etc.	27.22	3.84	2.12	3.84	5.31	3.84	30.35	3.84	1
Follow websites	4.47	3.84	39.98	3.84	4.53	3.84	1.76	3.84	1
Consultation	1.90	3.84	64.43	3.84	15.73	3.84	2.91	3.84	1

Source: as calculated from Primary Data

Figure - 17 Test of Association between Perceived Risk Attitude and Individual Investor Behaviour by Chi- Square

Perceived Risk Attitude	Investor Behaviour								Level of Significance (5%)
	Heuristics		Prospects		Markets		Herding		DOF
	Calculated Value	Table Value	Calculated Value	Table Value	Calculated Value	Table Value	Calculated Value	Table Value	
Have a fear to invest in stocks that have a sure gain.	22.33	3.84	60.99	3.84	7.13	3.84	0.79	3.84	1
Hopeful when undertaking investment in stocks that have exhibited a sure loss.	14.25	3.84	37.27	3.84	15.38	3.84	0.01	3.84	1
Cautious about stocks which show sudden changes in price or trading activity.	61.76	3.84	0.93	3.84	4.81	3.84	0.12	3.84	1
Usually have worry investing in stocks that have exhibited a past negative performance in trading.	40.31	3.84	83.05	3.84	22.40	3.84	7.09	3.84	1
Always attracted to investing in Stocks	82.50	3.84	64.97	3.84	30.68	3.84	1.20	3.84	1
Often not afraid to invest in stocks that have shown a past positive performance in trading.	12.89	3.84	0.83	3.84	4.69	3.84	13.28	3.84	1

Source: as calculated from Primary Data

Volatility Impact of Derivatives Trading on NSE Spot Market: A Study on pre and post Derivatives Era

* Sarita Satapathy,

** Dr. Nirmala Chandra Kar

*** Dr. Samir Ranjan Behera

Abstract

The purpose of the study is to empirically examine the volatility impact of derivatives trading in Indian equity market, especially using the closing prices of Nifty index of the NSE Ltd. The study also empirically evaluates the volatility impact in case of some selected individual stocks (HDFC, TATA Steel, L&T, ONGC, ACC and INFOSYS) representing various sectors. The study period covers from January 1997 to December 2014. The nature of volatility over time is investigated by using GARCH(1, 1) model. The findings of the study suggest that in case of Nifty the volatility is declining after the introduction of futures trading. However, the same is not statistically significant. Also, there is an interesting evidence of considerable increase in unconditional volatility in post-futures period in case of Nifty. In case of the individual stocks, the findings are quite mixed in nature. The introduction of derivatives trading has led to an increase in volatility on the underlying cash market of HDFC, TATA Steel, L&T and ONGC, whereas, for ACC and INFOSYS the result shows reducing volatility in the underlying cash market in post-derivatives period. JEL Classification: G10; C580 Key words: Derivatives; Futures; Volatility; Time Series

Introduction

The need to create some kind of financial instruments that will allow investors to hedge and thus to be secured from price fluctuations has given birth to concepts of derivatives. Derivatives permit investors to customize their exposure to the market either through hedging or speculation. The relationship between stock index futures and spot market has an important place in the public policy arena (Chang *et al.*, 1999).

* Research scholar, Department of Business Administration, Utkal University, Odisha

** Former Professor, Utkal University, Odisha

*** Ph.D Economics, IIT Bombay

To reduce the risk and to improve the depth of financial markets, financial derivatives have received a lot of attention worldwide over the years and in the developing countries like India in the recent period. Derivatives today account for the largest amount of business on most major stock exchanges in the world. In India, the introduction of derivative instruments in a phased manner starting from June 2000 in NSE and BSE is one such important step to achieve greater stabilization in markets and to introduce sophisticated risk management tools. Derivatives marked with the ability to partially or fully transfer the risk by locking in asset prices are gaining popularity among the investors in India. Due to the backdrop of the financial crisis, fraud cases and the near failure of some market participants, the derivatives market has attracted more attention among the investors.

The total turnover of equity derivatives in NSE on the F&O segment was 5,56,06,453 crore during 2014-2015 which has increase substantially from 2365 crore during 2001-2001. The average daily turnover was 2,28,833 crore during the same period also witnessed an considerable increase from 11 crore in 2000-2001.

The impact of introduction of derivative products on the underlying stock market volatility has received major attention all over the world. Some researchers claim that volatility¹(Footnotes)

¹ Volatility in the stock market is defined as a measure for the size and the frequency of fluctuations of the underlying asset's price for a time period (Maris *et al.*, 2004) in the cash market increases after the introduction of derivatives trading due to increased speculative activities. Thus futures trading were blamed by some for the stock market crash of 1987 in the USA. But in 1995 Antoniou and Holmes suggested that trading in futures is generally expected to reduce the volatility in spot market since speculators are expected to migrate to futures market. The concern over how derivative trading affects the spot market has been an interesting subject for investors, academicians, regulators and exchanges in all over the world. Thus the debate on the impact of derivatives trading on stock market volatility cannot be resolved wholly on a theoretical level and so should be analysed by empirical investigation (Baumol, 1957).

Under this background, this paper tries to examine whether the Indian stock markets (in this case NSE and some selected stocks of NSE) show some significant change in the volatility after the introduction of futures trading. Including the introductory section I, this Chapter has been divided into five sections. Section II briefly outlines the important studies conducted

relating to this particular area. Background about the methodologies used, definitions of variables used and data sources for conducting the empirical tests with the spatial coverage are given in Section III. Section IV contains the analysis and findings of the empirical estimations. Concluding observations with major findings of the study are included in Section V.

Futures trading and spot market volatility : Some Theoretical studies and Empirical evidences

Previous studies on impact of derivatives trading on stock market volatility document mixed evidences (increase / decrease in volatility). Some of the notable contributions of different researchers are cited below. According to Stein (1987) futures market improves risk sharing and therefore reduces price volatility and if the speculators observe a noisy but informative signal, the hedgers react to the noise in the speculative trades producing an increase in volatility. Danthine (1978) argue that the futures markets improve market depth and reduce volatility because the cost to informed traders of responding to mispricing is reduced. Bessembinder and Seguin (1992), Kumar et al. (1995), Antoniou et al. (1998), Homes and Priestley (1998), and Gulen and Mayhew (2000) found results supporting this proposition. Ross (1989) assumes that in case of no arbitrage condition, if futures increase the flow of information then there will be increase in the volatility of the spot prices. Overall, the theoretical works on futures listing effects offer no consensus on the size and the direction of the change in volatility. Thus empirical literature must be reviewed on evidence relating to the volatility effects of listing index futures.

Matanovic and Wagner (2012) conducted a study on volatility impact of DAX futures trading using GARCH model. The sample data sample covers daily closing prices of the DAX and CDAX stock indices for the period January 1, 1970 to May 1, 2009. The findings confirm a volatility-reducing impact of DAX futures trading, whereas the observed deterioration of the fundamental price building process related to futures trading proved to be statistically insignificant.

Gahlot *et al.* (2010) conducted a study on impact of derivatives trading on stock market volatility using closing prices in case of S&P CNX Nifty as well as five derivative stocks (BHEL, BPCL, Glaxo, M&M & ONGC) and five non derivative stocks (Hindustan Motors Ltd., Reliance Capital Ltd, Rolta, Titan & Voltas) covering a period from April 2007 – March 2005 using GARCH analysis. The results of their findings suggest that the volatility in the S&P CNX Nifty has declined after the introduction of S&P CNX Nifty future. On the other hand, out of 10 individual stocks except BPCL, Glaxo & Rolta all other 7 stocks show increase in volatility after the introduction of futures.

Saravanan and Deo (2010) in their study on impact of futures and options trading on underlying spot market volatility in India used the closing prices of S&P CNX Nifty Index and Nifty Junior Index found that the volatility of spot market has declined after the futures and options trading. The study used GARCH analysis covering a period from January 1996 – March 2007.

Debashis (2009) did a study on effects of futures trading on spot price volatility for NSE Nifty using the dynamic linear regression model, and the GARCH models covering a period from April 1997 to April 2007. His findings suggests no structural change after the introduction of futures trading on Nifty. However whilst the pre-futures sample was integrated, the post-futures sample was stationary and spot returns volatility is found to be less important in explaining spot returns after the advent of futures trading in NSE Nifty.

Mallikarjunappa and Afsal (2008) used GARCH model to study the implication of the introduction of derivative trading on spot market volatility for S&P CNX Nifty and CNX Bank Nifty. In case of CNX Nifty they concluded that price sensitivity to old news is higher during pre-future period than post future period and with introduction of futures, market volatility is determined by recent innovation. However for CNX Bank Nifty there is no impact of future trading on spot market volatility. But the impact of new news increased and persistence effect of old news decreased in post future period.

Sakthivel and Kamaiah (2009) tried to investigate the relationship between stock market volatility and trading activity (trading volume and open interest) in the Nifty futures market using daily closing price, trading volume, and open interest for Nifty index futures for the period July 2000 to February 2008. The study introduces futures trading variables such as expected and unexpected futures volume and open interest in GARCH and GJR GARCH models to examine their effects on spot market volatility. The study finds that spot market volatility bears a positive relationship with unexpected trading volume and open interest and a negative relationship with expected futures trading volume and open interest in Nifty futures market.

Shenbagaraman (2003) examined the impact of introduction of NSE Nifty index futures on Nifty index using GARCH techniques over the period from October 1995 to December 2002. She concluded that futures trading has not led to a change in the volatility of the underlying stock index but the structure of volatility seems to have changed in post-futures period.

Pericli and Koutmos (1997) applied EGARCH model to examine the impact of index futures and options contract on the volatility of spot market in case of S&P 500 index using sample period extending from 1953 to 1994. Their findings suggest that with the introduction of currency and interest rate future contracts and the introduction of individual stock options, the unconditional variance of daily index stock returns rose significantly. However, the conditional variance of daily returns became less sensitive to innovations and more predictable.

Data Description, Data Sources and Research Methodology

III. a. Sources of Data and Definition of Variables

This study has used secondary data collected from website of the NSE Ltd., India. The data for this paper covers a period from 1st January 1997 to 31st December 2014. Along with S&P CNX Nifty index, six individual stocks (HDFC, TATA Steel, L&T, ONGC, ACC and INFOSYS) representing different sectors of the economy are selected. The daily closing price data are taken for the econometric estimations.

The entire period of the study is being divided into two parts for the respective index and stocks.

For CNX Nifty Index:

Pre-future period *i.e.*, 01-01-1997 to 11-06-2000

Post future period *i.e.*, 12-06-2000 to 31-12-2014

For Individual Stocks:

Pre future period *i.e.*, 01-01-1997 to 08-11-2001

Post future period *i.e.*, 09-11-2001 to 31-12-2014

The futures trading for index and individual stocks initiated on 12th June 2000 and 9th November 2001, respectively.

All return series in the entire study have been calculated as the difference of the log of daily closing index or the stock price as per the case.

b. Methodology

This study has used the Augmented Dickey Fuller test to verify the stationarity properties of the each data set. Then the General Autoregressive Conditional Heteroscedastic -GARCH (1,1) model is being used to measure the volatility during the per- and post introduction of derivatives trading in NSE.

Augmented Dickey-Fuller (ADF) Test

Before conducting any econometric test, the stationarity² properties of the variables need to be checked through unit root test. Most commonly used method of checking the stationarity properties of the variables is Augmented Dickey-Fuller (ADF) Test.

The testing for unit root in the time series was pioneered by Dickey and Fuller (Fuller, 1976; Dickey and Fuller, 1979). The objective behind the test was to examine whether there is a unit root in the time series data through the following random walk model without drift assuming the null hypothesis that $\alpha = 1$.

$$y_t = \alpha y_{t-1} + u_t \quad \text{----- (Equ 1)}$$

Whereas, y_t is the variable under consideration and u_t is the error term.

However, the following regression is used for the sake of ease of computation and interpretation

$$y_t = \phi y_{t-1} + u_t \quad \text{----- (Equ 2)}$$

Where, $\phi = \alpha - 1$.

The above-mentioned test is valid only in case of the assumption that the u_t is not auto-correlated. However, there could be auto-correlation in the dependant variable of the above-mentioned equation (Eq. 2) which has not been taken in to consideration. Further, the auto-correlation in the dependant variable will increase the size of the test (the proportion of times a correct null hypothesis is incorrectly rejected) which could be higher than the nominal size

used (e.g., 5%) to reject the null hypothesis. To resolve this problem, Dickey-Fuller developed another test known as Augmented Dickey-Fuller (ADF) test using p lags of the dependent variable.

$$\Delta y_t = \psi y_t - 1 + \sum_{i=1}^p \alpha_i \Delta y_{t-i} + u_t \text{-----(Equ.3)}$$

The lags of Δy_t now will absorb any dynamic structure present in the dependent variable, to ensure that u_t is not autocorrelated.

GARCH model

The most popular non-linear time series financial models used for modelling and forecasting volatility are the ARCH or GARCH models. In econometrics, Autoregressive Conditional Heteroscedasticity (ARCH) models are used to characterize and model observed time series. They are used whenever at any point in a series, the error terms will have a characteristic size or variance. In particular ARCH models assume the variance of the current error term or innovation to be a function of the actual sizes of the previous time periods' error terms: often the variance is related to the squares of the previous innovations. ARCH(q) model has the limitations that it lacks proper method to decide on the number of lags(q) of the squared residual. Also the value of q required to capture all of the dependence in the conditional variance, might be very large which would result in a large conditional variance model. Everything else equal, there will also be violations of non- negativity constraints if more parameters are included in the conditional variance equation. GARCH (p,q) model overcomes some of the limitations of ARCH (q) model where p represents number of lags of the conditional variance. Apart from this the volatility clustering and asymmetric effect in the return series are best captured by GARCH model.

Bollerslev and Taylor (1986) developed the GARCH model which allows the conditional variance to be dependent upon previous own lags. In a GARCH (1,1) model the conditional variance equation can be represented as follows:

$$\sigma_t^2 = \hat{\alpha}_0 + \hat{\alpha}_1 \hat{\alpha}_{t-1}^2 + \hat{\alpha}_2 \sigma_{t-1}^2 \text{-----(Equ.4)}$$

Where, σ_t^2 is the conditional variance, $(\hat{\alpha}_1 \hat{\alpha}_{t-1}^2)$ is information about volatility during the previous period, and $(\hat{\alpha}_2 \sigma_{t-1}^2)$ is the fitted variance from the model during the previous period.

The unconditional variance $\hat{\sigma}_t^2$ is calculated as follows:

$$\text{var}(\hat{\sigma}_t^2) = \frac{\beta_0}{1 - (\beta_1 + \beta_2)} \quad \text{---(Equ.5)}$$

when $\hat{\alpha}_1 + \hat{\alpha}_2 < 1$

The effect of any shock in volatility dies out at a rate of $1 - (\hat{\alpha}_1 + \hat{\alpha}_2)$. If $(\hat{\alpha}_1 + \hat{\alpha}_2) \approx 1$ the effect of shock will never die out. Conditional volatility can be represented as sum of ARCH and GARCH coefficients *i.e.*, $(\hat{\alpha}_1 + \hat{\alpha}_2)$. Any significant decrease in the conditional or unconditional variance in post futures period means the spot market has stabilized after the introduction of derivatives trading and vice versa.

Dummy variable is used in the study to find out the impact of futures trading on volatility of spot market, which is '0' before the introduction of future and '1' after the introduction of future.

The conditional variance equation using dummy variable is mentioned below.

$$\hat{\sigma}_t^2 = \hat{\alpha}_0 + \hat{\alpha}_1 \hat{\sigma}_{t-1}^2 + \hat{\alpha}_2 \hat{\sigma}_{t-1}^2 + \tilde{\alpha} D_{\text{futures}} \quad \text{---(Equ.6)}$$

when $\tilde{\alpha}$ is significant and positive, then futures trading is expected to increase the spot market volatility and, if $\tilde{\alpha}$ is significant and negative, then futures trading has stabilizing effect on the underlying market.

Analysis of Empirical Results

a. Unit Root Test

Before conducting any econometric analysis, first we try to analyse the stationary properties of the data / variables. The Unit Root Test results in form of ADF reveals that all the variables relating to both pre-future and post-future period under consideration are I(1), meaning that variables are stationary at their first differences (Table 1).

Table 1
(Unit Root Test Results)

Index and stocks	ADF test ----- First Difference (t-statistics)				
	Variable Pre-future period	Variable Post-future period	Critical Values		
			1%	5%	10%
CNX Nifty	-28.763	-42.9587	-3.4354	-2.8637	-2.5680
HDFC	-39.5114	-42.4927	-3.4354	-2.8637	-2.5680
TATA Steel	-33.8599	-54.421	-3.4354	-2.8637	-2.5680
L&T	-45.8863	-53.6615	-3.4354	-2.8637	-2.5680
ONGC	-36.5203	-55.0649	-3.4354	-2.8637	-2.5680
ACC	-25.2404	-41.6725	-3.4354	-2.8637	-2.5680
INFOSYS	-34.8963	-62.8543	-3.4354	-2.8637	-2.5680
Note: H_0 :The series under consideration has a unit root(Calculated value < Critical value)					
H_1 :The series under consideration is stationary (Calculated value > Critical value)					

IV.b. Descriptive Statistics

Table 2 and Table 3 show the descriptive statistic of returns of S&P CNX Nifty and individual stocks for pre derivatives & post derivatives period. Basic statistics used in the study include the mean, median, maximum, minimum standard deviation, skewness, kurtosis and Jarque-Bera normality test. The mean value of index and all stocks except IFOSYS in post future period is increased. Comparing the standard deviations of Nifty index and ACC stock in both pre derivatives and post derivatives period, it is observed that the variability in daily return series is more in pre derivatives period than that in post derivatives period. In all other five stocks such as HDFC, TATA Steel, L&T, ONGC and INFOSYS there is increase in volatility in post derivatives period. Several market wide factors such as economic policy, growth forecast, exchange rates, inflation rates *etc.*, or market wide volatility may affect the change in volatility in pre futures and post futures period. To avoid this problem a dummy variable is considered in the GARCH (1,1) model. In pre derivatives period only for CNX

Nifty and TATA steel deviations of the dataset from the mean are going to be positive but for all other five stocks (HDFC, L&T, ONGC, ACC and INFOSYS) it is negative. However HDFC, ACC and INFOSYS show the chances of very large deviations from the mean. Whereas in case of post derivatives period except HDFC, all other stocks and the index are negatively skewed. Also ONGC and ACC show large deviations from the mean. The CNX Nifty and all the stocks show the tendency of leptokurtosis means the return series returns have distributions that exhibit fat tails and excess peakedness at the mean. The probability of the JB statistic is highly significant and hence we reject the null hypothesis that the data are from a normal distribution.

Table 2
(Descriptive Statistics for Pre-Future Period)

Index/Stocks	MEAN	MEDIAN	MAX	MIN	STD. DEV	SKEWNESS	KURTOSIS	JARQUE-BERA
CNX NIFTY	0.0005	0.0006	0.0993	-0.0884	0.0189	0.007	6.0414	330 (0.000)
HDFC	-0.0009	-0.0007	0.1523	-2.2495	0.0695	-24.521	794.5089	36266076 (0.000)
TATA STEEL	-0.0006	-0.0018	0.1139	-0.1724	0.0304	0.0091	4.5663	124 0.0001
L&T	0.0001	-0.0008	0.1068	-0.1542	0.0292	-0.121	5.0281	304 0.0000
ONGC	0.0002	0.0000	0.0954	-0.1170	0.0310	-0.0523	4.0261	57 0.0000
ACC	-0.0012	-0.0013	0.0653	-1.1972	0.0853	-25.567	398.40	5467832 0.0000
INFOSYS	0.0023	0.0054	0.0963	-0.1387	0.0356	-13.4963	98.45	98548 0.0002

Table 3
(Descriptive Statistics for Post-Future Period)

Index/Stocks	MEAN	MEDIAN	MAX	MIN	STD. DEV	SKEWNESS	KURTOSIS	JARQUE-BERA
CNX NIFTY	0.0006	0.0011	0.1633	0.1305	0.0154	-0.2870	11.6822	11426 0.0000
HDFC	0.0001	0.0002	2.8181	-2.8127	1.1227	0.0004	2.9888	0.021 0.9896
TATA STEEL	0.0005	0.001	0.1570	-0.4521	0.0494	-1.3288	22.582	53371 0.0000
L&T	0.0006	0.0005	0.2368	-0.718	0.0305	-8.056	192.113	4887165 0.0000
ONGC	0.0003	0.0002	0.1824	-1.4434	0.0347	-22.2163	917.0184	1.14E+08 0.0000
ACC	0.0004	0.0018	0.0674	-0.1386	0.0295	-2.5456	29.8137	74539 0.0001
INFOSYS	0.0019	0.0016	0.2648	-0.2952	0.0463	-19.7863	748.9863	1235689 0.0000

IV.c. GARCH Analysis

The impact of futures trading on spot market volatility is analysed by GARCH (1,1) model where ARCH coefficients show the effect of recent news on the market and GARCH coefficients show the effect of old news on the market. The results of conditional variance equation of ARCH (1) process in table 4 and table 5 reveal that ARCH coefficients of the index and the underlying stocks are significant for both pre derivatives and post derivatives period. The conditional variance equation of GARCH (1,1) from table 4 and table 5 show that for NIFTY index ARCH $\hat{\alpha}_1$ is 0.0718 in pre-futures period and 0.1232 in post-futures period which means there is an increase in the impact of the 'present news' on spot-market volatility in the post-futures regime. Similarly the GARCH coefficient $\hat{\alpha}_2$ of NIFTY index is declined from 0.9280 in pre derivatives period to 0.8678 in post-derivatives period. This indicates that the effect of 'old news' on determining volatility has been decreased in the post futures period. For individual stocks, (HDFC, L&T and INFOSYS) there is an increase in ARCH coefficients and for (TATA Steel, ONGC & ACC) there is decrease in ARCH coefficients in post futures period. However except L&T and INFOSYS all other individual stocks show increase in GARCH coefficients in the post futures period.

The study further finds that the sum of the coefficients on the lagged squared error and lagged conditional variance (table 7) is very close to unity in case of CNX Nifty, TATA Steel, HDFC and ONGC in post futures period implying that shocks to the conditional variance will be highly persistent. Except ACC, INFOSYS and the Nifty index, other four stocks (HDFC, TATA Steel, L&T and ONGC) show increase in both conditional and unconditional volatility after the introduction of futures trading in India (table 7). However though there is decrease in conditional volatility of Nifty, it shows contradictory pattern of increase in unconditional volatility in post future period. Again using dummy variable (Table 8) in the conditional variance equation it can be interpreted that a significant positive (negative) coefficient is an indication of increase (decrease) in the volatility as a result of introduction of derivatives. For CNX Nifty, the coefficient of dummy variable is - 0.0006 which indicates that introduction of future trading decreases the volatility, but it has negligible impact. The coefficient of dummy variable is positive for all individual stocks except ACC and INFOSYS meaning HDFC, TATA Steel, L&T and ONGC show increase in volatility in post futures period. However, in case of ACC and INFOSYS the introduction of futures trading has a stabilising effect on the underlying stock market.

Table 4
(Estimates of ARCH (1) and GARCH (1, 1) in Pre- Derivatives period)

Index and stocks	Conditional Variance Equation ARCH(1) $\sigma_t^2 = \beta_0 + \beta_1 \varepsilon_{t-1}^2$		Conditional Variance Equation GARCH(1,1) $\sigma_t^2 = \beta_0 + \beta_1 \varepsilon_{t-1}^2 + \beta_2 \sigma_{t-1}^2$		
	β_0	$AR(1)\beta_1$	β_0	β_1	β_2
CNX Nifty	0.0003	0.0846	0.0000	0.0718	0.9280
	(22.9139)	(3.0110)	(3.8962)	(5.0833)	(24.1226)
HDFC	0.0033	0.0492	0.0031	-0.0015	0.5976
	(345.9827)	(1.8666)	(1.8761)	(-21.5673)	(1.3013)
TATA Steel	0.0006	0.1561	0.0002	0.1495	0.6806
	(19.6196)	(4.5505)	(4.5278)	(5.8909)	(12.0524)
L&T	0.0006	0.1297	0.0002	0.1479	0.6649
	(27.6983)	(5.2229)	(5.8084)	(7.6443)	(14.2048)
ONGC	0.0005	0.3124	0.0001	0.1946	0.6839
	(20.1204)	(6.5729)	(5.6860)	(6.6181)	(17.4512)
ACC	0.0007	0.8357	0.0001	0.1394	0.4485
	(18.2139)	(5.4729)	(4.3920)	(7.3189)	(20.6648)
INFOSYS	0.0015	0.8338	0.0012	0.2362	0.6723
	(10.4536)	(3.8976)	(3.2190)	(4.6784)	(15.9874)

Table 5
(Estimates of ARCH (1) and GARCH (1, 1) in Post - Derivatives period)

Index and stocks	Conditional Variance Equation ARCH(1) $\sigma_t^2 = \beta_0 + \beta_1 \varepsilon_{t-1}^2$		Conditional Variance Equation GARCH(1,1) $\sigma_t^2 = \beta_0 + \beta_1 \varepsilon_{t-1}^2 + \beta_2 \sigma_{t-1}^2$		
	β_0	$AR(1)\beta_1$	β_0	β_1	β_2
CNX Nifty	0.0001	0.3385	0.0003	0.1232	0.8678
	(36.5836)	(22.7622)	(8.3997)	(15.5145)	(100.2378)
HDFC	0.0093	0.4617	0.0001	0.0453	0.9532
	(40.4441)	(3.0260)	(4.5441)	(13.9597)	(93.5445)
TATA Steel	0.0005	0.1944	0.0002	0.0453	0.9533
	(139.3889)	(10.3961)	(4.5441)	(13.9597)	(193.5445)
L&T	0.0006	0.3833	0.0003	0.4879	0.3769
	(98.7523)	(11.6167)	(16.8452)	(17.3992)	(10.5023)
ONGC	0.0009	0.0547	0.0001	-0.0003	0.9902
	(120.8884)	(5.0230)	(18.0393)	(-3.9100)	(102.502)
ACC	0.0008	0.0867	0.0001	-0.5437	0.9854
	(234.4432)	(89.0965)	(34.0210)	(12.9870)	(98.5345)
INFOSYS	0.0007	0.0345	0.0011	0.2381	0.4523
	(32.1231)	(1.4563)	(78.9854)	(34.6758)	(122.7654)

Table 6
(Conditional and Unconditional Variance of Spot Market –Pre- Future Period)

Index and Stocks	β_0	ARCH β_1	GARCH β_2	CONDITIONAL VARIANCE	UNCONDITIONAL VARIANCE
CNX Nifty	0.0000	0.0718	0.9280	0.9998	0.0000
HDFC	0.0031	-0.0015	0.5976	0.5961	0.0077
TATA Steel	0.0002	0.1495	0.6806	0.8301	0.0012
L&T	0.0002	0.1479	0.6649	0.8128	0.0011
ONGC	0.0001	0.1946	0.6839	0.8785	0.0008
ACC	0.0001	0.1394	0.4485	0.5879	0.0002
INFOSYS	0.0012	0.2362	0.6732	0.9094	0.0132

Table 7
(Conditional and Unconditional Variance of Spot Market –Post- Future Period)

Index and Stocks	β_0	ARCH β_1	GARCH β_2	CONDITIONAL VARIANCE	UNCONDITIONAL VARIANCE
CNX Nifty	0.0003	0.1232	0.8678	0.991	0.0333
HDFC	0.0001	0.0453	0.9532	0.9985	0.0666
TATA Steel	0.0002	0.0453	0.9533	0.9986	0.1428
L&T	0.0003	0.4879	0.3769	0.8648	0.0022
ONGC	0.0001	-0.0003	0.9902	0.9899	0.0099
ACC	0.0001	-0.5437	0.9854	0.4417	0.0002
INFOSYS	0.0011	0.2381	0.4523	0.6904	0.0036

Table 8
(Impact of Futures Trading On Volatility of Underlying Spot Market)Using Dummy Variable

Conditional Variance Equation $\sigma_t^2 = \beta_0 + \beta_1 \varepsilon_{t-1}^2 + \beta_2 \sigma_{t-1}^2 + \gamma D_{\text{futures}}$				
Index and stocks	Constant(β_0)	ARCH(β_1)	GARCH(β_2)	Dummy γ
CNX Nifty	0.0000	0.1150	0.8735	-0.0006
	(9.1388)	(19.2854)	(156.0871)	(1.1757)
HDFC	0.0040	0.7017	0.1995	0.0046
	(20.3499)	(4.8458)	(5.1367)	(3.4362)
TATA Steel	0.0000	0.0448	0.9511	0.0007
	(6.1630)	(16.9778)	(257.8176)	(0.7749)
L&T	0.0003	0.2840	0.5060	0.0023
	(14.0781)	(22.5539)	(16.1541)	(2.8049)
ONGC	-0.0000	-0.0005	1.0007	0.0031
	-(0.8663)	-(54.9245)	(103.09)	(5.1280)
ACC	0.0001	0.2421	0.4385	-0.0002
	(0.6423)	(1.3021)	(21.6709)	-(0.8745)
INFOSYS	0.0004	0.0038	0.7924	-0.0001
	(4.8034)	(3.6549)	(86.6211)	-(4.627)

Conclusion

The impact of derivatives trading on the volatility of the underlying cash market is a matter of high significance as stock market volatility can have wide repercussions on the economy as a whole in general and financial market in particular. Keeping in view the fact that very few studies have been carried out to analyse the impact of derivatives trading on stock market volatility in India, this study makes an attempt to further widen the research in the said area in the Indian context. This article uses GARCH(1,1) model to examine the effect of introduction of futures trading on the volatility of underlying Nifty index and some of the select individual stocks (HDFC, TATA Steel, L&T, ONGC, ACC and INFOSYS) representing different sectors of the economy. The results show that the underlying cash market of Nifty index has been stabilized after the introduction of futures trading which is attributable to absence of volatility persistence in post-futures period. However, the conditional volatility decreased and unconditional volatility of Nifty index increased after the introduction of derivatives trading. The finding that there is decrease in volatility in post futures period in case of Nifty is supported by earlier studies in India such as Thomas and Thenmozai, 2003; Vipul, 2006; Mallikarjunappa and Afsal 2008; Saravanan and Deo, 2010. Moreover, individual stocks show mixed results in this study. While HDFC, TATA Steel, L&T, ONGC show increase in volatility after the introduction of futures trading, there is a volatility diminishing impact of futures trading in case of ACC and INFOSYS.

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Linking CSR Initiatives with International Environmental Treaty: An Emerging Dimension of promoting Sustainable Development of the Nation

** Pradipta Banerjee*

*** Dr. Naba Gopal Roy*

**** Amit Pusti*

Abstract

Though the roots of 'Corporate Social Responsibility' (CSR) lie in philanthropic activities and community development, the concept of CSR has evolved over time encompassing all the related concepts such as triple bottom line, corporate citizenship, strategic philanthropy, shared value, corporate sustainability business responsibility, etc. The newly introduced Companies Act, 2013 has brought the idea to the forefront and Schedule VII of the Act, which lists out the CSR activities, suggests though communities should be the focal point, CSR needs to go beyond communities and beyond the concept of philanthropy. The true spirit of CSR lies in how profit is made by a corporate entity and not in how much of the earned profit is expended for philanthropic activities. Thus, CSR is now considered as a holistic approach that integrates economic (profit), social (people) and environmental (planet) imperatives of conducting business (Triple-Bottom-Line Approach) and thereby helps to promote sustainable development.

But, because of apparent contradiction between corporate sustainability and business profitability in the short-run, promoting corporate sustainability has emerged as one of the major issues of every business in today's world. On the other hand, lowering the carbon footprint through sustainable and more efficient management of natural resources appears to be the prime concern of every nation to fight against climate change and its devastating consequences.

* Assistant Professor, Department of Commerce, Sidho-Kanho-Birsha University
Purulia, West Bengal-723104

** Assistant Professor, Department of Bengali, Sidho-Kanho-Birsha University
Purulia, West Bengal-723104

*** Assistant Professor, Department of Commerce, Sidho-Kanho-Birsha University
Purulia, West Bengal-723104

Promoting and ensuring environmental sustainability has thus boiled down to contravening the nexus between corporate sustainability and corporate profitability at the micro level and economic development and environmental sustainability at the macro level. The newly introduced Companies Act 2013 has offered an opportunity to corporate entities of our country to contribute to promote sustainable development of the nation by making CSR activities compulsory for Indian companies subject to fulfillment of certain criteria. The corporate entities as well as government of our country can also address the issue by capitalizing the opportunities offered by the international environmental treaty 'Kyoto Protocol' to developing countries like us. The Protocol has given birth of an innovative business model through which an entity can make synergies between economic, social and environmental dimensions of business and as a meritorious corporate citizen, can discharge its responsibility towards the environment and society without jeopardizing its financial sustainability. The government, both central and state/local, can also promote the well being of its citizens and sustainable development in a cost-effective manner in line with national sustainability priorities of the country.

In the present paper a modest attempt has been made to demonstrate how the Companies Act 2013 add climate change initiatives at the international level has opened up a new dimension through which the developing countries like India (which is more vulnerable to the adverse impact of climate change due to its limited capabilities) can address the global issue of climate change as well as promote sustainable development without restricting the pace of economic development in a money-spinning manner. The paper also outlines the proactive role that can be played by the government for successful implementation of projects under this emerging sector to curb the emission of GHGs in the planetary atmosphere in particular and promote sustainable development of the nation at large in line with national sustainability priorities of our country.

Keywords: Philanthropy, Climate change, Environmental sustainability, Sustainable development, Corporate social responsibility, Triple bottom line.

JEL Classification Codes: D6, F1, O1, Q01, Q5.

The practice of 'corporate social responsibility' (CSR) is not new to companies in India. But, the new Companies Act, 2013 has brought CSR practice to the forefront by making CSR expenditure mandatory for the Indian companies subject to fulfillment of certain

criteria. India has grown to be one of the largest economies in the world but it is still home to a vast number of people living in absolute poverty and the undernourished children. The uneven distribution of the benefits of growth between the haves and have-nots has appeared to be the major cause of such inequality. The introduction of CSR clause within the Companies Act, 2013 is an attempt made by the government with the objective to promote equitable growth for all by engaging the corporate world with the country's development agenda.

On the other hand, global warming has appeared as one of the most serious threats to the global environment ever to be faced by the human race. In common parlance, global warming means the unusually rapid increase in Earth's average surface temperature due to rapid increase in the concentration of greenhouse gases (most importantly carbon dioxide with others like water vapor, methane, ozone, nitrous oxide, etc.) in planetary atmosphere predominantly caused by rising industrial activity, fossil fuel combustion and tropical deforestation. The United Nations Intergovernmental Panel on Climate Change (IPCC) in its assessment report has asserted that the global average surface temperature rose by about 0.8 degree Celsius in last hundred years with about two thirds of the increase occurring over just the last three decades and it will increase by another four degree Celsius by the end of 21st century. The expected detrimental consequences of such changes may include severe droughts, heavy rain cycles, cloudbursts, coastal and small island flooding, increases in extreme weather, longer and more extreme heat and cold waves, more and stronger tropical cyclone and hurricanes, melting of ice caps and glaciers, biological extinctions, spread of vector-borne diseases, damage to vegetation and reduction in agricultural yields and many others leading fundamental changes to Earth's climate system. As a result of increasing authoritative scientific evidence on the detrimental consequences of global warming and growing consensus on the need for emission control, climate change mitigation has emerged as an international issue and the nations around the globe have joined together to tackle the threat under the United Nations Framework on Climate Change (UNFCCC).

In the present paper an attempt has been made to review the various dimensions of CSR clause of newly introduced Companies Act, 2013 and the ways in which environmental sustainability can be promoted by implementing CSR projects along with the proactive role to be played by the government to capitalize on the opportunities offered by international environmental treaty as well as the new Companies Act to promote sustainable development of the country in an economic way and to make the planet a better place to live in.

Section II: Corporate Social Responsibility under the Companies Act 2013

Though the roots of ‘Corporate Social Responsibility’ (CSR) lie in philanthropic activities and community development, the concept of CSR has evolved over time encompassing all the related concepts such as triple bottom line, corporate citizenship, strategic philanthropy, shared value, corporate sustainability, business responsibility, etc. CSR is now considered as a holistic approach that integrates economic (profit), social (people) and environmental (planet) imperatives of conducting business (Triple-Bottom-Line Approach) and thereby helps to promote sustainable development. Though there is no single universally accepted definition of CSR, all the definitions recognize the responsibilities of a business towards the society and environment apart from generating returns to the shareholders. The United Nations Industrial Development Organization (UNIDO) has defined CSR as “a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders. CSR is generally understood as being the way through which a company achieves a balance of economic, environmental and social imperatives (Triple-Bottom-Line Approach), while at the same time addressing the expectations of shareholders and stakeholders. In this sense it is important to draw a distinction between CSR, which can be a strategic business management concept, and charity, sponsorships or philanthropy. Even though the latter can also make a valuable contribution to poverty reduction, will directly enhance the reputation of a company and strengthen its brand, the concept of CSR clearly goes beyond that.” According to the World Business Council for Sustainable Development (WBCSD), “Corporate social responsibility is the continuing commitment by business to contribute to economic development while improving the quality of life of the workforce and their families as well as of the community and society at large.” The newly introduced Companies Act, 2013 suggests that at though communities should be the focal point, CSR needs to go beyond communities and beyond the concept of philanthropy. The true spirit of CSR lies in how profit is made by a corporate entity and not in how much of the earned profit is expended for philanthropic activities.

Clause 135 and Schedule VII of the Companies Act, 2013 deal with CSR activities of the companies. The Ministry of Corporate Affairs (MCA) has vide its notification dated 27 February 2014, and in exercise of powers conferred by section 1(3) of the Companies Act, 2013, notified 1st April 2014 as the date on which the provisions of section 135 and Schedule VII of the Act shall come into force. The provisions of the clause will be applicable to a company if it satisfies any one of the following three criteria in any year:

- (i) Annual turnover of Rs. 1,000 crore or more,
- (ii) Net worth of Rs. 500 crore or more, or
- (iii) Net profit of Rs. 5 crore or more.

If in any year a company satisfies any one of the above criteria, then the company needs to spend at least 2% of its average net profit in the previous three years on CSR activities. Such CSR activities can be undertaken by the company on its own or through its own non-profit foundation or through any registered non-profit organizations having a record of at least three years in similar activities. The companies can also pool their resources and undertake joint projects.

Schedule VII of the Act has listed out a wide spectrum of activities that can be undertaken by the companies as CSR activities such as activities meant for eradicating hunger, poverty and malnutrition, improving standard of living, promoting education, promoting gender equality, setting up homes for women, orphans and the senior citizens, reducing inequalities faced by socially and economically backward groups, ensuring environmental sustainability and ecological balance, animal welfare, protection of national heritage and art and culture, contribution to the prime minister's national relief fund or any other fund set up by the Central Government for socio economic development, relief and welfare of SC, ST, OBCs, minorities and women, contributions or funds provided to technology incubators located within academic institutions approved by the Central Government, rural development projects, etc. The act also stipulates that in undertaking CSR activities, a company should give priorities to local areas and the areas around where the company is being operated and the activities undertaken outside India will be considered in computing CSR expenditure of a company.

The above mentioned activities are broad-based and intended to cover a wide range of activities. The Ministry of Corporate Affairs, Government of India by issuing guidelines has clarified that the prescribed activities are indicative only and should be interpreted liberally and hence a company can undertake a CSR activity which is not specifically mentioned in Schedule VII if the activity is able to capture the essence of the activities mentioned in the Schedule. However, expenditures made exclusively for the employees or their families or contribution to any political party will not be considered as a CSR activity. The Act also has stated that any surplus arising out of CSR activities will have to be reinvested into CSR activities and that expenditure will be in addition to the 2% mandate.

According to Clause 135 of the Companies Act, 2013, the board of directors of every company having CSR mandate, should constitute a CSR committee from among their board members, at least one of which should be an independent director. The committee shall formulate and recommend a detailed CSR plan to the board including types of activities, amount of expenditure to be incurred in different activities, etc. and shall monitor the CSR policy of the company on a regular basis. The committee should also ensure that all the income accrued to the company from the CSR activities is credited back to the CSR funds. On the basis of the recommendations made by the CSR committee, the board of the company shall approve the CSR policy for the company and disclose that in its report as well as make such policy available on the official website of the company, if any. If the company fails to spend the stipulated amount in its CSR activities, the board, in its report, shall disclose such inability specifying the reasons.

Section III: Promoting Environmental Sustainability under the United Nations Framework Convention on Climate Change

To combat climate change and its devastating consequences, countries around the globe came together under an umbrella and committed themselves to lower their carbon footprints by reducing emission of GHGs under an international and legally binding environmental treaty 'Kyoto Protocol' in 2005. The Protocol supplemented the 'United Nations Framework Convention on Climate Change' (UNFCCC) adopted earlier after 'The Earth Summit' of 1992 held in Rio de Janeiro and by setting targets or limits on maximum amount of emission of GHGs by the industrialized and developed countries aims at stabilizing the concentration of GHGs in the planetary atmosphere at a level that would prevent dangerous human interference with the climate system. As per the Protocol, however, the developing and less developed countries do not have any emission reduction compulsion at present though such countries also emit GHGs in the atmosphere.

The UNFCCC categorizes countries into two main groups: Annex-I Countries- which include industrialized and developed countries which ratified the protocol (like UK, Switzerland, Japan, Netherlands, New Zealand, Sweden, Germany, Spain, France, Italy, Canada, Australia, Austria, etc.); and Non-Annex-I Countries- which include all other countries those ratified the protocol but not included in Annex-I of the Convention, mostly the developing and least developed countries (like India, Sri Lanka, Afghanistan, China, Brazil, Iran, Kenya, Kuwait, Malaysia, Pakistan, Philippines, Saudi Arabia, South Africa, etc). Under the environmental treaty, Annex-I countries are issued emission allowances (carbon credits) equal

to the amount of emissions allowed where an allowance (carbon credit) represents an allowance to emit one metric tonne of carbon dioxide equivalent in the atmosphere. To meet the emission reduction targets, binding countries in turn set limits on the GHG emissions by their local businesses and entities. Now, in order to assist the developed countries to meet their emission reduction targets as well as to encourage the developing and least developed countries which do not have any emission reduction target at present (i.e., Non Annex-I countries) to contribute towards emission reduction efforts, the Protocol provides three innovative and flexible mechanisms – Joint Implementation (JI), International Emission Trading (IET) and Clean Development Mechanism (CDM). As our country presently belongs to Non Annex-I list of the convention, CDM is the only mechanism relevant to our country. Under CDM, a developed country can set up an emission reduction project (like generation of electricity with solar panel, installation of more energy-efficient equipments, etc.) in a developing country and earn carbon credits on the basis of emission reductions of the project which can be used to meet a part of the Kyoto target of the entity from developed nations. Besides, the entities of developing and least developed countries can also set up an emission reduction project, generate carbon credits on the basis of emission reduction by the project and then sell such carbon credits at prevailing market prices to entities of developed countries with emission reduction targets. The carbon credit so generated is measured by the unit ‘Certified Emission Reduction’ (CER) where one CER is equal to one tonne of carbon dioxide equivalent not emitted in the atmosphere. The CDM thus apart from enabling the developed countries to meet their emission reduction targets, encourages the developing and least developed countries with no emission reduction targets at present, to contribute towards emission reduction efforts with the ultimate objective of reducing emission of GHGs in the atmosphere and promoting environmental sustainability.

Section IV: Implementing CSR Projects under CDM Sectors of UNFCCC

The companies in India can implement various types of CSR projects under the CDM sector like power generation from non-conventional sources such as wind energy, solar energy, etc., solid waste management (where produced methane from solid waste is used as the fuel for the power plant), conservation of energy through efficient utilization of energy resources, etc. and as a meritorious corporate citizen can discharge their responsibilities towards the environment and society. Power generation is one of such promising sectors which is directly linked to economic growth and well-being of the nation. In India, where demand for electricity is increasing significantly (presently 8% per annum) along with healthy

growth of industries, population and urbanization, fossil fuels are extensively used in generation of energy (presently more than 65%), more than 75% of the greenhouse gas emissions of the country occur for generation of power and per capita consumption of electricity is much lower than the global average (only 478 kWh compared to global average of around 2900 kWh), the opportunities of CDM can fruitfully be utilized as CSR activities in generating energy from non-conventional sources. Again, besides augmenting power generation capacity, conservation of energy through efficient utilization of energy has emerged as one of the major issues in recent times as it is the quickest, cheapest and most practical way of bridging or at least narrowing the gap between requirement and availability of energy of the country in short-run. Thus, the opportunities of CDM can fruitfully be utilized in that direction by implementing energy efficiency enhancement measures as a part of CSR activities.

Power generation from 'Municipal Solid Waste' (where produced methane is used as the fuel for the power plant) has emerged as an important process for GHG emission reductions worldwide. In recent times, solid waste management, especially in the rapidly growing cities is becoming a more and more urgent issue as it is estimated that post-consumer waste accounts for almost 5% of total global GHG emissions and methane from landfills represents 12% of total global methane emissions. In recent years solid waste management, especially in the rapidly growing cities, is becoming a more and more urgent issue as it is estimated that post-consumer waste accounts for almost 5% of total global GHG emissions (this estimate is 1.06% for our country) and methane from landfills represents 12% of total global methane emissions. In a report on the 'state of municipal solid waste around the world' published on June 6, 2012, the World Bank has predicted that the amount of garbage generated by urban residents will rise sharply and estimated that it will reach to 2.2 billion tonnes/year in 2025 from the current 1.3 billion tonnes/year. The annual cost of such solid waste management has been estimated to rise from the current \$205 billion to \$375 billion. Thus, the corporate bodies of our country can implement CDM-based integrated solid waste management plants from their CSR corpus.

The key advantage of implementing CDM projects lies in earning additional revenues through sale of carbon credits (CERs) generated by such projects on the basis of emission reduction achieved by the projects which the companies need to spend on CSR activities again above their threshold limit of 2% of average profit. Thus, by implementing CDM projects

under their CSR activities, the companies can utilize their CSR spending to promote the environmental sustainability and sustainable development of the country. The implementation of CDM projects as CSR activities will help to promote conservation of natural resources, bring down pollution and emission of greenhouse gases as well as contribute significantly to meet the societal needs such as infrastructural development particularly in the rural areas, improvement in air quality and living conditions, poverty reduction by generation of employment and income, community development and many others. According to an estimate of Indian Institute of Corporate Affairs, a minimum of 6,000 Indian companies will be required to undertake CSR projects in order to comply with the provisions of the Companies Act, 2013 with an estimated spending of more than 20,000 crore INR per year. If at least a portion of this spending is routed through CDM projects, many good quality and highly relevant CDM projects can be set up and operated. But, for that the companies need to think beyond what are required by law. The government of our country also needs to play a more proactive role in encouraging the corporate sectors to implement CDM projects from their CSR funds which may include (i) making CDM projects more familiar to Indian companies especially to small and medium size companies, (ii) assisting the companies in registering the CDM projects with the UNFCCC as registration of a CDM project with the UNFCCC involves a number of steps with many technical and other complexities, (iii) taking initiative to club a number of CDM projects under 'Programme of Activities' (PoA) of UNFCCC to enjoy the economies of scale in selling self-generated CERs, etc.

Section V: Conclusion

Though the term Corporate Social Responsibility is a new one in the legislative arena of Indian corporate sector, many reputed and veteran companies have been practicing the same for a long time voluntarily and spending more than that is required by law as per the new Companies Act 2013. But, the introduction of CSR provision in the Companies Act will bring more number of companies under the CSR regime by making CSR expenditure compulsory, subject to fulfillment of certain criteria. Such an initiative will obviously boost up implementation of much required social projects by the corporate entities in India and help to contribute to promoting equitable growth for all and sustainable development of the nation. But for a more successful implementation of CSR activities to promote social wellbeing, CSR projects in the CDM sector need to be established to capitalize on the opportunities

sustainable development of the nation in an accelerated pace. Interlinking CDM and CSR initiatives can bring a revolution in the development of the country encompassing economic, social and environmental dimensions of development.

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Examining organizational climate and group dynamics for a better organizational performance.

* Prof. Raghunath Sahu

Abstract

The degree to which organizational climate and group dynamics mediates the relationship between organization performance and customer satisfaction is examined in the present study. Organizational Climate can only be discussed in terms how it is perceived or felt by organizational members. Consequently, a climate may be perceived as hostile or supportive, as conducive to achievement or stifling, and so on. The study is to explore the relationship between organizational climate and job satisfaction to determine whether employees' perceptions of the work environment influence their level of job satisfaction. Regression analysis, ANOVA and coefficient test are done as research methodology to examine the effect of organizational climate in the performance of corporate sector.

Key Words: organisation climate; job satisfaction; climate measures; group dynamics.

Introduction

Litwin and Stringer (1968) defined organizational climate as “a group of measurable characteristics that members could perceive directly or indirectly in the work environment,” and, as a description of environmental factors, it could help researchers ascertain the effects of environment on employee motivation. In addition, organizational climate is the most common variable applied to descriptions of the organizational context. As a description of individuals' perception of organization, organizational climate was more similar to the real behavior than the real environment. As a result of the interaction between organization and environment, organizational climate has been rich in content. In short, organizational climate describes the members' perception of their work environment.

* College of IT & Management Education, Mancheswar Industrial Estate, Bhubaneswar.

Mob: 9338225912, E-mail: sahu_rn@gmail.com

Organizations in the 21st century are facing more challenges than ever before. These challenges are not unique to any specific Organization or industry, but affect all Organizations, regardless of their structure or size. Organizational climate in particular is constantly challenged by changes impacting organizations today (Nair, 2006). Organizations are constantly seeking to improve their performance to survive and outdo their competitors. Brown and Leigh (1996) explained that organizational climate is becoming more important than ever before because organizations need to ensure that those individuals who add value to the bottom line will want to stay in the organization and will want to continue pouring their effort into their work to the benefit of the organization.

Organizational climate is a concept that has received considerable attention in healthcare and other research since the 1970's (Anderson & West, 1998). It is recognized in the literature that measuring climate can be problematic. The concept remains ill defined (Field & Abelson, 1982) and issues of measurement are exacerbated when the terms 'climate' and 'culture' are used interchangeably. (Burrell 96, Scott et al 2003). Climate however can be generally understood as a 'surface' manifestation of culture which reflects employees perceptions of organization culture (Schneider et al 1990 Gershon et al 2004) and it refers to the day-to-day practices in the organization, its policies and reward procedures, the "encapsulation of the organization's true priorities" (Ahmed, 1998, p.31). Moran and Volkswain (1992) provide a more comprehensive definition when they describe climate as:

"A relatively enduring characteristic of an organization which distinguishes it from other organizations: and (a) embodies members' collective perceptions about their organization with respect to such dimensions as autonomy, trust, cohesiveness, support, recognition, innovation and fairness; (b) is produced by member interaction (c) serves as a basis for interpreting the situation; (d) reflects the prevalent norms values and attitudes of the organizational culture; and (e) acts as a source of influence for shaping behaviour".

This paper concerns itself solely with organizational climate and group dynamics and measures of climate and utilizes measures as identified by relevant research (Gershon et al, 2004, Scott et al, 2003, Patterson et al, Hatton et al, 2001). While Anderson and West recognize that agreeing upon a specific definition of climate as a general concept has proved elusive, but they argue that attempts to deconstruct the concept of climate into subdomains has helped resolve this dilemma. For example Anderson and West, (1998) propose that participation (e.g. involvement in decision making) and safety are important elements of a climate for innovation while West and Richter (2007) highlight the importance of a support climate where

individuals feel free from threats and pressures. This study draws on the Moran and Volkswien (1992) definition of climate and focuses on perceptions of fairness, trust/safety, participation and involvement as important domains of organizational climate in healthcare.

Organizational climate is a relatively continuing characteristic of an organization which distinguishes it from other organizations: and

- Symbolizes members' collective perceptions about their organization with respect to such dimensions as autonomy, trust, cohesiveness, support, recognition, innovation and fairness;
- Produced by member interaction
- serves as a basis for interpreting the situation;
- Reflects the prevalent norms, values and attitudes of the organizational culture; and
- Acts as a source of influence for shaping behavior.

Organizational culture thus can have serious implications for service users in the sense that demoralized/ stressed people not be able to provide the level of care required for enhancing quality of life of service users. It is important therefore to also examine the relationship between organizational climate and individual outcomes such as satisfaction, stress and morale.

According to Watkins and Hubbard (2003), high-performing Organizations have climates with particular measurable characteristics, which have shown how Organizational climate can directly account for up to 30% of the variance in key business performance measures. This is supported by research that examined the relationship between the way in which employees describe their work environments and the relative performance success of these environments (Wiley & Brooks, 2000). Watkin and Hubbard (2003) contend that climate does make a difference to Organizations' performance because 'it indicates how energizing the work environment is for employees'. There is, however, clearly more to an Organization's performance than an 'energized employee' or the presence of certain Organizational and leadership characteristics: 'productivity ... also depends on the morale which governs discretionary effort – the willingness to go the extra mile'.

Organizational climate is a meaningful construct with significant implications for understanding human behaviour in Organizations (Allen, 2003; Al-Shammari, 1992; Ashforth, 1985; Cotton, 2004; Glission & James, 2002; Tustin, 1993; Woodman & King, 1978). This is evident from all the research conducted and published on the role and value of Organizational climate in Organizations and its impact on various Organizational outcomes over the past 50 years

(Campbell, Dunnette, Lawler & Weick, 1970; Forehand & Gilmer, 1974; Glick, 1985; Hellriegel & Slocum, 1974; James & Jones, 1974; Joyce & Slocum, 1979; Litwin & Stringer, 1968; Naylor, Pritchard & Ilgen, 1980; Payne & Pugh, 1976; Schneider & Reichers, 1983; Tagiuri & Litwin, 1968; Woodman & King, 1978).

Theoretical Background

Organizational Climate can only be discussed in terms how it is perceived or felt by organizational members. Consequently, a climate may be perceived as hostile or supportive, as conducive to achievement or stifling, and so on. Hellriegel and Slocum (1974) defined Organizational Climate as “a set of attributes which can be perceived about particular organization and / or its subsystems, and that may be induced from the way that organization and / or its subsystems deal with their members and environment”. While most authors have used organizational climate as a descriptive concept, some have used it for classifying organizations into a few objective categories. Burns and Stalker (1961) described organic versus mechanical climates, whereas Likert (1967) proposed four types of climates: Exploitive, Benevolent, Consultative, and Participative. Such frameworks generally use descriptive categories. Only one framework, proposed by Litwin and Stringer (1968), emphasizes the effect of organizational climate on the motivation of its members. In a rigorous study Litwin and Stringer (1968) simulated three different climates, each fostering respectively, (achievement, affiliation, and power motives) and monitored the effects of these climates on productivity.

A composition theory relating psychological climate scores to organizational climate scores can be established if the perceptions of psychological climate are shared among the individuals whose scores are to be aggregated (Roberts, Hulin and Rousseau 1978). The concept of motivational climate” has evolved out of an attempt to apply the theories of motivation to behaviour in organizations. In simple terms, motivational climate can be defined as the general culture of the organization characterized by the dominant psychological needs. For example, an organization may have a “power-dependency motivational climate”. In such an organization, the main concern of the people may be to get controlling positions through getting favors with people in power and then to distribute such gifts to others. Such a climate is operative in non profiting organizations like many Indian universities. Litwin and Stringer (1968) found that their research gave considerable support to the theory that there is a relationship between climates and the arousal or reduction of motivating forces.

Duarte and Snyder (2001) stated that team dynamics are determined by complicated variables that relate to three factors: time, team environment, and team composition. Stoel (2002) in his study commented that group research generally showed that large team size has a negative impact on group dynamics. As cited in Stoel's study, Shaw (1976), in an extensive review of group literature, noted that group size directly influences group characteristics. In addition, he noted that group size directly influence member behaviors in an inverse relationship; the larger the group, the less frequent the communication behavior of the group members. Mullen (1987, as cited by Stoel, 2002) reported results of two meta-analyses examining the relationship between group size and group participation behaviors. The analyses showed that participation in classroom and in religious groups declined as group size increased. Similarly, Wagner (1987), as cited in Stoel's study, in a study of participatory behaviors in an assigned group project for a class showed that the smaller the group, the more members participated in project preparation behaviors.

Objectives

The primary objectives of the study are:

- To study the impact of Organizational Climate and Group Dynamics of a Corporate Undertakings,
- To explore the relationship between organizational climate and job satisfaction to determine whether employees' perceptions of the work environment influence their level of job satisfaction.

Hypotheses: The following hypotheses developed have been put to test on the basis of analysis of data undertaken by the researcher.

- Organizational Climate and Job satisfaction, Job Performance, Job Stress, Turnover Intention and Efficacy will positively predict Managerial Effectiveness.

Analysis:

Regression Analysis:

Model	Variables Entered	Variables Removed	Method
1	Designation, Gender, Marital status, Qualification, Experience, Age		Enter

Table-2:

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df 1	Df 2	Sig. F Change
1	.151 ^a	0.023	0.009	4.25	0.023	1.713	6	442	0.116

Experience, Age.

The regression analysis made for examining the importance of all the independent variables with Organizational Climate. The above tables indicate the regression analysis. Table 6.23 presents the method of analysis and also indicates that the adjusted R square .009 and it reveals that this model accounts for 9% variance in the job performance scores. Therefore, it is not a very good model. It was also ascertained by the above table that on the whole that this model was not significant. Further, the analysis is made through the ANOVA which shows the relationship between the entered variables within the organizational climate.

Table-3: Reports on ANOVA

Reports on ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	186.20	6	31.034	1.713	.116 ^a
	Residual	8008.69	442	18.119		
	Total	8194.9	448			

The ANOVA table-3 shows that the F value of 1.713 is not significant at the 0.116 level. There is no significant difference in the organizational climate and other independent variables. The next table title Coefficients helps to see which among the independent variables influence most the variable in Organizational climate. The calculation of regression coefficient is made in the below given table.

Table-4:

Indicates Coefficients of Each Variable								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	97.823	0.798		122.626	0		
	Age	-1.017	0.565	-1.089	-1.8	0.073	0.006	165.42
	Gender	0.464	0.642	0.034	0.723	0.47	0.989	1.011
	marital status	1.675	1.654	0.049	1.012	0.312	0.961	1.041
	Qualification	0.589	0.533	0.068	1.105	0.27	0.588	1.701
	Experience	-0.058	0.08	-0.062	-0.726	0.468	0.303	3.296
	Designation	1.152	0.549	1.284	2.098	.037*	0.006	169.574

a. Dependent Variable: organizational Climate

According to the above table the standardized beta scores indicated that the most of the predictor variables do not have any impact on the criterion variable, i.e., organizational climate. However, designation ($p > 0.05$) seems to be the significant predictor for organizational climate. All the other variables were not significant predictors of organizational climate.

Conclusion

The organizational climate and group dynamics leans upon job satisfaction, continuous motivation and training and leadership qualities of employees. Communication technology motivates to work in a challenging work environment. The leadership qualities create supportive spirit, optimistic interpersonal relationship and work environment. On the whole the employees are satisfied with their work environment and job and feel proud of belonging to their organization.

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