



North South Business Review

Mahmud Akhter Shareef

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EDITORIAL NOTE: NEW TREND OF BUSINESS RESEARCH

We are pleased to invite you to this special issue of Journal “North South Business Review” (NSBR) published by school of business and economics (SBE), North South University. It is our pleasure to acknowledge that international researchers from multidisciplinary areas with the new methods of business research are becoming interested to publish their research papers in this journal. Many researchers from different institutions with multidisciplinary background have shown immense interest to publish their scholarly articles in NSBR. After thorough blind review, we have selected six advance research papers to publish in this special issue. We deeply hope that these papers can create scholars’ interest as well as these can fulfill their inquisitive learning expectations as future policy development. The central focus of this special issue is to address multidisciplinary problems and strategic policies with applications from general management and human resource, development studies, economic reformation, finance, and marketing areas.

The first paper of this journal is engaged to address, reveal, and develop a generalized concept to increase student learning through teaching curriculum. This research is focused on development study for education. As the education system is moving to more globalization and flexible learning pattern, it is important that our future generation is equipped with generic skills that can be applied in various situations. A positive attitude towards the adoption of innovative class activities is evident. In this research, several approaches to teaching have implemented that influence, motivate and inspire students to develop specific generic skills, i.e., problem-solving and collaborative learning/working skills.

The second paper of this issue is focused on policy development for women rights. In this regard, the author has analyzed Indian textile and jewelry sector. Women mostly employed as salesgirls in textile and jewelry retailing show-rooms in Kerala, India had been battling several workplace issues like long working hours, low wages, job insecurity and above all dismissal of ‘right to sit’. It is imperative to understand that social justice and economic growth cannot be achieved without safe and healthy working environment which is recognized as a fundamental human right.

Authors of the third paper have focused on multidisciplinary aspects. The paper has shown effect of human resource on financial performance of bank. In this context, the study has conducted an empirical investigation. This study holds several managerial implications emphasizing critically on the fact that money spent on people in the form of their salary, other benefits, and training should be viewed as significant investments rather than mere operational cost of doing business.

The fourth study is dealing with behavioral aspect of consumers. It is a marketing paper. It deals with an interesting issue of marketing — how Indian drama serials influence Bangladeshi consumers' purchase intention. Through empirical investigation, this paper clearly demonstrates that Indian drama serials have strong impact on Bangladeshi consumers that is evident in their choice of Indian fashion products in terms of purchase intention and purchase behavior.

The fifth paper is analyzing mutual fund and its performance on income and investment. It is a finance paper. The author has considered the economies of scale in analysing the performance of mutual funds. Evaluating the performances of 'Growth Fund', 'Growth and Income Fund' and 'Income Fund', this paper has provided to the future researchers a deeper understanding of their significant contribution to the US mutual fund industry.

The sixth paper is related with investors' decision making and performance of stock market. To accomplish the objective, the authors have conducted extensive interviews. The researchers have analyzed the contents of the interviews to develop an Ethnographic Decision Tree Model (EDTM) of stock selection which helps to understand the different stages of decision making of a Bangladeshi stock market investor such as how a stock comes into an investor's attention, how choice set is handled when actively searching for stocks, how investment plans affect evaluation of a stock, how expectation of price and investment strategy affect final choices, etc.

This journal contains the above mentioned six papers which are precisely focused on different issues of policy and development study, management, organizational reformations, and marketing aspects of global economy. Integrating these theoretical and application based concepts, this issue ultimately presents a comprehensive view of advance research and a new trend of business methods.

It is our earnest hope that the readers will enjoy reading this special issue as much as we did during our review of the papers for this issue.

Mahmud Akhter Shareef, PhD

Managing Editor

NSBR

ACKNOWLEDGMENTS

I would like to thank Professor JashimUddin Ahmed, Acting Dean, School of Business & Economics, North South University and Editor-in-chief of NSBR for giving me the opportunity and support to edit this special issue. As Managing Editor, I have been impressed by the many scholarly articles we received in response to the call for papers for this issue. All submissions went at least through two blind review cycles before receiving final acceptance. We gratefully acknowledge the support of the referees who reviewed the manuscripts and provided thoughtful suggestions for improving the quality of the papers.

INTEGRATION OF GENERIC SKILLS IN TEACHING CURRICULUM: A WAY TO ENHANCE STUDENTS LEARNING

Dr. Mohammad IstiaqAzim¹, Dr. Samina Rahman²

ABSTRACT

This paper focuses on the integration of generic skills in a course as part of curriculum improvements that increase student learning. Generic skills enable students to become work-ready and have career success. Previously, university educators were commonly emphasising the acquisition of ‘technical knowledge’ with the belief that generic skills will be developed in the workplace. However, these days, employers expect to recruit graduates who possess a reasonable degree of generic skills.

By using action research method, this paper reports on how real-world examples were adopted and successfully incorporated in the auditing course. An action research methodology is commonly used by academics to improve their curriculum and practice.

Different teaching activities have engaged students effectively in learning various aspects of the course. The implementation was evaluated by drawing on student feedback, combined with Lecturers reflections on the process. Students enjoyed this way of learning and appeared to be excited when they presented their work to their peers in class. Lecturers also observed that students were more engaged in classroom discussion and debates under this learning approach. The process of curriculum development discussed in this paper would benefit wider business educators.

Key Words: Auditing, Generic skills, Curriculum development, Student Learning.

Paper type Research paper.

1. INTRODUCTION

In our classroom, we have students from different backgrounds, who require an active learning environment where they can review, re-structure and re-conceptualise their knowledge (Muluk, S., Habiburrahim, H., Zulfikar, T., Orrell, J., Mujiburrahman, M. 2019; Jääskelä, Nykänen, & Tynjälä, 2018). Active learning is the term commonly used to denote an approach in which students are actively

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engaged in the learning activities through problem-solving, case studies, role plays and other methods. When students are provided with an active and collaborative learning environment, they are more likely to be engaged in integrating new and older knowledge, and build up their own individual conceptions. In this way, we assume, students would benefit from being exposed to authentic problems that closely resemble real life. The objective of the study is to demonstrate the step by step process of how generic skills can be implemented in a university course curriculum. As we move to more globalization of education and flexible learning, it is important that our future generation is equipt with generic skills that can be applied in various situation. Here, the term generic skills refer to the number of transferable skills, such as decision making, problem-solving, creative thinking, critical thinking, communicating and interpersonal skills, etc which are applicable across all specific fields. It is important that generic skills are developed in an earlier stage of life to prepare oneself for lifelong learning. Higher education institutes can play a key role in developing generic skills among the students.

There are a limited number of researches which is based on a constructivist learning methodology and are inclined to integrate more active learning activities and avoid more passive approaches - where students receive information from their teachers there is chance to actively participate from students' side. However, as we now moved to International Financial Reporting Standards (IFRS) and International Auditing Standards (IAS) more research is needed to demonstrate how we can incorporate generic skills in our university curriculums. Currently, approximately 120 nations and reporting jurisdictions permit or require IFRS for domestic listed companies, and approximately 90 countries have fully conformed with IFRS. This research will bridge this gap in research by providing a real example of developing generic skills among the students in a particular course at the university level.

Around the world, the demand for high-quality accountants has intensified. The roles of accountants are ever-expanding and consequently, there is currently an expectation that the accountant will 'add value' to the business (International Federation of Accountants, 2008). In response to a rapidly changing accounting profession, students need to learn job readiness skills to make themselves competitive in the work environment. This meant exposing our students to ambiguity where there are no clear cut answers drawn from industry, particularly in a field such as auditing. Students are encouraged to work together in groups to apply their knowledge and incorporate different ways of conceptualizing problems.

In our curriculum development process, students are encouraged to draw on the knowledge base available to them in order to apply what they know and build their

expertise in the class and out of the class environment with teachers as facilitators to guide the learning. The findings of this study will contribute to the literature by suggesting ways to develop learning activities in a curriculum with which students can experience building their understanding around the content and apply that knowledge in a professional manner. Thus, this research will answer the research question:

What is the best way for the integration of generic skills in an auditing course that enhances students learning?

The paper reports on how an action research methodology was used to develop a range of activities to build work-ready auditing skills in undergraduate accounting graduates. Our innovative approaches will enable us to manage teaching time efficiently. We have engaged in on-going improvement in all teaching period.

The balance of this paper is organised as follows: the next section constitutes the literature review followed by a discussion on the background of the research in part Three. The methodology is discussed in part Four; the data collection process is outlined in part Five. Parts Six and Seven present the results and conclusion of the paper respectively.

2. LITERATURE REVIEW

Learners develop their own understanding by building on their existing knowledge with new information provided. This is particularly relevant to this study considering the range of student experiences and motivations already encountered in the classroom. Learning and teaching environments that are organised around constructivist principles recognise and utilise: prior knowledge, the social collaborative aspects of the learning environment and include opportunities for actively applying knowledge to new situations.

This research is based on a well-recognized theory of learning ‘constructivism’, which was developed out of the early work of Piaget (1967) and Vygotsky (1978). It has provided a useful framework for understanding how to develop a range of knowledge and skills for a diverse student cohort.

Incorporating active learning principles into the learning environment requires students to engage directly and practically with what they are learning (Chickering and Reisser, 1993). This can be through pre-defined collaborative class activities involving discussion, debating, problem-solving, relating theory to practice, etc. Learners are expected to construct their own knowledge through these active

learning experiences. Learners can have active learning experiences that are in class (i.e., face to face) or out of class (i.e., online) but are most effective when they involve collaborative work with peers. Activities, where learners are exposed to new information or experiences that are dissonant with their prior experience or knowledge, will require effort on their part to incorporate the new information so that it can be assimilated; often requiring them to create new and more complex arrangements of understandings (Muluk, et al., 2019; Evans et al., 2009).

In 1990, the Matthews Report (Matthews et al., 1990) made a series of recommendations covering a broad range of issues for the accounting discipline, including the need to integrate generic skills into accounting programs. Since 1990, those expectations regarding graduate 'generic skills' have evolved into higher-order skills, such as analytical and critical analysis, and the ability to engage clients, negotiate and act strategically (Hancock et al., 2010). Parker (2001) examined the broadening of the accounting profession's activities and changes over the past 100 years, as it strayed increasingly from its traditional bean-counter image and discusses the implications of these changes for accounting education. Similarly, Elliott and Jacobson (2002) comment on the evolving nature of the accounting profession and see opportunities for it in the emerging information-economic paradigm.

Since the Matthews Report (Matthews et al., 1990) there have been many other publications which continue to report employer concerns over the level of generic skills of business graduates (Jackson, et al., 2006; Birrell 2006; Jackson, 2009). Jackson et al. (2006) note the concerns of employers regarding the perceived inadequate development in university accounting graduates non-technical skills that are required for employment in the accounting profession. Technical skills are knowledge, such as mechanical, mathematical, information technology, that are needed to perform specific tasks.

Previous research has found that there is a positive link between generic skills and career success (Lin et al., 2005; Watty, 2005; Jackling and De Lange, 2009 and Wells et al., 2009). Research investigating the skills that employers expect from accounting graduates found that employers prioritised generic skills above technical skills (Jackling and De Lange, 2009). This highlights the importance of embedding and assessing generic skills in accounting curricula, rather than focusing only on technical skills (Tempone and Martin, 2003; Healy and McCutcheon, 2010; Willcoxson et al., 2010). Barnett (2004) advocates the development of learner generic skills, confidence and sense of being, through transformative learning to prepare for career success. The narrow focus on technical skills for future work competence has been criticised for overlooking the relevance of a whole range

of situational, social, cultural and personal factors (Billett, 2001; 2009). Students develop their own understandings of the profession from a range of different experiences and part of which needs to be developed at the educational institution.

Sandberg (2000) provides interpretative evidence showing that the knowledge and skills that are necessary to perform a task competently are framed by the conception of the work that is constituted by the experience of the worker. Sandberg's evidence supports a similar claim made by Barnett (1994, p. 76); Birkett (1993), in writing about accounting practice, emphasised the role of the practitioner's conception of work in 'seeing' how his or her own work (or task) is a part of a larger whole. There is an assumption that tertiary-educated business students concluding their accounting studies will be 'work ready' (e.g. Kavanagh and Drennan, 2008; Albrecht and Sack, 2000; Daggett and Liu, 1997). In the light of these contributions, it seems entirely possible that an emphasis on developing students' conceptions of professional accounting work in the higher education curriculum can complement the acquisition of generic skills, along with the requisite specialised knowledge.

3. RESEARCH METHODOLOGY

This research uses an action research methodology (Revans 1982), which is particularly useful for a subject which is more practice-oriented. Professor Kurt Lewin from MIT first introduces the term "action research" in his research (1946) "Action Research and Minority Problems". From that time it has become a popular method for a progressive improvement of the course curriculum. By working on implementing iterative changes, the academic (researcher) can share, reflect, and review their practice as they go. Some useful questions which will help researchers to develop a curriculum (Lomax, 1986) include:

- Can I improve my course curriculum so that it is more effective?
- Can I improve my understanding of this practice so as to make it more just?
- Can I use my knowledge and influence to improve the situation?

The academic (researcher) may become aware of the need to make changes in their class and out of class activities on the basis of the reflection of their own or fellow colleagues and from anecdotal evidence collected over time, and officially collected student data.

As illustrated in Figure below, the action research process begins with a research question about the curriculum, a review of the literature to guide the research, a period of designing and piloting different in-class and out of class activities,

reflective practise, observation, data collection, and evidence-based evaluations leading to further iterations and improvements until the academic (researcher) has reached a satisfactory outcome.

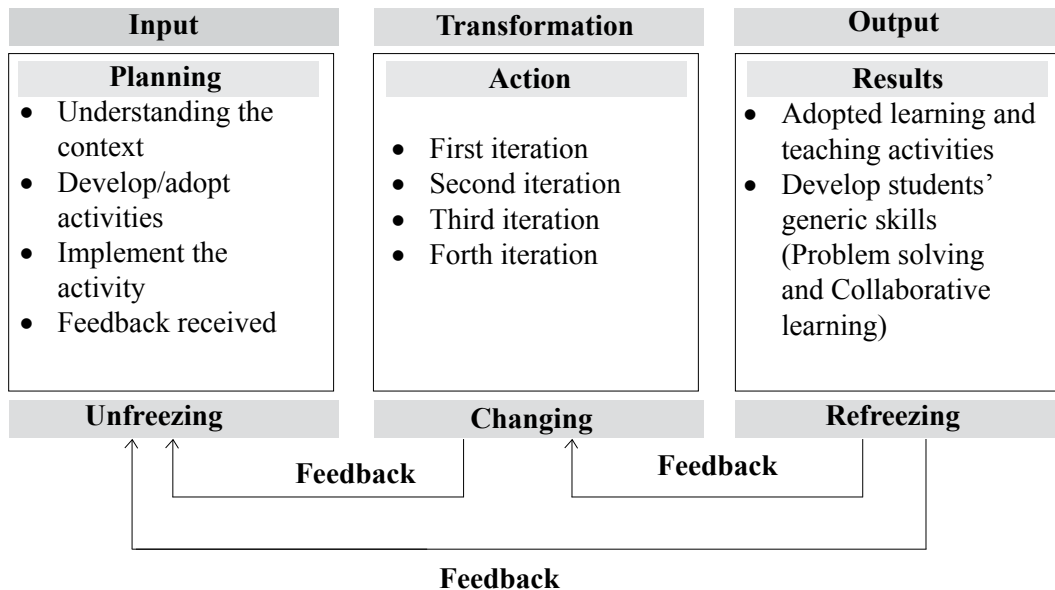


Figure: Action research process employed in this study

Draw on a constructivist learning theory approach, this paper reports on the outcomes of embedding a more student-centred approach involving active learning. This has informed the researchers of the benefits to student learning from exploring different learning approaches. As a result of these iterations, the learning experiences have been found to be more effective than in the past as evidenced by the final exam results and students' feedback.

Sample selection:

The sample is taken from one of the top University in Australia. The university is renowned for producing favourable academic-industry partnership and among the top 400 global universities according to QS World University Rankings. The course, auditing, on average had over 160 students in each teaching period semester and had been traditionally arranged around a weekly lecture and tutorials. Over four teaching period, an average of 640 students was taught the auditing course and considered as a sample for this study. This university is chosen for this research as the authors have easy access to the data and have to right to implement new changes in classroom teaching. Also, the authors received a university grant to incorporate generic skills in their classroom teaching. All the students enrolled in

the course and their tutors were invited to contribute their perspectives to the changes being implemented in the tutorials. Care was taken to inform participants that involvement in the project was voluntary and that interviews would be undertaken with the non-teaching associate researcher and any feedback would be summarized and de-identified.

Over the four teaching period, anecdotal feedback was collected and *Students Feedback Survey* (SFS). After gaining the required ethics approval from the relevant committee further data was subsequently collected in the form of a student survey (S), tutor interviews (I) and a student focus group (F).

The paper-based *survey* was distributed by hand and collected by the associate investigator (who was not, and never has been, on the teaching panel) during class time. *Interviews* with course tutors were conducted on campus at a mutually convenient time to discuss the practical applications of the project. The *focus group* volunteers (students) were recruited by an email invitation sent by the non-teaching associate researcher. The focus group was conducted by the associate researcher, not directly associated with teaching the course. The focus group members were asked to share their thoughts on a range of areas and with permission, this was audio-recorded, transcribed and de-identified prior to analysis by the chief investigator.

4. CONTINUOUS REFINEMENT PROCESS – THE BIGGER PICTURE

Auditing is a core course for students majoring in the Bachelor of Commerce. The curriculum development began in teaching period one as a result of the first author being successful in gaining access to teaching and learning funds to explore opportunities that enhance student engagement. This project was funded for two years to improve the current curriculum in an auditing course. The project involved research to design, evaluate and implement curriculum improvements that increase and improve student engagement.

Most of the students were full-time either in their second or third year, with varied work experience and diverse in terms of maturity, cultural, linguistic knowledge and skills. Within this context, the authors began considering how to meet the learning needs of a diverse range of undergraduate students and also meet the growing expectations of employers. Basic concepts taught in an auditing course are the same across all accredited business programs in higher education. Under this initiative, the intention was to enhance the course by providing more innovative ways to integrate knowledge for a range of learners through the use of practical applications within the constraints of the classroom setting.

Our focus was to increase student generic skills, i.e., problem-solving and collaborative learning skills (Oliver, 2011). We start with incorporating class activities that provide students with direct experience in (i) accepting clients; planning the audit; developing an audit program; developing audit strategies; (ii) assessing risk (iii) conducting the audit; and (iv) reporting the findings to the client. By simulating targeted activities within the overall audit process, these activities allow students to apply generic skills to consider the various options available.

First iteration: Teaching period one

The introduction of innovative changes began in teaching period 1 with the application of four different in-class activities. Students working in groups of approximately four, with the composition of the groups rearranged each week to facilitate the greatest collaborative opportunities. The groups had to report back to the class, with new scribes being required each week. A participation score was included to encourage active participation by all students. Ad hoc questions were asked of the groups by both the tutors and other students to facilitate an ‘on-the-spot’ problem-solving experience.

In the first iteration in teaching period 1, four class activities requiring problem-solving of a set scenario were included in the second hour of the two-hour tutorial. Tutors were provided with an orientation session to explain why the four activities are chosen and designed. They were also provided with guidelines and extra support to run the targeted sessions. For the initial four designed in-class activities tutors were to move away from facilitating individuals working through a set of problems to now supporting groups working together (collaborative learning/working) on practical scenarios with a ‘real world’ semblance (problem-solving). After each semester, feedback from students and tutors was collected and the activities reviewed for how well they addressed the project objectives. As a result, after three teaching period, there were ten re-designed in-class collaborative problem-solving activities.

Each week a different approach was used in-class activities, such as poster activities and games. This was done to ensure the students did not become disinterested and enabled us to better understand the activities to which the students responded to best. These points were noted for future course improvement.

Second iteration: Teaching period two

Overall, student feedback from teaching period 1 suggested that those activities successfully engaged students, with a recurrent theme being we should have more of

these class activities. As a response to students' and tutors' feedback, the approach was reviewed, and the class activities were increased from four to six in teaching period two.

These active learning approaches open up the opportunity for increased student engagement and motivation. Doing something collaboratively is generally more motivating and interesting than working through a set of problems individually or passively taking notes (Svinivki and McKeachie, 2011). Furthermore, when the students actively take part in the activities and get an opportunity to share their ideas with others, there is a greater sense of real motivation. Tutorial guidelines were provided to tutors and we welcomed any comments or suggestions they had as a result of working within those guidelines. To gain timely feedback, a discussion page was opened for tutors to share their personal reflections. To make sure all the students (including the late-comers) were included in the in-class activities, the activities were conducted in the second hour of the two-hour tutorial.

Third iteration: Teaching period three

In teaching period three, due to the high demand for more of the activities from the students, ten class activities were introduced. There was, however, some concern about the subjectivity of the marking guide that was introduced in the previous semester. Therefore in this semester instead of having a complex marking system, marks were allocated on the basis of participation in-class discussion.

As there is a limited time in the classroom, a decision was also made to introduce online videos on different auditing topics and self-assessment tasks (such as multiple-choice questions) in teaching period three. These new tasks motivated students to focus on their studies outside of class hours.

Fourth iteration: Teaching period four

In teaching period four, as part of the curriculum re-designs, a major assignment was developed to complement the learning objectives. The assignment revolved around a continuous case study where students had to progressively apply their auditing knowledge. Using a staggered release, students were only able to answer each week's requirements after completing a number of activities (problem-solving): reviewing the lecture material, discussing the concepts in tutorials (collaborative learning/working), and then undertaking their own studies on the relevant topics. Students also participated in an online discussion board to resolve any conceptual issues (collaborative problem-solving). At the end of the teaching period, students were required to synthesise each week's work and submit it as their final assignment.

This provided a teaching environment where students applied their theoretical knowledge in a ‘simulated’ setting.

In preparing the assignment students were required to work in small groups. It emerged that students are more likely to discuss issues in small groups rather than large ones. Students who are not confused must actively organize and recognise their own learning in order to explain it to others. Thus, both the confused and the enlightened benefited from this activity.

It appears that attempt to embed generic skills was successful in achieving the desired outcomes, i.e., increased student engagement; increased student participation and enhanced student problem-solving and collaborative learning skills. This process assisted the authors to understand what activities were the most effective way to teach applied skills in a classroom environment which would normally require real-life exposure to be effective. The findings from this study may be informative and useful for other academics and education researchers working in an applied discipline.

5. REFLECTION OF THE CHANGES:

At the end of all these iteration processes, we had developed ten engaging practice-based activities that facilitated the development of students’ generic skills. Feedback provided by students reflected this:

“...do more game activity to help the student remember their study” (S),

“...I think using a visual aid like a poster was helpful in discussing different aspects of the audit risk model” (S), and

“...activity using role-play was good” (S).

Tutors also had similar thoughts:

“...it was an excellent idea to space these activities across the semester. This gives me a chance to get to know the students and the students to get to know each other and, therefore, to work more productively. It might also encourage those students who drop out early, to attend spasmodically throughout the semester” (I)

Self-assessment tasks have been provided in the learning management system (Blackboard) for students to practice in their own time and at their own pace, thus helping them to obtain a better understanding of the topics. As one student reflected:

“As a student who doesn’t have a great history of going to tutes, I found that online activities actually motivated me to attend classes and have had a positive effect on my studies and results” (S).

Video clips were introduced to demonstrate the important areas in auditing, providing vital insights to offset the lack of real-life experience applicable to many students. One student in a focus group interview commented:

“It was great to have online videos from partners of BIG 4 Audit firms do discuss different areas of real audit and how they do it in real life” (F).

Also, a continuous case study has been aligned to the weekly lecture topics, discussed in tutorials and linked directly to the requirements of the major assignment. Students have participated in a discussion board, in their own time, to resolve any issues. At the end of the semester, they put together each week’s work and submitted it as their final assignment. A student commented:

“... continuous case study helps me to at least do some revision based on that topic. I probably would not be revising any of the topics if it wouldn’t have this. It is good and very useful....” (F)

The final evaluation of all the activities developed over the period was assessed through the final results.

At the end of the semester feedback was received from students (via official Student Feedback Surveys, Project student Survey and focus group discussion) and from the tutors (Interviews). Students responded to these activities positively – as reflected in their feedback:

“Interaction between people in the class and discussing the topics definitely helps when trying to understand certain areas of auditing” (S).

“the in-class activities are very helpful” (S),

Tutors’ overall feedback was as follows:

“students were more engaged” (I),

“less drop off in the class” (I) and

“tutorials became very cohesive” (I).

Results from the survey show that over 80% of the students believe that their problem solving and learning and working collaboratively skills has increased due to these activities. Final results, although it depends on many other facts, shows an increase in the percentage of students who received 'High-Distinctions' and 'Distinctions'. The number of students receiving 'Credit' and 'Pass' grades is more or less the same over the four teaching periods, however, there is a drop in the number of students failing in the subject from 16.25% in teaching period 1 to 8.16% in teaching period 4.

Overall, the evidence suggests that an overall improved over time. Also, a positive attitude towards the adoption of innovative class activities is evident. These developments have enhanced students' engagement with the material and built valuable generic skills.

6. CONCLUSION

In this research, several approaches to teaching have implemented that influence, motivate and inspire students to develop specific generic skills, i.e., problem-solving and collaborative learning/working skills. Class activities were utilised to provide auditing students with direct experience in different concepts of auditing. All these activities have been selected to enhance generic skills on problem-solving and collaborative learning/working in a range of unique situations.

The findings of the study support the view that these activities allow students to gain experience in conducting specific targeted activities of an audit so that they can apply their knowledge and skills. Results from the final marks (which are the result of four different assessment tasks), survey results, tutors interviews and focus group results clearly indicate that there is a positive change in classroom teaching. Students were more engaged and were able to develop their generic skills in the problem-solving and collaborative learning/working categories – which are critical to making them job-ready for the twenty-first century. This project developed a learning and teaching class environment where students actively applied their theoretical knowledge in an ongoing supported and 'simulated' business setting.

This research has multiple theoretical and practical implications for both academics and practitioners. Professionals such as accountants, corporate managers, regulators, policymakers and investors will be benefited from recruiting graduated who posses generic skills. These graduated would be easily mixed with corporate culture and can be part of corporate decision making and problem-solving.

While it is important to avoid over-teaching auditing and accounting principles in university courses at the expense of teaching concepts and developing analytical skills, relevant principles are still fundamental to accounting and auditing education and are a necessary precursor to conceptual studies. Therefore balancing the need to be work-ready and at the same time have a good theoretical grounding has required a new educational strategy that satisfies both requirements.

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STAND UP FOR THE RIGHT TO SIT: THE CASE OF WOMEN WORKERS IN INDIA

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ABSTRACT

Women working in the textile and jewelry showrooms in the Indian state of Kerala have recently won a long-fought battle for their 'Right to sit' in 2018. These women mostly employed as salesgirls in textile and jewelry retailing show-rooms in Kerala had been battling several workplace issues like long working hours, low wages, job insecurity and above all denial of 'right to sit'. This paper discusses their problems and challenges along with the working conditions and absence of unionism in the informal retail sector in India. The discussion is made in the light of existing regulations in India and labour standards of the ILO on the subject of occupational health. It is suggested that existing occupational health related legislation and facilities are expanded and extended to workers in the informal sector in India.

Keywords: Women, workers, trade unions, labour rights, human rights, India, occupational health and safety.

1. INTRODUCTION

Women working in the textile and jewelry showrooms in the Indian state of Kerala have recently won a long-fought battle for their 'Right to sit' in 2018. These women mostly employed as salesgirls in textile and jewelry retailing show-rooms in Kerala had been battling several workplace issues like long working hours, low wages, job insecurity and above all dismissal of 'right to sit'. While they greet the customers with their pleasant smiles they suffer from several health problems such as back pain, swollen feet, and varicose veins. These women have been consistently denied 'right to sit' during working hours. This case of denial of the basic human rights is one among others which the workers in the unorganized sector in India face every day (Eapen, 2001; Chowdhury, 2005; Goyal et al. 2009).

The violation of basic human rights like the 'right to sit' is rampant in the retail industry both in India and other countries apart from it (Neumayer & De Soysa, 2007; Azizul Islam & Jain, 2013). The majority of employees in the retail industry are women with low educational qualifications and skills. In a study conducted in the state of Punjab in India, the researchers have reported similar findings. They

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state that as per the women employees surveyed by them, the major difficulty faced is that they have to keep standing throughout the day and no facility is provided to them to sit in their free time. This causes a lot of fatigue (Goyal et al., 2009). The employers of retail outlets say that they want their employees to keep standing because sitting in front of the customers is 'disrespectful'. Identical cases have been reported in some companies in California. In 2016, the pharmacy chain CVS faced a litigation filed by the cashiers employed by the company (Reuters, 2018). At issue in this case was California Wage Order requirements that an employer provide suitable seating for employees under certain circumstances. The California Supreme Court ruled that suitable seating is required "when the nature of the work reasonable permits the use of seats." In 2017, Bank of America faced a similar legal action filed by the tellers at the Bank, who were required to stand continuously while on their duty. The Bank agreed to settle the seating lawsuit for \$15 million, and allowed suitable seating in all bank branches in California. In 2018, Walmart Inc also agreed to pay \$65 million to nearly 100,000 current and former cashiers in California who accused the retailer of violating state law by refusing to provide them with seating while they worked (Reuters, 2018).

The international agencies like International Labour Organisation (ILO) are striving for 'decent work for all' and United Nations Organization has adopted Sustainable Development Goals (SDGs) for 2030 with the resolve of world leaders "to achieve full and productive employment and decent work for all women and men" (SDG 8). But the reality is that women's prospects in the world of work are far from being equal to men's (ILO, 2018). The women workers of Kerala had to fight for several years for even their basic right at workplace- 'the right to sit'. There is scant literature in the Indian context on problems faced by the women workers in the informal retail sector in India. The objective of this paper is to discuss the problems and challenges for the informal Indian women workers in the background of the unique fight for the 'right to sit' won by them in Kerala. The data and information for the paper has been collected from different sources, mainly secondary sources comprising recent literature, reports of the government and non-government organizations, policy documents, news paper-reports and articles. This paper contributes to the literature on industrial relations and has important implications for industrial relations policy and practice.

2. PARTICIPATION OF WOMEN IN WORKFORCE IN INDIA

The Indian labour market is divided into two sectors- the organized and unorganized. The unorganised or informal sector is often defined negatively as absence of some characteristics which belong to the formal sector like- regularity of work, better

earnings, non-wage benefits, protective legislation and presence of unions (Papola, 1980). The proportion of employment in the organized sector is low compared with that in the unorganized sector. The unorganised sector also has some unique characteristics like seasonality of work, casual labour, contract labour, multiple jobs etc. The majority of workers in the informal sector are women, where wages and working conditions are inferior, largely unsecured and mostly devoid of social security benefits (VenkataRatnam& Jain 2002). Gender norms affect also women's participation in Indian work force. Women comprise 48.3 per cent of the population but have only 31.1 per cent share of those employed. The labour force participation rate of women is low in India and a sizable gender gap persists. Moreover, when women work they tend to end up in marginal jobs. One of the most intense debates in recent years has centered on the declining labour force participation rate of women in India, which dropped from 42.7 per cent in 2004-05 to 31.2 in 2011-12. The latest data from the Labour Bureau indicates a similar participation rate of women in 2013-14 i.e. 31.1 per cent (ILO, 2016). The increasing global competition has led to the growth of non-standard employment in many countries. Non-standard employment may be part-time employment, irregular employment or unorganised employment, as is the case in India (Rubery et al. 1995; O'Reilly and Fagan 1998). This type of employment is often marked by job insecurity, poor working conditions and also low wages. Some researchers have stated that non-standard employment affects women more than men because of the relatively large proportion of women in this form of employment (Rubery et al. 1995; O'Reilly & Fagan 1998). These workers mostly do not have written employment contracts and therefore are not covered within the scope of labour legislations, social security regulations and relevant collective agreements.

It can also be attributed to the continuing educational gap between Indian girls and boys, particularly in tertiary education, which means that women continue to be employed in the lower-skilled and lower-paid jobs compared with men. As Youngs (2000) has pointed out, women enter the market place to meet demands for cheap, docile labour and to fill semi-skilled and low-level tasks in production processes and the expanding service sectors. The women in India are less educated because dowry payments for marriage and the loss of return on human capital investment upon marriage make parents unwilling to invest in their daughters' education and health (Kingdon 2002; Patel &Parmentier 2005). Due to this relatively low level of education attainment of women, they are forced to be employed in jobs with poor remuneration (Kingdon 2002). There is ineffective enforcement of social legislation in India including that for women empowerment (Budhwar, Saini&Bhatnagar, 1999). In a scenario where government, employers and unions have mostly remained indifferent and unconcerned, or reluctant and ineffective in addressing the issues of gender equality, the Indian courts have played an important role in defending women's rights (VenkataRatnam& Jain 2002).

3. RETAIL OUTLETS IN KERALA

India's sound economic growth, rising population and changing lifestyle offer an attractive environment for retailers (Dibb, 1996). Retailing is one of the important industry in India accounting for over 10 per cent of the country's gross domestic product (GDP) and 8 per cent of its employment (Guruswamy et al, 2005). By 2020, retail market in India is projected to reach USD1.3 trillion from USD672 billion in 2016 (IBEF,2018).

The retail outlets in Kerala are covered under the Shops and Commercial Establishments Act, 1960. There are 354,675 registered shops and commercial establishments in Kerala employing 823,976 workers (Annual Report, 2016). The retail outlets in Kerala are famous for their textile and gold jewelry. These textile retail outlets majorly sell sari, which is a traditional draped dress for women created from a single piece of fabric five to nine yards long. Kerala has a variety of traditional saris which are created by several textile and handloom industries across Kerala and its neighboring states. Sari is the oldest known traditional dress worn by the women in India. Indians have tremendous love for gold and Kerala is the gold hub of India. Gold jewelry is mostly purchased on festive occasions and weddings and the buyers spend substantial portion of their savings in purchase of gold.

These textile and jewelry retail shops and establishments employ women as salesgirls, because the buyers in these stores are largely females. In the retail stores women are becoming the preferred choice in most front-end profiles, which require constant interaction with customers. Women employees are also the favoured choice in certain product categories like food and grocery, cosmetics, kids, jewellery, home décor, textile and apparels. Young and smart women with an impressive communication ability are considered better employees as they manage to stay longer in the service industry as compared to men (Goyalet *al.*, 2008). There are plenty of other reasons for the traders to prefer women over men. The most important reason being, that the women workers can be paid less than their male counterparts. According to the Global Wage Report of the International Labour Organization (ILO), India is among the worst in terms of gender wage disparity. Other reasons are cheaper availability of women labour and absence of unions of women workers (Deshpande&Deshapande, 1992). The retail sector is an informal sector and is highly unorganised and thus has high number of females employed.

3.1. 'Right To Sit' And Related Health Hazards

The salesgirls in Kerala textile and jewelry showrooms have to work for 10-12

hours a day and are allowed to sit only during lunch break for half an hour. They are also not allowed to sit even when there are no customers inside the shop. They are thus forced to lean against the walls to get rest. Most of these showrooms have intentionally avoided putting chairs or stools to prevent the employees from sitting. The shop managers keep an eye on them through CCTV cameras, so it is not possible to sit on the floor without getting noticed (Muyarath&Roopak, 2018). Their wages are deducted as a penalty for every time they are found sitting. These women travel long distances in state transport buses from their residences to the workplaces. Most of the times, the buses are crowded and the women end up standing during their journeys. Then they stand for 10-12 hours at the workplace and return home where they have the daily household chores to finish. So they hardly get any time to sit and rest.

The Indian labour laws, specifically the Factories Act, 1948 contains a provision for 'right to sit' under its section 44. It lays down that "In every factory suitable arrangements for sitting shall be provided and maintained for all workers obliged to work in a standing position, in order that they may take advantage of any opportunities for rest which may occur in the course of their work." But the Factories Act is applicable only to the manufacturing units in the organized sector. Thus, the law does not apply to the retail shops of Kerala. The law applicable in this case i.e. Kerala Shops and Commercial Establishments Act, 1960 does not contain any provision for sitting facilities for the workers.

The constant denial of the right to sit has resulted in several serious health issues in these women in their young age. They suffer from swollen legs, back pain, varicose veins, disk prolapsed and other related illness due to standing for prolonged hours. The problem of varicose veins occurs due to prolonged standing at the work (Tuchsen et al, 2000). Prolonged standing is defined as standing for more than 8 hours and can lead to pain of the lower back and feet, pre-term birth and spontaneous abortions in females (McCulloch, 2002). Moreover, they are not allowed to use escalators installed inside the showrooms, which are meant only for the customers. Employees are forced to climb the stairs every time they have to move up or down inside the multi-storied outlets, which leads to fatigue.

The working conditions for women in these retail stores are very poor and strenuous. Most of the stores do not even have toilets for their employees. In some shops the restrooms are restricted for use of only the customers. The women employed in them are also not allowed to go to toilet during rush hours and the managers keep a track of toilet breaks taken by them. They are expected to seek permission from the managers, who are generally men, for every toilet break. Women employees are humiliated and reprimanded for the toilet breaks. As per Kerala Municipality

Building Rules, 1999, every business occupancy shall have sanitation facilities to be provided shall be computed at the rate of not less than 1 person per 4.75 sq. m of carpet area of the building. Urinals should be provided at the rate of 1 for every 50 persons. But after the building plans are approved by the municipal authorities, these spaces meant for construction of toilets are put to some other use by the building owners. In this scenario women have to depend on the public toilets in the market place which are often unhygienic and poorly maintained. Moreover, going to a public toilet would mean a longer break, which the female workers are not allowed to take.

Due to this problem of lack of toilets, women employees refrain themselves from drinking water even during hot and humid summer season. Consequently they develop health issues relating to urinary infections and kidney. The women who drink less water at work have 2.21 fold higher risk of urinary tract infection than the women who drink more water (Nygaard & Linder, 1997). There is an intimate connection between the sanitation environment and the physical and mental wellbeing of women and girls. Women and girls are disproportionately affected by poor sanitation infrastructure, impacting their psychological and physical health (Sahoo et al, 2015). All over the world there is growing recognition of the unique health risks faced by women and girls due to inadequate sanitation, including increased maternal mortality risk (Cheng et al., 2012), uro-genital tract infections (Mudey et al., 2010) and urinary incontinence and chronic constipation (WSSCC, 2006).

3.2 *Other workplace Issues*

There are other serious workplace issues like absence of holidays, low wages and absence of any medical health cover or pension and frequent dismissals. Most of the women employed in the retail stores are not given formal contracts of employment. Hence they are unable to claim any medical or social security benefits from their employers. The minimum wages to be paid to workers in shops and commercial establishments in Kerala are governed by the Minimum Wages Act of 1948. The wages are fixed and revised from time to time by the state government. But the law does not cover the workers in the informal sector. Hence most of the women workers are paid less than the prescribed minimum wages and some of them are employed for meager daily wages. As per the law on minimum wages, workers are also entitled to get overtime wages if they work for more than 8 hours in a day. The salesgirls in the retail stores in Kerala are made to work for more than 10 hours daily without any extra payment. But in a scenario where the workers are not being paid the minimum wages, the payment for overtime is a far-fetched dream.

4. INDIAN LAWS ON WORKERS HEALTH

Labour regulations in India are considered to be among the most restrictive and complex in the world (World Bank, 2006). This discourages the employers from creating jobs with better quality in the formal sector and millions of workers remain employed in the informal or informal sector. At present there are sixteen major laws related to working hours, conditions at work and employment (Saha, 2018). Out of these there are two laws containing the main provisions for legal measures for the protection of health and safety of workers; they are the Factories Act (1948) and the Mines Act (1952). The Factories Act was amended in 1987 and provides for minimum standards on health, safety and welfare of the workers to be followed by the employers in the manufacturing sector. Besides, there are various labour laws, like Trade Union Act 1926, The Minimum Wages Act 1948, Employees State Insurance Act 1948, Industrial Disputes Act 1947, Industrial Disputes Decision Act 1955, Payment of Bonus Act 1955, Workmen's Compensation Act, 1923, Maternity Benefits Act 1961, Contract Labour (Regulation and Abolition) Act 1970, Equal Remuneration Act 1976, etc. However, these labour laws and policies are applicable for workers in the organized sector only.

The Employees' State Insurance Act, 1948 is devised so as to provide social protection to workers in contingencies such as illness, long term sickness or any other health risk due to exposure to employment injury or occupational hazards. The social protection can be in the form of medical benefits, sickness benefits and dependent benefits. The occupational hazards listed out in this act do not include 'prolonged standing' as a hazard to the health of workers.

In India, there are two central government ministries responsible for occupational health- ministry of labour and ministry of health and family welfare. The ministry of labour and the labour departments of the various state governments are mainly responsible for the health and safety of the workers. The Ministry of Labour and Employment, Government of India, approved the national policy on safety, health and environment at workplaces in February 2009. It provides guidelines for developing and maintaining safety culture and environment at workplaces for all stakeholders. But, despite of the presence of extensive labor legislations framework and government labour departments in India, certain workers like salesgirls of Kerala are still left out their ambit.

4.1 *Constitutional Provisions*

The Indian constitution guarantees some fundamental rights to all its citizens. As per Article 21 of the Indian Constitution, it is the primary duty of the state to protect

the right to live with human dignity as fundamental right of each citizen. It is the most fundamental of all rights given to Indian citizens. There are specifically three articles in Indian constitution for ensuring workers' safety and health. Article 24 prohibits employment of children under the age of 14 years. Article 39 states that the health of men, women and children should be protected, and children should be given opportunity and facility for healthy development and should be protected against exploitation. Article 42 states that humane conditions at work and maternity relief should be provided.

According to the Directive Principles of State Policy of the Indian Constitution (Article 39) the state is required to secure for the citizens, both men and women the right to an adequate means of livelihood; equal pay for equal work for both men and women; protection against abuse and exploitation of worker's economic necessity; protection of their health and strength; to secure for children opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and protect children and youth against exploitation and moral and material abandonment. On the basis of these Directive Principles as well as international instruments, it is the duty of the Government to regulate all economic activities for management of safety and health risks at workplaces and to provide measures so as to ensure safe and healthy working conditions for every working man and woman in the nation.

4.2 Labour Rights and Decent Work: International recognition

Labour rights are the rights to which a person is entitled in his role as a worker. While some of these rights are exercised individually, others are exercised collectively. These rights are- right to fair working conditions, right to fair wages, right to safety at workplace, right against exploitation, right to form and participate in trade unions, etc. (Mantouvalou, 2012). Fundamental principles of labour rights and human rights are set out in the ILO's Constitution of 1919 and in the Declaration of Philadelphia of 1944 (appended to the Constitution). In the 1944 Philadelphia Declaration, the ILO proclaimed that "all human beings, irrespective of race, creed or sex, have the right to pursue both their material well-being and their spiritual development in conditions of freedom and dignity, of economic security and equal opportunity". ILO has endorsed several labour rights as human rights. In 1988, ILO adopted the Declaration of Fundamental Principles and Rights at Work. ILO has laid out the decent work agenda for the member states. The concept of decent work stems for the ILO mandate to improve social justice and refers to the need for women and men to be able to obtain decent and productive work, in conditions of freedom, equity, security and human dignity. It covers six dimensions: opportunities

for work, freedom of choice of employment, productive work, equity in work, security at work, and dignity at work. As per ILO (2015), 'Decent work' sums up the aspirations of people in their working lives. It involves opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men.

There has been an increased urgency among international policy-makers, particularly in the wake of the global financial and economic crisis of 2008, to deliver quality jobs along with social protection and respect for rights at work to achieve sustainable, inclusive economic growth, and eliminate poverty. During the UN General Assembly in September 2015, decent work became integral element of the new 2030 Agenda for Sustainable Development. Goal 8 of the 2030 Agenda calls for the promotion of sustained, inclusive and sustainable economic growth, full and productive employment and decent work. According to Reddy (2005), decent work refers to work wider than job or employment including wage employment, self employment and home working and is based on the core enabling labour standards viz, freedom of association, collective bargaining, freedom from discrimination and child labour. The goal of decent work is based on sound ethical principles of ILO. The main goal of decent work is to promote opportunities for women and men to obtain decent and productive work in conditions of freedom, equity, security, and human dignity.

But listing out the rights of labour by the ILO and other international agencies does not ensure decent work conditions to all. In the case of women workers in Kerala, there has been a consistent violation of basic human rights as well as labour rights. Many aspects of their working conditions clearly violate the workers' own sense of justice (Kabeer 2004). Interestingly, however, many of the main grievances relate not to wages, but to other factors that can only be understood from a gender perspective. These include harassment, lack of respect from supervisors, difficulty arranging childcare (especially in cases of mandatory overtime) and health concerns such as restrictions on the number of toilet breaks allowed during the working day (Kabeer 2004). The harrowing working conditions in which these women are employed are in clear infringement of their right to work with human dignity.

5. PARTICIPATION OF WOMEN IN TRADE UNIONS

Although India has a history of more than 100 years of trade unionism, yet less than 8 per cent of the 380 million workforce in India are unionized and women

account for a very small fraction of trade union membership (Venkataratnam& Jain, 2002). India has adopted multiple union system and multiple trade union federations. At present there are ten major federations of trade unions in India. All trade unions in India are male-dominated. The low proportion of women activists in union leadership positions has been attributed as one of the main reasons for the ineffective representation of women issues in India (VenkataRatnam& Jain 2002). All major unions in India have established a women's wing, which deals with gender issues'. Women make up only a very small fraction of union membership, with varying membership levels across occupations and industrial sectors. Female members of the unions do not participate actively in union activities because gender stereotypes, religion, taboos and cultural inhibitions make it difficult for women to break into male environments. Family responsibilities and the masculine union structures and operating style that are unfriendly and even hostile to women add further barriers (VenkataRatnam& Jain 2002). Trade unions largely operate in the formal sector and are disinterested in organizing and representing workers in unorganized employment, despite the latter's desire to be organized and represented.

As per the Annual Report on the working of Minimum Wages Act (2016) there are more than twelve thousand trade unions registered in Kerala. But neither these unions operating in state of Kerala nor the central trade unions could do anything worthwhile to solve the problems of the saleswomen. The women workers also feared that in case they join a trade union, they will be thrown out of their jobs, citing various random reasons. This is another major reason for female workers being a preferred choice of the employers of retails shops in Kerala. The male dominated trade unions in Kerala had not made any effort to organize women retail workers from the textile sector.

Consequently, the women workers started protesting on their own. Several protests and strikes were taking place in Kerala against the employers in the textile retail sector. Ultimately, the women workers of Kerala registered their first Trade Union in 2016 with the name of AsangatithaMeghalaThozhilali Union (AMTU), for voicing the issues of unorganised workers (Muyarath, 2016). The Union was supported by a women association Penkoottu and SEWA, the Self-Employed Women's Association. SEWA is one of the few trade unions in India for workers in the informal economy (Roychowdhury, 2005). It has almost a quarter of a million women members, and it focuses on eradicating poverty through women's collective strength and bargaining power; access to savings, credit and insurance, capacity building through education and social security based on women's roles as workers, mothers and caregivers (Barrientos&Kabbeer, 2004). An organization such as SEWA understands the needs of women workers better than many traditional trade unions, which tend to reproduce the norms and behaviour that treat women as a

subordinate category and marginalize their needs and priorities as women (Kabeer, 2004). The focus of these organizations is on broad objectives of empowerment, development and fighting for their rights (Bhat, 1997).

AMTU is a women-led trade union. While many men who belong to the informal sector are members, the leadership positions are held only by women. The first application for registration of AMTU was made in 2013, while it finally got registered in 2016. AMTU originated from Penikoottu, which was a woman collective working for women workers in informal sector. Members of AMTU include male and female workers of retail shops, petrol pumps and supply stores etc. AMTU has taken up several struggles of the informal workers including right to sit and toilet facilities.

6. RIGHT TO SIT-THE SUCCESS

AMTU supported several strikes by the saleswomen for their right to sit and for toilet facilities. The biggest such strike was called on the International Women's Day in 2014. Though it attracted attention of the media towards the problems of the saleswomen but they were not given any solution by the patriarchal trade unions or the government. AMTU also garnered support to this struggle by making petition to Kerala State Human Rights Commission and the National Human Rights Commission. Finally these women won their right to sit in July 2018 when the Kerala cabinet cleared an amendment to the Kerala Shops and Establishments Act to ensure that the employees are provided with seating facilities for sales-staff. The Kerala Shops and Commercial Establishments (Amendment) Act 2018 has inserted a new section 21B which provides for seating facilities and states that "In every shop and establishment suitable arrangements for sitting shall be provided for all employees so as to avoid 'on their toes' situation throughout the duty time, so that they may take advantage of any opportunity to sit which may occur in the course of their work." The amendment also allowed employment of women employees to work in the night shifts in shops and establishments. It will help the women who want to work during night. It makes a provision for employment of women in groups of five during night and provides for transportation facilities for them. The saleswomen have welcomed the amendment and are hopeful that it will change the attitude of the employers towards them.

7. MANAGERIAL AND POLICY IMPLICATIONS

The formation of the women unions like AMTU and SEWA is reflective of the new wave of labour activism. Emergence of unionism in the informal sector has significant implications for industrial relations. While there is a need for the existing

trade unions to support and promote women as leaders within their organizations, there is also a need for greater labour activism among the women workers. New unions can be instrumental in organizing the workers in the informal sector. Though there are national legislations and ILO guidelines on labour rights, the women-related issues often remain neglected. The policy makers are required to revisit the labour legislations for a more focused drive on workplace issues related to women in the informal sector. It is very important that existing occupational health related legislation and facilities are expanded and extended to workers in the informal sector with immediate implementation and periodic review for improvement. Also there is greater need to understand that social justice and economic growth cannot be achieved without safe and healthy working environment being recognized as a fundamental human right.

8. CONCLUSION

The battle waged by the saleswomen of Kerala highlights two significant aspects—first, the inhuman working conditions of the retail sector employees throughout the country and second, the need for women to form workers’ unions in the informal sector, without any affiliation to the political parties or to the other male-dominated unions. This development has forced the main-stream trade unions in the organized sector to pay attention to the informal workers as well. But there is a need for the other state governments in India to follow the suit to amend the regulations for the informal works employed in their states.

India is a densely populated nation with a high unemployment level, due to which there is ready availability of labour at lower wages. In such situations, health and safety at the workplace is often compromised. There is indifference and apathy of employers, employees, the general public and other stakeholders to occupational health issues. Also in India a very large proportion of the workforce is in the informal sector (more than 90% vs. less than 10% in the organized sector). The occupational health management system, implementation and beneficiaries are limited largely to the organized sector. Moreover, there is no dearth of labour legislations in India but the constraint lies in their ineffective implementation. Hence, in such an environment, there may be no other choice than to fight such micro battles to improve working conditions for women in the informal sector.

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SHORT BIO

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EFFECT OF HUMAN RESOURCE INVESTMENT ON THE FINANCIAL PERFORMANCE OF PUBLICLY LISTED BANKS IN BANGLADESH

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ABSTRACT

Human Resource (HR) Accounting is a well-known concept, as indicated in several past studies, which demonstrates the study of investments made on different HR components and attempts to make sense of those expenses in the age of evidence-based management. In this study, we have tried to identify and establish a relationship between Human Resource investment and the company's financial performance. The study focuses on the impact of Human Resource investment on the financial performance of banks in Bangladesh. This research is carried out using secondary data from the financial statements of listed banks under the Dhaka Stock Exchange (DSE). Financial information of all thirty publicly listed banks under the Dhaka Stock Exchange (DSE) are collected for a period of five years from 2013 to 2017. For this study, we use HR expense as a measure of the human resource investment and analyze the relationship between HR expense and bank's financial performance. It has been carried out by taking into account a variety of industry factors and bank-specific variables. Regression analysis is used to test the hypothesis developed for the study. Results indicate a positive relationship between Human resource investment and the bank's financial performance.

Keywords: Human Resource Investment, Human Capital, Financial Performance, Human Resource Accounting, Publicly Listed Banks, Bangladesh, Human Resource Management, ROE, ROA, Profit Margin.

1. INTRODUCTION

The early 1980s instigated the idea of employees being significant sources of revenues and profits rather than the practice of viewing them as costs (Liu, Combs, Ketchen & Ireland, 2007). Many theorists and practitioners also believe that individual employee performance has implications for the firm-level outcomes,

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which collectively have the potential to become a source of competitive advantage that is unique (Huselid, 1995). Therefore, there has been a shift in the trend toward a Human Capital intensive economy as a growing number of organizations are adopting the belief that organizational success lies in intellectual capabilities rather than its physical assets (Flamholtz, 2012). The idea that signifies the Human Resources of an organization as assets also calls for adopting the practice of Human Resource Accounting (HRA) by reputed organization.

Human Resource Accounting (HRA) has been regarded as a significant management tool (Flamholtz, Bullen & Hua, 2002) that helps to enhance management decision-making by quantifying the cost of recruiting, hiring, compensating, and training employees. The role of HRA is not only to provide numerical information to aid managerial decisions, but also to monitor and quantify the costs and value of people in human resources perspective (Flamholtz, Bullen&Hua, 2002). Thus, the growing importance of HRA has been reflected in many organizations' management report around the world, including some developing countries like Bangladesh.

In the current literature there have been several studies examining the significance of a firm's Human Resources Management (HRM) practices over its corporate performance. Huselid (1995) evaluates the relationship between High Performance Work Practice and corporate performance. The paper shows that High Performance Work Practice has significant impact on employee performance and firm's financial outcomes. Berk & Kaše (2010) finds that organizations that spend significant amount of money on training and developments usually perform better than their competitors, who spend lesser or none at all. As per Becker & Gerhart (1996) Human Resource decision influence organizational performance by either improved organizational efficiency or increased corporate revenue. In another paper, Fitz-enz (1997) finds that a firm loses approximately \$1 million with every ten managerial and professional employees leaving the organization.

However, very limited empirical evidence exists in the context of Bangladesh. Most of the papers on Human Resource Management in Bangladesh study the importance of human resource practice and its theoretical aspects. Siddiquee (2003) assesses the existing limitations and future challenges of human resource management in Bangladesh civil service. The paper finds that there is a lack of human resource planning and structure in Bangladesh civil service, which in turn affect the quality and performance of civil service. Absar (2010) , in a study on the impact of Human resource practice on job satisfaction in manufacturing companies in Bangladesh, finds that human resource planning, development and training have positive effect on job satisfaction. In another paper Majumder (2012) finds that employees

in the private banking sector in Bangladesh are not satisfied with compensation package, career growth, training and development, management style, job design responsibilities. However, no study has assessed the effect of human resource investment on financial performance of firms in Bangladesh.

This study aims to fill up the above mentioned gap and add some more evidence that HR investment leads to increased financial performance, in the fields of human resource accounting especially in context of Bangladesh. The objective of this paper is to examine the impact of Human Resource investment on the financial performance of banks in Bangladesh. In our study we use multivariate regression analysis on panel data of 30 listed banks in Bangladesh over a period 5 years (2013 to 2017). As a proxy of human resource investment we use HR expense which includes both compensation and training. As independent variables we use Return on Equity (ROE), Return on Asset (ROA), and Profit Margin as indicators for financial performance. Results show that human resource investment has a significant positive impact on banks' ROA. Profit Margin and ROE also show positive relationship with HR investment. However, a strong significant relationship has not been found.

Thus this paper contributes as a new addition of how to determine the impact of human resource investment on firm's financial performance from Bangladesh context. Bangladesh is a developing country with growing economy. Because of its high population, the country has an abundance of human capital compared to other resources. An efficient and effective HRM practices could be a driving force for Bangladesh's economic development (Absar, 2014). Findings of this study will provide an insight about the level of human capital investment by banks in Bangladesh and its impacts on the financial performance. This paper will also be an addition to HR accounting from emerging economy perspective.

The paper is structured as follows: the next section reviews the literature on HR Investment and its impact on financial performance. Then we move to research methodology describing dependent and independent variables along with the research design. The next section offers detail discussion on data analysis and findings. Finally we have the discussion section, analyzing the results in the light of past literature, followed by the conclusion and future research section.

2. LITERATURE REVIEW

As Beer, Spector, Lawrence, Mills, & Walton (1984) explains it, the idea of considering people as a significant driver in terms of achieving competitive edge over others in the industry and thus considering Human Resource functions as a critical decision

making tool is a relatively new idea in the history of management studies. However, starting from the early 70s and until today, we see detailed research by prominent authors establish a correlation between HR investment and organizational performance (Huselid, 1995). Chowhan (2016) emphasizes the importance of understanding the relationship between HR practice, strategy, and organizational performance is an essential factor worth researching as it could be a black box worth venturing onto.

Human Resource Investment (HRI)

Previous research suggests that when employers consider employees as a source of competitive advantage and in turn invest in developing their knowledge, skills, and abilities, then the skilled, motivated more engaged workforce returns the favor by being as contributing towards their company as they can and help increase firm performance (Huselid, 1995; Takeuchi, Lepak, Wang, & Takeuchi, 2007). From an organizational perspective, in return for the investment in their employees, firms expect employees to have high levels of commitment toward the employer. In many cases, these investments take the form of training, higher compensation, and better working environments (Lado & Wilson, 1994; Lee & Miller, 1999; Combs, Liu, Hall & Ketchen, 2006).

HR Accounting (HRA)

HR Accounting (HRA) is not a new idea; however, as it indicates the subject hasn't always been an idea that is well researched and accepted. According to American Accounting Association (1973), HRA is the process of accumulating and analyzing HR investment data and then providing it to parties who will make sense of the data; it is equally useful in both managerial and financial accounting terms. The idea is to measure the human value of employees added by investing in different Human Resource components (Toulson & Dewe, 2004).

HRA, in today's world, has three different applications. As Flamholtz (1999) explains in his research the first is to provide organizations with the cost and value of HR, the second is to provide a tool to help managers make evidence-based decisions relating to HR components, and the third is to convince management to consider different financial and non-financial HR metrics as an integral component of organizational decision making.

Relationship between HRI and HRA

Human Resources Investment can be related to the Human Capital Theory - a concept introduced in 1960 by Theodore Schultz. Studies in support of this idea

indicate that Human Resource Management practices represent an investment in human capital (Flamholtz & Lacey, 1981)

Though initially developed to study the economic value of education by Schultz (1960), the idea of Human Capital has influenced the numerous previous studies including Huselid's (1995) to emphasize on the significance of a firm's Human Resources Management (HRM) practices over its financial performance. Furthermore, the concept of Human Capital identifies that people possess the skill, experience, and knowledge that have economic value to the firm (Snell & Dean, 1992).

Moreover, to make sense of why employers make investments in different HR functions such as compensation, benefit, and training while they could keep paying what they already pay, we looked into efficiency wage theory. As they emphasize that, paying a higher wage is a factor that reduced turnover and gradually increases employee efficiency. Chua, Lim, Ter & Chew (2014) and Katz (1986) also mention that a comprehensive approach towards HR investment for their similar study would include salary, provident fund, fringe benefits such as medical, transportation, etc. which is precisely what we intend to do for this study. Also, if we consider employee salary and other benefits as the hygiene factors in light of Herzberg's widely applied Two-Factor Theory (Herzberg, 1971), the absence of these can form dissatisfaction. The same theory suggests, other HRM practices, e.g. employee training, providing better pay, and making employees feel secure can be several ways to keep the employees satisfied, which may otherwise result into high turnover among employees and lamentable financial burden (Gursoy & Swanger, 2007; Koys, 2003; Schneider, 1991). According to Cavanaugh & Noe (1999) and Kluytmans & Ott (1999), this happens because a nonverbal psychological contract between the employee and employer takes place when employers spend on training and developing employees. As employees receive the resources they need, they are expected to remain internally employable, and thus a skilled employee will always result in being more productive (Colakoglu, Allen, Miah & Bird, 2016).

Following the same trail, researchers have also argued that firms that spend significantly on training and developments usually outperform their competitors who have less or no investment in training and development at all (Berk & Kaše, 2010). Fitz-enz (1997) found that a company loses approximately an average of \$1 million with every ten managerial and professional employees leaving the organization. The finding undoubtedly provides evidence in favor of our work that human resources practices and measures have a compelling effect on a firm's financial indicators. There has been enormous evidence from past literature indicating that the investments in employee training and development are substantial in terms of the organization's financial measures (Bernhardt, Donthu & Kennett, 2000). As

reported by Bartel (1994), organizations that maintained a formal training program from 1981 to 1986 showed at least a twenty percent increase in productivity.

In support of the opinions mentioned above, Becker & Gerhart (1996) justified Human Resource decision is thought to influence organizational performance by either improved organizational efficiency or increased corporate revenue. Moreover, as per other studies, HRM practices enhances a range of organizational performance indicator including Profit Margin (Kalleberg & Moody, 1994) and Return on Assets and Return on Equity (Delery & Doty, 1996).

However, we have also encountered a few authors whose research conclusion deviated slightly from readily agreeing to a significant relationship between HR expense and firm performance. For instance, Pfeffer (1997) acknowledge that there is a relationship between HR expenses and organizational performance cautions that if all HR becomes is to rely on numbers solely, then what remains the difference between HR and Finance (Toulson & Dewe, 2004).

On the other hand, Kwon (2019) and Vithana, Jayasekera, Choudhury & Baruch (2018), explains in their work that although there remains a significant relationship between HCI and organizational performance, it is not immediate, and it takes time for that effect of taking place and becoming visible, thus proposing that the relationship is long term rather than short term. Debates are surrounding the idea that whether compensation is directly related to corporate performance or whether it has to be performance-based compensation that focuses on compensating individual employees who are drivers of organizational performance (Nourayi & Daroca, 2008).

How to Calculate HR Expense

Although there are different approaches to calculating HR expense or HCI of an organization, among all the relevant research, a few variables remained common proposed by all researchers. For instance, Flamholtz (1981) suggested we measure HCI based on two significant expenses. One, acquisition cost and the other is learning cost. Another widespread strategy has been to analyze the change in the market of the company and return on HCI. Since the measurement process varies depending on the situation and none of the methods covers all concerns, Mubarik, Chandran&Devadason (2017) proposed developing a unique approach that incorporates both qualitative and quantitative aspects of HCI.

Most of the authors and researchers in this field focused on three components of Human Resource functions as direct investment in their employees; those are salary

or compensation, cost of training and developing employees giving employees their job security (Roca-Puig, Beltrán-Martín, & Segarra-Ciprés, 2012).

How to Calculate Financial Performance

Prior studies have shown that HRM is integral to firms' strategic activities and contributes to firms' profitability rather than just an operational cost (Delery & Doty, 1996; Huselid, 1995). Numerous past works have been done on the measurement of a firm's profitability. Many researchers used accounting measures as indicators of financial performance (Richard & Johnson 2001; Shrader, Blackburn & Iles 1997; De Meuse, Vanderheiden & Bergmann, 1994). Most commonly used accounting measures are Profit Margin (net income by net sales), Return on Asset (net income divided by average total assets), Return on Investment (net income divided by invested capital) and Return on Equity (net income divided by common stockholders' equity). These ratios represent a firm's earnings and indicate the overall profitability of the firm (Shrader et al., 1997).

On the other hand, some researchers prefer economic measures over accounting measures (Hueslid, 1995; Hirsch, 1991). Economic profit gives the market value measures of profitability, which is mostly measured by Tobin's q (Hirsch, 1991). Tobin's q is calculated by using the market value of the shares and dividing it by the replacement cost of its assets. While accounting measures gives a historical perspective, economic measures give the market perception of both future and current profitability. It is also unaffected by choices of accounting methods, depreciation and other noncash activities and measurement error. However, accounting measures contains additional relevant information that is not given by economic profits (Hirschey & Wichern, 1984). Moreover, market-based measures are mostly related to systematic market trends among all firms, whereas accounting measures depict unsystematic attributes of firms (McGuire, Sundgren, & Schneeweis, 1988).

As stated by Hirschey & Wichern (1984), both accounting and market data give unique measures of profitability. There are researches which use both measures for profitability. Huselid (1995) used both accounting measure and economic measure to capture profitability. For economic measure Tobn's q was used, and for accounting measure, Huselid (1995) used gross rate of Return on Asset, which is calculated by dividing cash flow by gross capital stock. This measure is less affected by depreciation and other non-cash transactions, unlike traditional accounting measures.

Hopkins & Hopkins (1997) used three measures to depict the unique picture of a bank's financial situation: Net Income, Return on Equity, and Deposit Growth. Net

Income was used because it was the most commonly used measure to indicate financial performance. Return on Equity is perceived as the ultimate measure of the strength of any financial institution and is considered as the preferred indicator of a bank's financial performance (Hopkins & Hopkins, 1997). Deposit Growth is exclusive to banking and related financial service industries and is measured by the percentage change in consumer demand deposit. Following Hopkins & Hopkins (1997), Richard & Johnson (2001) used ROE as a measure of financial performance for banks. In general, the appropriate measure will change with the level of analysis, and it will depend on the particular context or research setting (Becker & Gerhart, 1996).

3. RESEARCH METHODOLOGY

We wanted to ascertain whether or not there exists a significant relationship between Human Capital Investment and firm financial performance. In pursuit of that, we came across many different methods of establishing and testing this relationship.

Research Design

We are aiming for secondary quantitative research based on already available published data. We decided to include all the thirty different banks enlisted in the Dhaka Stock Exchange (DSE) to be our sample for the study. The reason for choosing listed banks in DSE is the uniformity of reporting standards and availability of data we seek for the study. For this purpose, we collected financial data of these thirty banks from their audited annual report from the year 2013 to 2017.

Measures

We used SPSS to run different analysis on the data to see the possible relationship among the different variables on concern, analysis like multivariate regression on panel data was run for the mentioned purpose. Our hypothesis based on our agenda of this research is;

Hypothesis H: HR cost per employee has a significant relationship with firms' financial performance.

For ease of research, we break it down further into three different hypotheses

H1: HR cost per employee has a significant relationship with Profit Margin of a firm.

H2: HR cost per employee has a significant relationship with ROA of a firm.

H3: HR cost per employee has a significant relationship with ROE of a firm.

Dependent variable

Dependent variables for this study is profit margin, ROA, ROE. Similar to the work of Clarke & Whiting (2011), we calculated Profit Margin by dividing the net profit after tax with total operating income. For ROA, we calculated this by dividing net profit after tax by average asset. Similarly, we calculated ROE by dividing net profit after tax by average shareholders' equity. Chan (2009) and Firer & Mitchell (2003) also used ROA, ROE, and Profit Margin as an indicator of firm financial performance for their research.

Independent variable

Independent variable for this research is HR cost which is HR expense or HR cost per employee. We calculated total HR cost by adding HR expense of a firm which includes Basic Salary, Allowance, Bonus, Gratuity, Provident fund, benefit with the training expense of an organization. We converted this cost per employee by dividing the total cost by the number of employees of the organization.

Control Factor

Control Factor for the research was included to increase the credibility of the outcome of regression analysis. As Huselid (1995), we added the following control factors:

- Size of the firm: Total employment
- Total Asset
- Revenue Growth
- Capital Intensity: Log of (Property, Plant and Equipment divided by the number of employees)

4. DATA ANALYSIS AND FINDINGS

For our analysis, we used five years of data from all the 30 banks listed under the Dhaka Stock Exchange in Bangladesh. Table 1 and Table 2 present some descriptive statistics. In Table 1, the means and standard deviations of all the measures are given. HR cost per employee has a mean of 0.9, which means that the mean investment in HR in our sample is BDT 0.9 million per employee per year. The

mean ROA is 0.86%, ROE is 11.7% and Profit Margin is 12.10%. Table 2 presents the correlations between the financial measures and HR cost per employee along with the control variables. It can be seen that all three financial measures, ROA, ROE, and Profit Margin, are positively and significantly related to HR cost per employee. For ROA $r = 0.324$, $p < 0.01$, for Profit Margin $r = 0.246$, $p < 0.01$, and for ROE $r = 0.193$, $p < 0.05$.

Table 1

Descriptive Statistics

	Mean	Std. Deviation	N
ROA	.86	.698	150
ProfitMargin	12.10	50.085	150
ROE	11.70	4.729	150
Revenuegrowth	9.50	16.950	150
Firmsize	3245.5800	2488.61591	150
Capitalintensity	.0844	.30522	150
Hrcost	.8978	.29574	150
TotalAsset	224408.2000	121048.18446	150

Table 2

Correlations						
		Revenue-growth	Firmsize	Capitalintensity	Hrcost	TotalAsset
ROA	Pearson Correlation	.457**	0.07	.351**	.320**	0.13
	Sig. (2-tailed)	0.00	0.39	0.00	0.00	0.12
	N	150	150	150	150	150
ProfitMargin	Pearson Correlation	.443**	0.12	.417**	.246**	.220**
	Sig. (2-tailed)	0.00	0.14	0.00	0.00	0.01
	N	150	150	150	150	150

ROE	Pearson Correlation	.364**	-0.09	-0.05	.193*	-0.12
	Sig. (2-tailed)	0.00	0.30	0.54	0.02	0.16
	N	150	150	150	150	150
** . Correlation is significant at the 0.01 level (2-tailed).						
* . Correlation is significant at the 0.05 level (2-tailed).						

To test our hypothesis we ran linear regression of panel data in SPSS. We used three models to test our three hypotheses. In the first model, Profit Margin was used as a dependent variable, and HR cost per employee along with the control variables (revenue growth, firm size, capital intensity, and total asset) was used as independent variables. In Model 2 dependent variable was changed to ROA, and in model 3, the dependent variable was changed to ROE. These models were run in two stages. In the first stage, we used the data of all thirty banks to analyze the relationship between dependent and independent variables. In the second stage, we eliminated the government-owned banks to observe the results only in privately owned banks.

Stage 1

Five years of data of all 30 banks were used in stage 1, which gave a total of 150 observations. Table 3 and Table 4 present the regression analysis summary for the three models in stage 1.

Model 1 is used to test hypothesis H1, which states that HR cost per employee has a significant relationship with the Profit Margin of a firm. The regression model has a R square of 0.371 and is statistically significant ($F = 17.022, p < 0.01$). This means that 37.1 % of the variance in profit margin is explained by the model’s input. HR cost per employee has a positive coefficient ($\beta = 33.749$) and is statistically significant ($p < 0.05$).

Model 2 is used to test hypothesis H2, which states that HR cost per employee has a significant relationship with ROA of a firm. The regression model has a R square of 0.399 and also is statistically significant ($F = 19.158, p < 0.01$). This means that 39.9 % of the variance in ROA is explained by the model’s input. HR cost per employee has a positive coefficient ($\beta = 0.948$) and is statistically significant ($p < 0.01$).

Model 3 is used to test hypothesis H3, which states that HR cost per employee has a significant relationship with ROE of a firm. The regression model has a R square of 0.251 with $F = 19.158, p < 0.01$. Although statistically significant, the model portrays a weaker relationship between the dependent and independent variable

compared to the other two dependent variables. In this model, only 25.1 % of the variance ROE is explained by the model's input. HR cost per employee has a positive coefficient (beta = 6.427) and is statistically significant ($p < 0.01$).

Table 3

Model Summary	ANOVA					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.609 ^a	0.371	0.35	40.39	17.02	0.000
a. Predictors: (Constant), TotalAsset, Hrcost, Revenuegrowth, Capitalintensity, Firmsize						
Dependent Variable: ProfitMargin _a						
2	.632 ^a	0.399	0.379	0.55	19.16	0.000
a. Predictors: (Constant), TotalAsset, Hrcost, Revenuegrowth, Capitalintensity, Firmsize						
Dependent Variable: ROA _a						
3	.501 ^a	0.251	0.225	4.162	9.67	0.000
a. Predictors: (Constant), TotalAsset, Hrcost, Revenuegrowth, Capitalintensity, Firmsize						
Dependent Variable: ROE _a						

Table 4

Model Summary	Coefficients ^a				
Model	Unstandardized Coefficients		Standardized Coefficients		
1	B	Std. Error	Beta	t	Sig.
(Constant)	-38.634	14.389		-2.685	0.008
Hrcost	33.749	15.175	0.199	2.224	0.028
Revenue-growth	1.147	0.198	0.388	5.787	0.000
Firmsize	0.009	0.003	0.431	2.739	0.007

Capitalinten- sity	60.660	13.199	0.370	4.596	0.000
TotalAsset	0.000	0.000	-0.256	-1.691	0.093
a. Dependent Variable: ProfitMargin					
2					
(Constant)	-0.123	0.196		-0.630	0.530
Hrcost	0.948	0.207	0.402	4.589	0.000
Revenue- growth	0.017	0.003	0.423	6.451	0.000
Firmsize	0.000	0.000	0.661	4.293	0.000
Capitalinten- sity	0.648	0.180	0.284	3.607	0.000
TotalAsset	0.000	0.000	-0.531	-3.589	0.000
a. Dependent Variable: ROA					
3					
(Constant)	6.794	1.483		4.582	0.000
Hrcost	6.427	1.564	0.402	4.110	0.000
Revenue- growth	0.111	0.020	0.399	5.443	0.000
Firmsize	0.001	0.000	0.410	2.384	0.018
Capitalinten- sity	-2.432	1.360	-0.157	-1.788	0.076
TotalAsset	0.000	0.000	-0.484	-2.927	0.004
a. Dependent Variable: ROE					

Stage 2

In stage 2, we only used the privately owned banks listed in the Dhaka stock exchange. Out of the 30 banks, 29 banks are privately owned. So we eliminated the data of one government-owned bank from our data pool. A total of 145 observations were used for our study in this stage. Linear regression was run on the panel data of 29 banks in SPSS. Table 5 and Table 6 present the regression analysis summary for the three models in stage 2.

In Model 1, R square has increased to 0.428 with $F = 20.807$ ($p < 0.01$) indicating that in private banks, the variance in Profit Margin is better explained by the input variables. However, in this stage, the HR cost per employee has become insig-

nificant in this model ($p > 0.05$). Therefore, although the model has become more statistically significant, the association between HR cost per employee and Profit Margin has become insignificant.

In Model 2 R square has increased to 0.495 with $F = 27.273$ ($p < 0.01$). The variance in ROA of private banks is also better explained by the input variables. Here the HR cost per employee remains statistically significant ($\beta = 0.68$, $p < 0.01$). Therefore, it can be said that there is a significant positive association between HR cost per employee and ROA in private banks listed in DSE.

In Model 3 R square has slightly increased to 0.291 with $F = 11.835$ ($p < 0.01$). HR cost per employee has a positive coefficient ($\beta = 4.062$) and is statistically significant ($p < 0.01$). This model still portrays a weaker relationship between the dependent variable and the independent variable.

Table 5: Model Summary

					ANOVA	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.654 ^a	0.428	0.407	39.151	20.807	.000
a. Predictors: (Constant), TotalAsset, Hrcost, Revenuegrowth, Capitalintensity, Firmsize						
Dependent Variable: ProfitMargin _a						
2	.704 ^a	0.495	0.477	0.500	27.273	.000
a. Predictors: (Constant), TotalAsset, Hrcost, Revenuegrowth, Capitalintensity, Firmsize						
Dependent Variable: ROA _a						
3	.539 ^a	0.291	0.265	3.589	11.385	.000
a. Predictors: (Constant), TotalAsset, Hrcost, Revenuegrowth, Capitalintensity, Firmsize						
Dependent Variable: ROE _a						

Table 6

Coefficients						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations
	B	Std. Error	Beta			Zero-order
1						
(Constant)	-33.070	14.589		-2.267	0.025	
Hrcost	23.493	15.406	0.134	1.525	0.130	0.248
Revenuegrowth	1.431	0.213	0.436	6.722	0.000	0.493
Firmsize	0.008	0.003	0.408	2.684	0.008	0.131
Capitalintensity	67.916	13.594	0.408	4.996	0.000	0.433
TotalAsset	0.000	0.000	-0.220	-1.501	0.136	0.229
Dependent Variable: ProfitMargin _a						
2						
(Constant)	0.063	0.186		0.338	0.736	
Hrcost	0.680	0.197	0.285	3.456	0.001	0.291
Revenuegrowth	0.022	0.003	0.488	8.010	0.000	0.537
Firmsize	0.000	0.000	0.672	4.707	0.000	0.113
Capitalintensity	0.876	0.174	0.387	5.046	0.000	0.408
TotalAsset	0.000	0.000	-0.514	-3.729	0.000	0.162
Dependent Variable: ROA _a						
3						
(Constant)	8.625	1.338		6.448	0.000	
Hrcost	4.062	1.412	0.281	2.876	0.005	0.122
Revenuegrowth	0.130	0.020	0.480	6.647	0.000	0.470
Firmsize	0.001	0.000	0.498	2.946	0.004	-0.010
Capitalintensity	-0.119	1.246	-0.009	-0.095	0.924	0.035
TotalAsset	0.000	0.000	-0.533	-3.266	0.001	-0.067
Dependent Variable: ROE _a						

5. DISCUSSION

With growing importance in Human Resource Accounting, the purpose of this study was to examine the effect of Human Resource Investment on firms' financial performance. The focus of this study was on the banking industry in Bangladesh, specifically the publicly listed ones, where we wanted to see whether investing more in Human Capital provides a higher accounting returns. For a sample of 30 listed banks in Bangladesh, our result in general support the argument that banks with higher investment in Human Resources experience higher financial return. However, depending on the performance measure, some measures portrays a stronger association, whereas others could not establish a significant one.

Return on Asset (ROA), seemed to be the better predictors of Human Resource Investment than other two measures. Both correlation and regression analysis suggested that return on asset has a statistically significant positive relationship with HR cost per employee. The results from stage 1 analysis, where all 30 banks were considered, showed that 37.9 % of the variance in ROA was explained by HR cost per employee along with the control variables suggesting that an increase in investment in human capital would very likely contribute to an increase in ROA. This finding supports past research which says that when an employer considers employees as value creating source and invest more in human capital, employees become more motivated and contribute more towards the company and help increase Company's financial performance. (Takeuchi, Lepak, Wang, & Takeuchi, 2007; Huselid, 1995). The association was more established in stage 2 when only private banks in the sample were used for analysis. There was only one government-owned bank listed in Dhaka stock exchange, removing the data of which resulted into obtaining a much better result; R square increased to 0.495 with $F = 27.273$ ($p < 0.01$), indicating that the effect of human resource investment on ROA is more significant in private banks.

Profit Margin also showed a positive association with HR cost per employee in stage 1 with R square of 0.371 and $F = 17.022$ ($p < 0.01$). However, in stage 2, the significance of the association could not be established. For ROE, the analysis suggested a weaker relationship between the dependent and independent variable compared to the other two dependent variables. However, the beta of HR cost per employee was positive and statistically significant.

6. CONCLUSION AND FUTURE RESEARCH

Human Resource Investment is being increasingly acknowledged as a significant strategic asset which the firms can utilize as an important competitive advantage for

improving their financial performance. Our study also provides empirical evidence that with firms' increased investment on human resources, superior financial results can be achieved which challenges the traditional management approaches to consider employees as problems or costs. Therefore, this study holds several managerial implications emphasizing critically on the fact that money spent on people in the form of their salary, other benefits, and training should be viewed as significant investments rather than mere operational cost of doing business. Paying competitive salary can boost employee morale and help in employee retention. In addition, increasing investment on training can help employees to acquire new skills and gain knowledge. However, as this study was focused solely on accounting perspective, there is scope for future research to accommodate economic measure and behavioral aspect as well. Considering those aspects could have yielded more in-depth results. Likewise, this relationship can also be explored in different companies in different industries.

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IMPACT OF INDIAN DRAMA SERIALS ON BANGLADESHI CONSUMERS' PURCHASE INTENTION AND BEHAVIOR FOR INDIAN FASHION PRODUCTS

Israt Jahan Linda¹, Quadrat-E-Elahi Asif¹

ABSTRACT

Satellite television channels have been a major source of entertainment globally for the audience for decades now and the drama serials shown on these channels have played a significant role in connecting consumers from different parts of the world and create purchase intention for consuming products and services from other cultures through the process of acculturation. Researches indicate that global consumers nowadays are becoming increasingly culturally heterogeneous. While there have been many researches on the various agents of cultural change, a little has been covered on the role of drama serials in affecting the purchase intention by consumers. This study goes through a self-administered survey in Dhaka, Bangladesh to collect data from a sample size of 250 respondents using the concept of Theory of Planned behavior regarding how the exposure to Indian drama serials impact their purchase intention for fashion products. The findings from this research add value to the existing knowledge about the significance of television drama serials as a driver of acculturation process and consumption choice and how the marketers can use this information to come up with better marketing strategies.

Keywords: Acculturation, Purchase intentions, Indian drama serial, Indian fashion products, Culture, Theory of planned Behavior

1. INTRODUCTION

In this era of globalization and internet, consumers from all over the world are exposed to numerous media sources from both within and outside their national culture. This exposure allows consumers to learn about different cultures apart from their own. A phenomenal increase is observed in the Twenty-first century in cultural diversity and acculturation in the Western world (Schwartz et al., 2010) and this trend is evident for the Asian subcontinent part too.

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Multiple researches in the cultural aspect have shown a strong evidence that the global homogeneous customers are increasingly becoming culturally heterogeneous when it comes to consumers from individual countries (Cleveland, M., & Laroche, M., 2007). The Asian countries and cultures are also experiencing similar trend when it comes to the effects of acculturation. Though there are many drivers which affect the acculturation process, one major source is satellite television channels and the drama serials that are shown in these channels. Media has always been a great source of influence on consumers. The exposures that consumers have towards different cultures can also motivate them to try to consume different products and services placed in these serials from these channels. This notion is quite common with the audience of Bangladesh who regularly watch Indian drama serials and are heavily influenced by the different products and services shown in those serials.

Although the earlier studies have acknowledged the various agents of culture change (Kizgin et al., 2017; Penaloza et al., 1999), there has not been enough research in finding out the role of acculturation imposed through television drama serials among consumers. Apart from being entertained through different sources of media entertainment like drama serials and movies, consumers also are exposed to product placements and acculturation which ultimately has an impact on their purchase behavior (Nagar K., 2016). During the last two decades, the popularity of Indian drama serials and movies have been increasing consistently among the Bangladeshi audience. According to a study conducted by Dhaka University, about ninety percent women in Bangladesh watch TV, among them 60 percent women are regular viewers of Indian drama serials and the most popular channel is 'Star Jalsha' which is a Bangla TV channel from India popular for its daily soap operas (The Daily Star, 2016).

Apart from the entertainment sector, Indian TV channels are also influencing the purchase intention of Bangladeshi consumers a lot through their drama serials. Because of the similarity between Indian and Bangladeshi cultures, the Bangladeshi audience often are attracted by the products shown in the Indian drama serials. Sometimes the set interior, jewelries, dresses, hair styles, make ups by the actors become more important to the audience than the story line (Ghale&Karna, 2009) of these drama serials.

The objective of the research is to find out whether the drama serials and the acculturation process Bangladeshi consumers go through by watching these serials has a role in shaping their purchase intention and behavior in purchasing Indian fashion products. Exploring such influence will allow a better understanding of media imperialism and acculturation impact on consumers and how this can be utilized by marketers to offer more suitable products and services to consumers. Knowing how Bangladeshi consumers are attracted towards Indian products

could allow Bangladeshi marketers to have a better insight regarding consumers' preferences and thus they could offer products and services that would be better accepted and appreciated by the consumers.

This study has organized the rest of the paper in four parts. The first part discusses the relevant literature reviews from different sources and the second part includes the Model hypotheses development done with the help from the literature review. The third part describes the data collection procedure as well as the scales adopted and the results from the survey. The last part discusses the finding and mentions the possible implications of the findings to marketers and academics.

2. LITERATURE REVIEW AND HYPOTHESIS

2.1 Impact of Culture and Acculturation on Consumers' Buying Behavior

Culture has always played an important role in shaping the intention and behavior of the consumers (Durmaz Y. et al., (2014); Mooij M. & Hofstede G., 2004). Apart from the national culture and sub culture, now a days consumers are also being exposed to many foreign culture from the viewership of different medias through satellite television channels and internet. This exposure provides the opportunity to know more about the foreign cultures and to learn about them. The process of learning a new or foreign culture is known as Acculturation (Schiffman et al., 2016). For international marketers, the study of acculturation is a must as consumers will only be interested in buying a foreign product or service when they know about it. The more consumers learn about a new culture and perceive it interesting; the higher will be the chances for them to buy the products or services from that particular culture.

2.2 Impact of Indian Drama Serials on Bangladeshi Consumers

Media has always been a great source of influence on consumers. Apart from being entertained through different sources of media entertainment like drama serials and movies, consumers also are exposed to product placements and acculturation which ultimately has an impact on their purchase behavior (Nagar K., 2016). During the last two decades, the popularity of Indian drama serials and movies have been increasing consistently among the Bangladeshi audience. According to a study conducted by Dhaka University, about ninety percent women in Bangladesh watch TV, among them 60 percent women are regular viewers of Indian drama serials and the most popular channel is 'Star Jalsha' which is a Bangla TV channel from India popular for its daily soap operas (The Daily Star, 2016).

The increasing popularity of the Indian drama serials has been considered as a great threat not only to the local TV channels but also to the Bangladeshi culture. Our national TV channels are suffering because of the popularity of the Indian serials as the viewership of the local TV channels are decreasing as viewers are more interested to watch Indian TV channels and their drama serials. According to Mostafa Kamal Sayeed, the Chief of News for the Bangladeshi private television channel NTV, Bangladeshi audiences are losing interest in the country's telefilms or serials due to weak storyline as well as too many commercial breaks in between the serials (The daily Star, 2016).

There has also been criticisms regarding the acculturation impact these Indian TV channels are having on Bangladeshi audience. The story lines for the drama serials all include topics like family conflict, extra marital affairs, domestic violence, unstable relationships, conflict between mother-in-law and wife etc. and also promote materialism (Khanam D. et al., 2014). All these seem to have a negative acculturation impact on Bangladeshi viewers' norms, values, socialization process as well as social institutions.

2.3 Impact of Indian Drama Serials on Bangladeshi Consumers' Purchase Intention for Indian fashion Products

Apart from the entertainment sector, Indian TV channels are also influencing the purchase intention of Bangladeshi consumers a lot through their drama serials. Because of the similarity between Indian and Bangladeshi cultures, the Bangladeshi audience often are attracted by the products shown in the Indian drama serials. Sometimes the set interior, jewelries, dresses, hair styles, make ups by the actors become more important to the audience than the story line (Ghale&Karna, 2009). In a study on Bangladeshi women audience for Indian drama serials, it was found out that they were interested in the costumes, jewelries, make up and fashion shown in the drama serials also (Khanam et al., 2014). This is the reason there is a huge demand for Indian fashion products in Bangladesh and almost every shopping mall have numerous shops that sell Indian fashion products. Recently in Bangladesh there are hundreds of online pages, especially on Facebook, that sell Indian dresses and jewelries to the Bangladeshi consumers. Every year, a great number of Bangladeshi people travel to India for various purpose and they spend a huge amount of money on purchasing Indian fashion products, especially during festivals like Eid and Puja. And Indian drama serials play a significant role here as the Bangladeshi consumers get to learn more about Indian fashion products through these serials that ultimately creates purchase intention.

2.4 Theory of Planned Behavior

The model of Theory of Planned Behavior (TPB) was initially introduced by Ajzen (1991) as a revised and extended version of the Theory of Reasoned Action (TRA), previously presented by Ajzen and Fishbein (2000). This revised version comprised of three factors namely attitude, subjective norms (SN) and perceived behavioral control (PBC) for individuals. It has since been widely accepted as a predictor of individual's intentional behavior compared to other predictor theory models (Ali et al., 2017; Dusuki and Abdullah, 2007). Several studies including Ercsey, 2017, Prapavessis et al., 2015, Godin et al. (1993), Shih & Fang, 2004 etc. have shown the effective use of TPB in individual's intention and decision making behaviors.

This latest model of TPB states the influence of subjective norms, beliefs and purchase behavior control on purchase intention which ultimately may result in Purchase Behavior. Godin et al. (1993) mentioned in their research on the pattern of Influence of Perceived Behavioral Control that the Theory of Planned Behavior includes the attitudes and social norms which are parallel determinants of intentions to act, along with perceived behavioral control.

In this research paper, the model of Theory of Planned Behavior has been used as it has been found that consumers form awareness while making purchase decision for fashion items including clothings and accessories items after they become exposed to Indian products and brands through television drama serials and other programs.

Research has identified the impact of some independent factors which may influence the purchase intention by the Bangladeshi consumers. The factors which has been included here are mainly social and psychological, which together can form either positive or negative attitude towards certain object or situation. Among these factors, attitude, subjective norms and perceived behavioral control are considered in forming purchase intention and the impact of this intention on consumers' ultimate buying behavior (Netemeyer et al., 1995).

2.4.1 Attitude

The inner feelings of the consumers about certain objects. It is a psychological factor which intrigues consumer action towards purchase intention. However, attitude can be either positive or negative and having positive attitude does not always indicate the purchase behavior of a customer.

H1: Watching Indian drama serials has a positive impact on Bangladeshi consumers' attitude towards Indian fashion products purchase intention.

2.4.2 Subjective Norms

Subjective norm is something which influences human actions psychologically, as it refers to peer evaluations and reference group influences. As Ahmad et al. (2014) referred; the subjective norms are the combination of personal estimate of social pressure to perform or not to perform the targeted behavior. Subjective norms have 2 subcomponents as – normative belief and motivation to comply with any action. Subjective norm is a reflection of one's perception regarding social pressure to perform in a certain behavior. If an individual is convinced that behaving in a certain way would be appreciated by his/her reference group, then it would motivate him/her to accept that behavior. Studies have shown relationship between subjective norm and consumer purchase intention, hence the following hypothesis is proposed:

H2: Watching Indian drama serials has a positive impact on Bangladeshi consumers' subjective norms towards Indian fashion products purchase intention.

2.4.3 Belief

Belief signifies the trust and loyalty towards certain products and brands. The credibility of media where the products are positioned and the acceptability of actors and actresses in common people are very important to create this belief (Becerra E. P. et al., 2011).

The study has tried to find out whether the Bangladeshi consumers have such faith on the media and programs and also on the actors and actresses whom they see regularly in Indian television channels.

H3: Watching Indian drama serials has a positive impact on Bangladeshi consumers' belief towards Indian fashion products purchase intention.

2.4.4 Perceived Behavioral Control

Perceived behavioral control is an indicator of the degree of control an individual perceives to possess over performing the specific behavior (Kang et al., 2006). Hence, individuals who perceive a higher degree of perceived control on his/her behavior would have a stronger intention to be engaged in a certain type of behavior (Ajzen, 1991). Having more access to resources like time, money and relevant exposure and skillset helps people to have a higher perception of control and this leads to an increase in their behavioral intentions. The following hypothesis is thus

formed:

H4: Watching Indian drama serials has a positive impact on Bangladeshi consumers' perceived behavioral control towards Indian fashion products purchase intention.

2.4.5 Purchase Intention

Purchase intention is the indication that tells about the consumer's approach towards buying a product or service. To a high extent it depends on the feeling about the brand or on the feeling towards the advertisement or the product itself.

H5: Watching Indian drama serials has a positive impact on Bangladeshi consumers' purchase intention towards Indian fashion products purchase behavior.

3. THEORETICAL FRAMEWORK

The following Figure shows the above hypotheses adopted for the research:

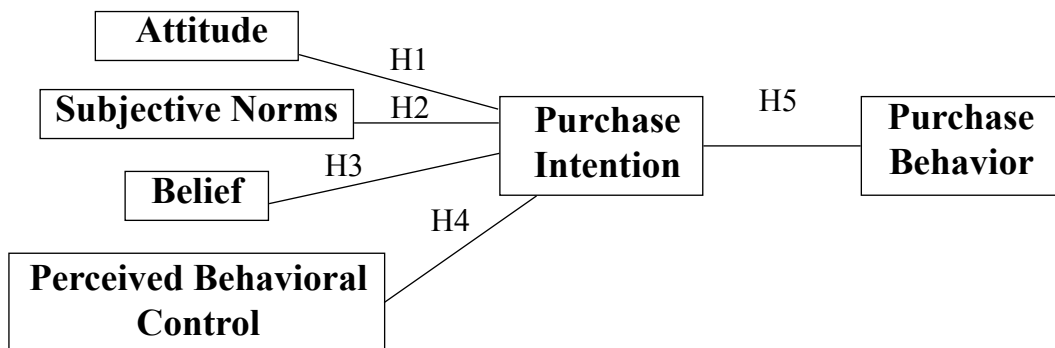


Figure 2: Adopted Research Framework developed by the Authors

4. RESEARCH METHODOLOGY

4.1 Research Type

This research is conducted by both exploratory and quantitative approaches. Since very little information is available regarding acculturation influence through Indian drama serials on Bangladeshi consumers' purchase intention and behavior, this research mainly depends on primary data collection and research method. To find out whether Indian drama serials actually influence Bangladeshi consumers or not, a Focus group

discussion was first conducted among 16 regular viewers of Indian drama serials and they were also interviewed separately. Convenience sampling method was used in this process and the discussion and interviews supported strongly that the participants were heavily influenced by the different aspects of the Indian drama serials and they felt strong attraction towards the fashion products, make over, interior, travel destinations etc. from watching the serials. This perspective was then further identified and then used to prepare a detail questionnaire for facilitating a quantitative research on this topic.

4.2 Questionnaire Design

For sample collection a total of 250 questionnaires were distributed and 248 questionnaires were filled up correctly, using online instrument and were taken for the research purpose. After the collection, data was tabulated and entered into the spreadsheet and afterwards has been analyzed using the SPSS V21 statistical software. Out of these 248 respondents, 132 were female (53.2%) and 116 were male (46.8%) respondents.

A target sample of 248 respondents were approached for doing the survey and interview. For this, we have selected the students of North South University as we have limited time and scope to do our research. Firstly the emphasis was given on taking deep insights from our academicians of North South University to gain in-depth idea. Open ended questions were asked to get extensive idea on theoretical background. The interviews were conducted as focus group discussion and also as one-to-one basis. Time limit was strictly maintain for focus group and individual interviewee. The sample was 10 in terms of academicians from the department of Marketing and International Business of School of Business.

Based on the insights of the focus group discussion and interviews, a structured questionnaire was designed to find out more information related to Bangladeshi consumers' acculturation experience. We have also collected information from the parents of the students to fulfill the criteria for mature aged consumers. The survey questionnaires were formed based on various scales and from the help of previously used standard questions of other researchers. Likert scale is used for marking the response in a range of 1= Strongly disagree to 7= Strongly agree. The questions were prepared based on relevant scales on Attitude, Subjective Norms, Belief, Perceived Behavioral Control, Purchase Intention and Purchase Behavior. For the profile part for respondents, multiple choice questions have been prepared. To find out respondents' responses regarding the chosen factors, a 7-point Likert Scale has been introduced (Strongly Disagree=1, Disagree=2, More or less disagree=3, Undecided=4, More or less agree=5, Agree=6, Strongly Agree=7).

5. DATA ANALYSIS

5.1 Data Collection

Total of 275 questionnaires were distributed and 248 questionnaires were filled up correctly and were taken for the research purpose. After the collection, data was tabulated and entered into the spreadsheet and afterwards analyzed using the SPSS V21 statistical software. Out of these 248 respondents, 132 were female (53.2%) and 116 were male (46.8%) respondents.

5.2 Analysis of the Findings

Table 1 - Anova

Model	Sum of Squares	df	Mean Square	F	Sig.
1. Regression	7777.794	7	1111.113	63.658	.000a
Residual	4084.305	234	17.454		
Total	11862.099	241			

a. Predictors: (Constant), Ethnocentrism, Belief, Group Conformity, Subjective Norms, Perceived Behavioral Control, Materialism, Attitude

Here, the level of Significance is less than 5%. Which means, the overall influence of all the independent variables is acceptable. $F= 63.658$, it is the test value, which generally refers that 64% of total influence is measurable.

5.3 Reliability and Validity Analysis

Before beginning the analysis, the reliability and validity of the factors have been checked for maximum accuracy. A reliability test has been conducted to find out the value of Cronbach's alpha for each of the variables which have been used in the research study.

Table 2: Validity and Reliability Analysis

Reliability Scale Name	Cronbach's Alpha Value	Number of Items
a) Subjective Norms	$\alpha = 0.75$	4
b) Purchase Intention	$\alpha = 0.92$	4
c) Perceived Behavioral Control	$\alpha = 0.78$	4
d) Belief	$\alpha = 0.87$	5
e) Attitude	$\alpha = 0.88$	4

Source: Estimated Result

Above mentioned values prove that the questions structured for the variables are reliable enough to make a conclusive decision.

5.4 Correlations - Coefficient Analysis

Table 3 - Coefficients^a

Model B	Unstandardized Coefficients		Standardized Coefficients		Sig.	95.0% Confidence Interval for B		
	Std. Error	Beta		t		Lower Bound	Upper Bound	
(Constant)	-3.840	1.303			-2.947	.004	-6.407	-1.273
Subjective Norms	.319	.065	.242		4.891	.000	.191	.448
Perceived Behavioral Control	.368	.064	.302		5.713	.000	.241	.494
Belief	.076	.059	.080		1.289	.199	-.040	.191
Attitude	.258	.080	.210		3.243	.001	.101	.415

a. Dependent Variable: Purchase Intention

From the ANOVA table, we see that the P value (0.000) is less than 0.05; therefore, we reject the Null Hypothesis and accept the Alternative Hypothesis. It means that, at least one of the 4 independent variables explain significant variability in customer Behavior.

5.5 Testing Research Hypotheses

The Hypotheses testing shows that H1, H2, H3 and H5 are accepted whereas H4 is rejected. This indicates that attitude, subjective norms and perceived behavioral control has influence on Bangladeshi consumers’ purchase intention for Indian fashion products whereas belief does not have a significant influence. Again, the test shows that positive impact exists for Bangladeshi consumers in terms of purchase behavior as an impact of purchase intention formed by attitude, subjective norms and perceived behavioral control.

Table 4: Testing Research Hypotheses

Variables	Hypothesis	Level of significance	Accept / Rejected
Attitude	Watching IDSM has a positive impact on Bangladeshi consumers' attitude towards purchase intention of Indian fashion products.	.001	Accept
Subjective Norms	Watching IDSM has a positive impact on Bangladeshi consumers' subjective norms towards purchase intention of Indian fashion products.	.000	Accept
Perceived Behavioral Control	Watching IDSM has a positive impact on Bangladeshi consumers' perceived behavioral control towards purchase intention of Indian fashion products.	.000	Accept
Belief	Watching IDSM has a positive impact on Bangladeshi consumers' beliefs towards purchase intention of Indian fashion products.	.199	<i>Rejected</i>

6. CONCLUSION AND MANAGERIAL IMPLICATIONS

The study aimed at finding out more about acculturation impact that Indian drama serials have on Bangladeshi consumers and how this impact ultimately influences the consumers' purchase intention as well as their purchase behavior. Different aspects including subjective norm, attitude, belief and perceived behavioral control have been investigated to find out which ones play relevant role in shaping the acculturation process for the consumers. The major findings of the paper clearly demonstrate a strong impact of the Indian drama serials on Bangladeshi consumers that is evident in their choice of Indian fashion products in terms of purchase intention and purchase behavior. Marketers of Bangladeshi fashion products may find these outcomes beneficial as they can design their products with such designs that Bangladeshi consumers may find appealing. Globalization has made it inevitable that consumers will be attracted towards products from different parts of the world, and this demand can be met by local producers too if they can be aware of the particular demand and also of how this demand can be met by producing products and services the consumers find attractive. This research imparts valuable insights on the impact of acculturation process through viewership of television drama serials on Bangladeshi consumers' purchase intention and behavior for Indian fashion products by indicating the significant role of attitude, subjective norms and perceived behavioral control.

The findings of the study reveals that acculturation through media imperialism plays a significant role among Bangladeshi consumers towards buying Indian fashion products and this can be a notable consideration for retailers to increase consumers' purchase intentions for the specific product categories. As a result, retailers can develop effective marketing strategies emphasizing similar collections that consumers are exposed to through television serials to satisfy the need of the potential customers.

7. LIMITATIONS AND FUTURE RESEARCH

The sample size that was selected for this study mostly represent the major urban areas of Bangladesh and there may have been variations in the findings if the sample characteristics had varied in terms of geographic location. This may be considered as a limitation of the study as the attitude and purchase intention of the urban population have not been incorporated in this study. There could have been a change in findings if the rural population were also included in the respondents sample.

Based on the findings of this research study, several possible future studies can be suggested. First, future research could be done by considering the moderating effect of ethnocentrism as the impact of ethnocentrism is supposed to have a moderating impact on customers' purchase of foreign made products. Secondly, future research can be conducted by including more factors of acculturation like movies, literature etc. on consumers' purchase intention for a more varied categories of products and services including medical tourism, tourism, food, education etc. Finally, further research could be done on how consumers' preference towards stores offering Indian products may get altered as a result of their positive attitude and purchase intentions. A positive attitude towards such stores can increase the likelihood of customers' store purchases and consequentially increasing the stores performances in business terms.

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PERFORMANCE EVALUATION OF US MUTUAL FUNDS – A LOOK AT ‘GROWTH FUNDS’, ‘GROWTH AND INCOME FUNDS’ AND ‘INCOME FUNDS’

Shahran Abu Sayeed¹

ABSTRACT

This study evaluates the performances of domestic equity mutual funds in the US. Three performance measurement models act as tools in measuring the performances. Using monthly data from January 1993 to December 2012, it is found that funds, on average, underperform the benchmark across the entire period. Moreover, it is also shown that amongst the three style categories of funds, ‘Growth Funds’ report the lowest average abnormal performance as compared to ‘Growth and Income Funds’ and ‘Income Funds’.

Key words: Performance, Capital Asset Pricing Model, Fama-French Three-Factor Model and Carhart Four-Factor Model, Growth Funds, Growth and Income Funds, Income Funds

1. INTRODUCTION

In analysing investment performance evaluation, I look at mutual funds in the US market. Given the large domination and the role played by US mutual funds in the fund management industry, it is critical to evaluate their performance over long periods in order to see whether the benefits derived from these investment companies last through long periods.

The primary reason for the existence of mutual funds is that they are able to benefit from the advantages of diversification by pooling large amount of funds from investors which they then use to purchase securities. Individual investors cannot achieve this advantage on their own. Investment companies invest in portfolios of funds and thereby reduce the overall investment risk. The portfolios may include a range of stocks, equities, bonds or even money market instruments. Besides diversification, investors benefit from numerous other advantages by investing their money in mutual funds. For example, small investors are able to participate in investments that may be available to only larger investors in addition to getting access to professional investment management and daily liquidity. However, it is important to mention at this stage that together with advantages, there are a few

1. Department of Accounting and Finance at the School of Business and Economics, North South University in Dhaka, Bangladesh.

disadvantages faced by the investors. Investors incur expenses as mutual funds charge investors with fees such as 12b-1 fees, load fees, which may include front-end load fees or bank-end load fees, and management fees.

The different types of investment companies include mutual funds, closed-end funds, unit investment trusts and exchange-traded funds. Among these, mutual funds are the largest and the most common type. Out of the total value of over \$14.7 trillion of net assets under management by U.S. registered investment companies that Investment Company Institute report, for the first time ever, mutual fund assets alone exceeded \$13 trillion in 2012, (2013 ICI Fact Book). Mutual funds have become the most popular type because of the convenience that it provides to investors. Mutual funds continuously sell and buy back fund share and hence have particularly become a very useful type of investment company. In 2012, out of a total number of 16,380 investment companies, 8,752 of them were mutual funds that were open-end funds, (2013 ICI Fact Book). Number of open-end funds increased 52% since 1995. Given the dominating role played by open-end mutual funds and their importance in the financial market, I focus my analysis on the investment performance on these types of funds only. More precisely the evaluation is narrowed down to a particular type of mutual fund that invests only in equities, commonly known as equity funds. Equity funds held majority of the assets in the US mutual fund industry. In 2012, 33 percent of mutual fund assets were in domestic equity funds and the rest were in foreign equity funds, bond funds, money market funds and hybrid funds.

The sheer size of domestic equity funds has motivated researchers to carry out studies on evaluating performances of these funds as reported, amongst other ones, by Chen et al. (2004) and Jiang et al. (1999). Since prior studies exist on performance evaluation of domestic equity mutual funds, it only motivates us to further evaluate particularly which type of US domestic equity funds contribute to their overwhelming performance. Therefore, the purpose in this paper is to evaluate the performance of specific groups of domestic equity funds in the U.S. namely 'Growth Funds', 'Growth and Income Funds' and 'Income Funds'. Further, this paper aims to shed light for developing countries to invest in these particular types of domestic equity funds given their significant contribution in the growth of the economy. Using monthly data from January 1993 to December 2012, I examine the performances of the above mentioned domestic equity funds by utilizing three performance measurement models. These are the Capital Asset Pricing Model (CAPM), Fama-French (1993) Three-Factor Model (FF3FM) and Carhart (1997) Four-Factor Model (C4FM).

2. LITERATURE REVIEW

2.1 Investment Performance Evaluation and Economies of Scale

In analysing the performance of mutual funds, one interesting issue to consider is the economies of scale. According to the theory of economies of scale, as the size of a company increases, average cost of output falls and overall performance increases. Just like any other organisation running business operations, it is interesting to see whether mutual funds also benefit from cost advantages due to increases in scale. Measuring performance based on the size or asset composition of the fund is a convenient approach to look into this matter. Together with fund size, other critical issues, such as persistence of fund performance and agency relationship between managers and investors, arise when evaluating performance of mutual funds.

For obvious reasons there are advantages to increases in scale such as larger resources for research and lower expense ratios (Chen et al. 2004), otherwise funds would not have incentives to grow in the first place. However, Perold and Salomon (1991) and Lowenstein (1997) find that large asset base erodes fund performance because of trading costs associated with liquidity. Chen et al. (2004) support this theory and state that where small funds can put all of its money in its best ideas, larger funds on the other hand are not able to do this because of the lack of liquidity. It forces large funds to put its money in ideas that are not so good and take larger positions per stock than the optimal amount and thereby reduces its performance.

However, there are also relevant literatures on the performance of mutual funds which suggests that performance erodes with fund size such as in the paper by Chen et al. (2004). They begin their research by collecting data on mutual funds from 1963 to 1999. They use cross sectional variation to check whether performance depends on lagged fund size. Chen et al. (2004) uses various performance benchmarks in their analysis to account for the effects of heterogeneity which may arise since the sample funds they use may have different styles. Chen et al. (2004) find that a fund’s performance is inversely correlated with its lagged fund size. They report that the funds in their sample on average underperform the market portfolio by about 96 basis points annually after deducting fees and expenses. They state this finding as statistically significant and economically important.

In addition, organisational diseconomies lead small firms to outperform larger ones. One type of organisational diseconomy is hierarchy costs (Aghion and Tirole, 1997 and Stein, 2002). According to Chen et al. (2004), hierarchy costs may be especially important and relevant to mutual funds affecting the performance of funds as its scale increases. They argue that where there are hierarchies in large organisations,

agents find it hard to communicate their ideas to the top level officials of the fund and hence it becomes difficult for them to have their ideas implemented. This affects agents' ex ante decisions of the kind of ideas they want to work on.

2.2 Performance Measurement Models

According to Wermers (2011) performance evaluation models attempts to measure an asset managers' precision of private information about market returns, security or sector with the best possible statistical accuracy. Two types of approaches exist in the literature for evaluating performances – i) returns-based performance evaluation and ii) portfolio holdings based performance evaluation. Since data on the returns of mutual funds is more available on a frequent basis, the focus in this paper is given to returns-based approach only. Furthermore, returns-based performance evaluation relies on less information from fund managers.

Three models of performance measurement are mainly used in evaluating mutual fund performance. These are i) the Capital Asset Pricing Model (CAPM) which is described in Sharpe (1964) and Lintner (1965), ii) Fama and French's (1993) Three-factor model (FF3FM) and iii) Carhart (1997) 4-factor model (C4FM). The three models of performance measures are mentioned below:

- i) $R_i = \alpha_{it} + \beta_{it}(\text{RMRF}) + e_{it} \quad t=1, 2, \dots, T$ - CAPM
- ii) $R_i = \alpha_{it} + \beta_{it}(\text{RMRF}) + s_{it}(\text{SMB}) + h_{it}(\text{HML}) + e_{it} \quad t=1, 2, \dots, T$ - FF3FM
- iii) $R_i = \alpha_{it} + \beta_{it}(\text{RMRF}) + s_{it}(\text{SMB}) + h_{it}(\text{HML}) + m_{it}(\text{UMD}) + e_{it} \quad t=1, 2, \dots, T$
- C4FM

In context to the above three models, R_i is the monthly excess return over the risk free rate (i.e. the one-month Treasury-bill return) on a portfolio of fund, α_{it} is the performance measure of the portfolio, RMRF is the excess return on the market portfolio, SMB, HML and UMD are the returns on the value weighted, zero-investment, factor-mimicking portfolios for size, book-to-market equity and one-year momentum in stock returns and e_{it} is a generic term that is uncorrelated with all other independent terms.

The Capital Asset Pricing Model (CAPM) of William F. Sharpe (1964) takes into account only one factor of risk and that is the risk that arises out of the market. This measure of risk is given by β_{it} which is the loading on RMRF. However, given the CAPM anomalies, the Fama-French (1993) Three-Factor Model is able to explain a lot of the cross-sectional variation in average returns with additional factors that takes into account the effect of the size and book-to-market. Respective factors are

represented by SMB (‘small’ minus ‘big’) and HML (‘high’ minus ‘low’).

Carhart (1997) reports that the 4-factor model is consistent with a model of market equilibrium that has four risk factors. The mean return is attributable to four strategies – high versus low beta stock, value versus growth stocks, and one-year return momentum versus contrarian stocks. Carhart (1997) finds that the 4-factor model is able to explain considerable variation in returns. The low correlations of the three factors with each other and each of their high mean returns suggest that the 4-factor model explains well the sizeable time series variation and cross-sectional variation on the portfolios of stocks. Moreover multicollinearity does not affect each of the factor loadings of this model substantially (Carhart, 1997). He further finds that compared to the CAPM and the 3-factor model, the 4-factor model reduces the average pricing errors to a great extent and eliminates all of the patterns in it, which indicates that this model explains the cross-sectional variation in average stock returns quite well.

Cuthbertson et al. (2010) report that models of performance measures plays another significant role in addition to evaluating performances. They identify whether managers of funds have the ability to market-time. Taking the CAPM as an example, the model can be decomposed into two parts in order to identify which part of the managed portfolio return is due to the benchmark return β_{it} (RMRF) which is known as market-timing and which part is due to the remainder of the model $\alpha_{it} + e_{it}$ which is known as security selection.

2.3 Performance and Persistence of Funds

Persistent fund performance is a key issue in the mutual fund industry. It should be noted that funds do not always produce abnormal performance i.e. their performance is not always persistent relative to other funds, however it still benefits the investor. These funds are successful at stock picking strategies at infrequent intervals (Cuthbertson et al. 2010).

Focusing on the performance of actively managed and index funds in the US, I first look at the paper by Elton, Gruber and Busse (2004). They use only 52 US, S&P500 index funds that ranges from January 2006 to December 2001. As their measure of abnormal performance they use the CAPM and the fund’s differential return over the market index and find that the abnormal performance reported by the CAPM is -0.41% per annum and performance reported by the average index fund’s differential return is -0.485% per year. This underperformance arises out of the total expense ratio (TER) of 0.444% due to advertising, rebalancing, cash flow

and management fees. These expenses have to be incurred in order to track the index closely. For funds that are actively managed, Cuthbertson et al. (2010) report in their analysis of other empirical research of US and UK funds that Jensen's alpha is used as a measure of risk adjusted performance.

Fund returns can be gross and net. Gross returns are returns to the fund whereas net returns are returns to the investor. Gross fund returns are before expenses are adjusted but after the deduction of transaction costs. It includes expense ratios. On the other hand net returns include load fees and personal taxes but it does not include total expense ratio.

Considering net returns, research shows that the average managed fund underperforms the benchmark. Using data from 1974-1994, based on CRSP net return Wermers (2000) finds abnormal performance based on the Carhart 4 factor measure to be of -1.16% per annum which is statistically significant at the 1% level. This indicates underperformance by the average fund in the sample. This is consistent with the results reported by Kosowski et al. (2006) who also shows that the 'average managed fund' underperforms the benchmark. Data used by Kosowski et al. (2006) ranges from 1975 to 2002 and covers 1700 funds and they find that the alpha based on net returns is -0.5% per year.

An interesting point to observe here would be how can mutual funds that have consistent underperformance manage to survive through long periods. Poorly performing funds exist may be due to the reason that investors are 'locked in' (such as through pension plans) and they may also have accrued capital gains (Gruber, 1996). However, it is also likely that investors behave irrationally. For e.g. they may be persuaded by the advertisements or follow the recommendations of brokers blindly (Cuthbertson et al. 2010).

3. METHODOLOGY

3.1 Data Source and Description

The main objective of this paper is to carry out the investment performance evaluation of a particular type of institutional investor in a specific market. More precisely across various asset classes that are there, a specific one had to be chosen in order to evaluate its performance.

Investment Company Factbook (2013) acts a crucial guide in explaining the dominating role played by US Mutual Funds amongst other types of investment companies (Closed-end funds, Exchange Traded Funds and Unit Investment Trusts). Of the \$26.8 trillion of assets under management worldwide, US mutual fund assets

accounted for 49 percent of it. As noted earlier in this study that 33 percent of mutual fund assets were in Domestic Equity Mutual Fund, this gives an idea of the sheer size of this particular type of mutual fund. Consistent with prior studies, I evaluate the performance of Domestic Equity Fund of the US Mutual Fund Industry. However my analysis is for the period 1993 to 2012 and consists of only ‘Growth Funds’, ‘Growth and Income Funds’ and ‘Income Funds’ which adds up to 1206 distinct funds in my sample. This accounted for 13.8% of total number of US mutual funds in 2012 which shows that these particular type of funds to be popular choices for investors and in essence contribute in large part to the growth and development of an economy.

First, a full sample analysis is carried out using the CAPM, FF3FM and C4FM across the entire period. This is done in order to analyse the behaviour of all the funds over the whole period. The average performance of all the funds across the three performance measurement models is quite interesting to see, especially when the distribution of their performances is presented in a histogram, as shown in this study. I further examine the performances of all the funds for each performance measurement model separately. Furthermore, when the funds are sorted into five equally weighted portfolios according to their abnormal performances as measured by the alphas, it enables us to distinguish between the worst and the best performing funds. Next, I evaluate the performance of the three groups of funds separately across the three performance measurement models for the whole period.

In order to evaluate the performance of domestic equity mutual funds, I collect data from the Center for Research in Security Prices (CRSP) Survivor-Bias-Free US Mutual Funds Database from January 1993 to December 2012. It is important to mention that the CRSP database is specifically designed for research purposes on the historical performance of open-ended mutual funds by using survivor-bias-free data. Information such as the history of each mutual fund’s name, investment style, fee structure, holdings, asset allocation, etc. is provided by the database.

I use the Strategic Insight Objective code that spans from 1993 to 1998, Lipper Objective Code that begins from 1998 and the CRSP Objective Code that provides continuity of all the codes and also provides consistency with the other codes from different sources to select the funds in my sample³. I further narrow down my analysis on only Growth Funds (consisting of Capital Appreciation Funds – ‘CA’ and Growth Funds – ‘G’), Growth and Income Funds – ‘GI’ and Income Funds

³ *The CRSP Objective Code maps the Strategic Insights, Wiesenberger, and Lipper Objective Codes into a continuous series that provides continuity.*

(consisting of Equity Income Funds – ‘EI’) and further include only those funds that are still active. Finally my sample consists of 1206 distinct funds.

Out of the full sample of 1206 funds⁴, 710 of them are ‘Growth Funds’ as shown in Table 1. Under the Lipper objective, these funds consist of Capital Appreciation (CA) funds and Growth Funds (G). However, the Strategic Insight Objective terms these funds as Equity USA Aggressive Growth (AGG) and Equity USA Growth (GRO) funds. ‘Growth Funds’ that are Capital Appreciation Funds (‘CA’ also known as aggressive growth funds) are those funds that invest in securities with higher risk in return for potentially higher returns or gains. On the other hand funds that are known only as Growth Funds (G) are those funds that invest primarily in the stocks of companies with above-average risk in return for potentially above-average gains. These companies often pay very little or no dividends and their stock prices tend to be more volatile from day to day.

‘Growth and Income Funds’ consist of a smaller sample of 559 funds as shown in Table 1. Lipper and Strategic Insight Objectives term these funds as Growth and Income (GI) funds and Equity USA Growth and Income (GRI) and Equity USA Income and Growth (ING) funds respectively. Growth and Income Funds are a combination of funds that focus on capital appreciation and current income generation through dividends or interest payments.

‘Income Funds’ are a very small number of funds in the Domestic Equity Mutual Funds industry. I find only 97 Income Funds in my sample in the entire sample of 1206 funds as reported in Table 1. As the name of these funds suggest, ‘Income Funds’ are those funds that mainly seek current income generation than capital appreciation and hence the small number of these funds suggest their low popularity than the ones in the other Style categories.

Table 1. Number of Funds

	Growth Fund	Growth and Income Fund	Income Fund
Number of Funds	710	559	97

Note: This table shows number of funds of each style category for the sample period from January 1993 to December 2012.

⁴There are overlapping amongst the different category of funds. Such as funds appearing as Growth Funds may also appear in the Growth and Income category.

3.2 Data Variables, Adjustment and Measurement

In order to evaluate the performance of the full sample of funds over the entire period (1993 to 2012), returns for each fund had to be collected for every month for the 20 year period from the CRSP Mutual Fund database, which means that one fund had 240 observations of monthly returns for this whole period of 20 years. This gave an observation of 289,440 for the full sample of 1206 funds. It is important to mention that, as reported in the CRSP database guide, monthly returns are calculated as a change in Net Asset Values (NAV) that includes reinvested dividends from one period to the next. Moreover the NAVs are net of all management expenses and 12b-1 fees that do not include front and rear load fees. Furthermore, not all funds report their monthly returns every year throughout the period in the CRSP database. In this case, the values in those years were simply treated as missing entries.

Regression analysis models require funds to report their excess returns. Since this was not readily available, the monthly risk-free rates were deducted from the raw monthly returns, collected from CRSP, for each fund throughout the entire period and the excess returns were found. The descriptive statistics of fund excess returns are reported in Table 1. The risk-free rates were collected from the Kenneth R. French Data Library. The monthly risk-free rates are the monthly US Treasury bill rates reported in percentage units. As a result of this, monthly fund returns had to be transformed to percentage units from decimal units in order to maintain consistency. Excess returns for each fund every month were calculated in MATLAB. This was done in MATLAB because of the large number of observations in the data.

Table 2. Fund Excess Returns

	All Funds	Growth Fund	Growth and Income Fund	Income Fund
Average	0.37% (4.84%)	0.38% (5.10%)	0.35% (4.48%)	0.42% (4.01%)
Minimum	-66.59%	-48.37%	-66.59%	-22.23%
Maximum	532.20%	53.10%	532.20%	15.91%

Note: The table shows the average values, the standard deviation in parenthesis, the minimum and the maximum values of pooled data of fund excess returns across all the years in the sample (January 1993 to December 2012). The table reports the respective values for ‘All Funds’, ‘Growth Funds’, ‘Growth and Income Funds’ and ‘Income Funds’.

Table 2 reports the averages and the standard deviation (in parenthesis) of the pooled data of the excess fund returns across all the years in the sample. Minimum and maximum fund excess returns are also reported for all funds and for each of the style category of funds in the rows below the average values. For the whole sample, the average excess return is 37 basis points with a standard deviation of 4.84 percent. Across the three style of funds, ‘Income’ Funds report highest mean excess return (42 basis per month) than that of ‘Growth’ and ‘Growth and Income’ Funds. The average excess return for ‘Growth Funds’ is 0.38%, whereas ‘Growth and Income’ Funds have a slightly lower average excess return of 0.35%. Across all the funds in the sample, the fund that reported the lowest excess return was in Growth and Income Fund category. That specific fund reported a return of -66.59% in the month of January, 1993. However, the highest excess return in a month was also reported by a fund in this same category. That particular fund had an excess return of 532.20% in the month of September, 1997 and was the only fund to report such a large figure. It is also important to mention that the monthly excess returns for all other funds in the sample ranged between -48.37% to 53.10%.

Further data that were collected from the Kenneth R. French Data Library include the risk factors for each of the three performance measure models used in this paper to evaluate the performance of the funds. The factors are the market risk premium ($R_m - R_f$), small minus big (SMB), high minus low (HML) and momentum (MOM). For the CAPM regression model, Market returns in excess of the risk-free rate, $R_m - R_f$, were collected for every month in the 20 year period. French’s Data library report that the excess return on the market is the value-weighted return of all CRSP firms incorporated in the US and listed on the NYSE, AMEX or NASDAQ that have a CRSP share code of 10 or 11 at the beginning of month t , good shares and price data at the beginning of t , and good return data for t minus the one-month Treasury bill rate.

For the Fama-French Three-Factor model two additional risk factors are included that the CAPM fails to consider. These are SMB (Small Minus Big) which captures the difference between the return on a portfolio of small stocks and the return on a portfolio of large stocks and the HML (High Minus Low) which captures the difference between the returns on a portfolio of high book-to-market stocks and the returns on a portfolio of low book-to-market stocks. Monthly SMB and HML

values were collected from French’s data library for the whole period of our analysis (January 1993 to December 2012).

The third model of performance measurement employed is the Carhart Four-Factor model which includes another additional factor to the Fama-French Three-Factor model called momentum (MOM). The momentum factor captures cross-sectional variation in momentum-sorted portfolio returns. It is calculated as the difference between the average return on the two high prior return portfolios and the average return on the two low prior return portfolios. MOM makes the Four-Factor model consistent with a market equilibrium model with four risk factors. Again, data for MOM was collected monthly for the entire period of 20 years from the same source as above.

3.3 Identification and Description of the Performance Measurement Models

In assessing the performance of mutual funds, I employ three measures of performance evaluation models in order to contrast and compare the results of each model for the full sample of funds and for each fund style. The first model used is the Capital Asset Pricing Model (CAPM) of William F. Sharpe (1964) where only one element of risk is taken into consideration and that is the risk arising out of the market. The measurement of the abnormal performance is represented by the intercept of the model.

$$R_{it} = \alpha_{it} + \beta_{it}(\text{RMRF}) + e_{it} \quad t=1, 2, \dots, T \quad (1)$$

Equation (1) above represents the CAPM, where R_{it} is the monthly excess return of the fund over the risk free rate (i.e. the one-month Treasury-bill return) at time t , α_{it} is the performance measure of that fund at time t , RMRF is the excess return on the CRSP value-weighted portfolio of all NYSE, AMEX and NASDAQ stocks (i.e. the market portfolio), β_{it} is the loading on the market portfolio and e_{it} is a generic term that is uncorrelated with all other independent terms.

The second model, as shown in Equation (2), below used to measure abnormal returns is the Eugene F. Fama and Kenneth R. French (1993) Three-Factor Model (FF3FM). This model takes into consideration two additional risk factors that the CAPM fails to incorporate. These are the SMB and the HML. These two additional factors captures the difference between the return on a portfolio of small stocks and the return on a portfolio of large stocks (SMB – Small market capitalization stocks minus Big market capitalization stocks) and the difference between the returns on a

portfolio of high book-to-market stocks and the returns on a portfolio of low book-to-market stocks (HML – High book-to-market ratio stocks minus Low book-to-market ratio stocks). The Three-Factor model captures a lot of the cross-sectional variation in average stock returns and is able to absorb most of the anomalies that remained in the CAPM. Fama and French (1993) show that this model provides a good description of returns on portfolios formed on size and book to market value. The third model for evaluating mutual fund performance that is used in this paper is the Carhart Four-Factor Model (C4FM). This model adds the momentum (UMD) factor in addition to the Fama-French’s Three-Factor Model. The momentum (UMD) factor captures Jegadeesh and Titman’s (1993) momentum anomaly. Carhart (1997) show that this model of performance measure can explain considerable variation in returns. It is able to explain the sizeable time-series variation and cross-sectional variation in the mean return on the portfolio of stocks well. Furthermore, he finds that the 4-Factor Model substantially improves the average pricing errors of the CAPM and the Fama-French Three-factor Model and explains the cross-sectional variation in average stock returns quite well. Equation (2) and (3) below represent the FF3M and the C4FM respectively

$$R_{it} = \alpha_{it} + \beta_{it}(\text{RMRF}) + s_{it}(\text{SMB}) + h_{it}(\text{HML}) + e_{it} \quad t=1, 2, \dots, T \quad (2)$$

$$R_{it} = \alpha_{it} + \beta_{it}(\text{RMRF}) + s_{it}(\text{SMB}) + h_{it}(\text{HML}) + m_{it}(\text{UMD}) + e_{it} \quad t=1, 2, \dots, T \quad (3)$$

where R_{it} is the monthly excess return of the fund over the risk free rate (i.e. the one-month Treasury-bill return) in month t , α_{it} is the performance measure of that fund in month t , RMRF is the excess return on the CRSP value-weighted portfolio of all NYSE, AMEX and NASDAQ stocks (i.e. the market portfolio), β_{it} is the loading on the market portfolio (RMRF), s_{it} , h_{it} and m_{it} are the respective loadings on SMB, HML and UMD (‘momentum’) factors.

3.4 Full Sample Regression using MATLAB

In order to conduct the regression for the full sample, R_p , the monthly excess returns of the funds were required. Since this was not readily available it required a process to collect them. CRSP reports the raw returns of the funds in the format $n \times 1$ vector, where n is the number of funds. To calculate excess return for each fund every month MATLAB was used. It acted as a very useful tool in transforming these observations of the returns in the format $n \times p$ matrix, where n is the number of the months and p is the number of funds in the sample. The observations of the returns needed to be in this particular format, first to calculate the excess returns of each fund every month and second, to regress the excess returns on the four risk-factors

in order to get the values of the intercept, which is the abnormal performance measure (the alphas), of each of the three models mentioned above.

3.4.1 Description of the Output

Regressing the excess returns of all the funds in the sample every month on the various factors loadings using MATLAB using specific codes resulted in a single value of abnormal performance measure (alpha) for each fund for the whole period. The resultant format of the alphas – px1 vector, contained the alpha estimates (from CAPM, FF3FM and C4FM) for each of the fund. The output of the regressions also reported the factor loadings for the Market, SMB, HML and the UMD from each of the three performance measurement models. The corresponding factor loadings were produced in the format – px1 vector, which contained the loadings for each of the factors for each fund. The output of the regressions also produced the alpha intervals (from CAPM, FF3FM and C4FM) in the format – px2 matrix, that contained the 95% confidence interval for the (CAPM, FF3FM and C4FM) alpha estimates for each of the fund. This allowed me to calculate the standard errors for the alpha estimates and the relevant t-statistics for each of the corresponding fund quite easily.

In addition to evaluating the performance of the full sample of funds, I also measure the annual performance for the entire period of each of the three style categories (Growth; Growth and Income; and Income) of funds that make up my full sample using the CAPM, FF3FM and C4FM.

4. EMPIRICAL ANALYSIS

4.1 A full sample analysis

In measuring the performance of all the funds in the sample, three models of performance measures have been employed. Namely these are the Capital Asset Pricing Model (CAPM), Fama and French (1993) Three-Factor model (FF3FM) and the Carhart (1997) Four-Factor model (C4FM).

Table 3. Full Sample of Funds

	CAPM	FF3FM	C4FM
Alpha	-0.10% (-17.88)	-0.14% (-24.88)	-0.12% (-23.20)
RMRF	0.90 (127.46)	0.90 (134.23)	0.90 (128.01)
SMB		0.07 (15.55)	0.06 (14.52)
HML		0.08 (12.91)	0.08 (12.94)
UMD			-0.02 (-6.96)

Note: This table shows the performance of all the funds calculated using three performance measuring models – Capital Asset Pricing Model (CAPM), Fama and French (1993) Three-Factor Model (FF3FM) and the Carhart (1997) Four Factor Model (C4FM). The sample period is from January 1993 to December 2012. Performance measure is reported as the average value of alpha for the full sample and the relevant t-statistic is reported in parenthesis. This table also reports the average values of all the various factor loadings (RMRF, SMB, HML and UMD) for the full sample of funds over the above mentioned period.

Table 3 reports the average values of alpha and the average values for all the factor loadings i.e. of RMRF, SMB, HML and the UMD for all the funds in the sample across the three performance measurement models. The first column reports the results using the Capital Asser Pricing Model. The second column reports the Fama-French Three-Factor model results and the third column reports the Carhart Four-Factor model results. The average performance of all the funds in the sample ranges from -0.10% to -0.14% across the three performance measures. This shows underperformances by the average fund over the entire period (January 1993 to December 2012) that is also statistically significant. Under all the measures used, the average value of the loading on RMRF (which is the Market Beta) is 0.90 which is consistent with the results of other past research papers. An average Beta of 0.90 reflects the fact that mutual funds hold some cash or bonds in their portfolios. The table also shows the average loadings of SMB and HML as 0.07 and 0.08 under the FF3FM and 0.06 and 0.08 under the C4FM respectively, all figures reported

are statistically significant. The momentum factor (UMD) loads negatively when performance is measured using the C4FM. It reports an average value of -0.02 which is also statistically significant.

It is quite interesting to see the distribution of the overall performance of all the funds using histograms generated across the three performance measurement models for the entire 20 year period. Figure 1 shows that when the CAPM was employed the performance of the funds mainly ranged from -1.01% to 0.71% with majority of the funds reporting negative performance of -0.41% to -0.06%. There were about 490 funds in the sample with positive abnormal performance. The figure also shows that there was 1 fund out of the total 1206 that had a positive abnormal performance of more than 1.74%. However, its performance was found to be statistically insignificant. Furthermore, Figure 2 shows the distribution of the t-statistics of the abnormal performances for all funds, calculated using the CAPM, over the entire period. It shows that number of funds that had statistically significant abnormal performance over the entire period is just above 350 out of the total 1206 funds.

When the FF3FM was used to measure performance, a similar pattern as the CAPM was found. Out of the total number of 1206 funds in the sample, about 770 of them reported underperformance and only about 430 of the funds had positive abnormal performance as shown in Figure 3. Most of the funds had an abnormal performance ranging between -0.33% to 0.10%. However, when considering the statistical significance of the performances of the funds, the relevant t-statistic distribution of the performance of all the funds in the sample showed that about 450 funds had statistically significant abnormal performance (see Figure 4). There was also one fund in the sample that is considered an outlier since that fund reported an abnormal performance of 1.88% which is much beyond the average performance of the other funds in the sample. Furthermore the performance of that particular fund was found to statistically insignificant.

Similarly Figure 5 shows the performance of the all the funds in the sample that was measured using the C4FM. The average abnormal performance of -0.12% all the funds in the sample, as reported in Table 3, can be attributed to the underperformance by the majority of the funds. 823 funds reported negative performance that ranged between -0.88% to -0.33% as shown in Figure 5. However, performance ranged between 0.04% to 0.50% for the funds that had positive abnormal performance. The presence of the outlier is still evident in the figure. However, its performance is again found to be statistically insignificant. Figure 6 shows the distribution of the t-statistics of the abnormal performance for each of the fund in the sample over the

entire period of 20 years, calculated using the C4FM. It shows that, out of the total number of 1206 funds in the sample, about 370 funds report statistically significant abnormal performance.

4.1.1 Full Sample Analysis using the Capital Asset Pricing Model

Table 4. Full Sample of Fund Analysis using CAPM

Portfolio	Alphas	RMRF
1	-0.37%	0.92
2	-0.20%	0.90
3	-0.10%	0.91
4	-0.01%	0.86
5	0.16%	0.90

Note: The table shows the performance of five portfolios of funds as the average Alphas of each portfolio and also reports the corresponding average loading on RMRF for each portfolio, under the CAPM. RMRF is the return on the market portfolio in excess of the one-month Treasury bill rate. The portfolios are equally weighted and sorted based on lowest Alpha values to highest Alpha values where portfolio 1 holds the funds with the lowest abnormal performance (lowest alphas) and portfolio 5 holds the funds with the highest abnormal performance (highest alphas).

Using the Capital Asset Pricing Model to measure the performance of all the funds in the sample, from Table 3 we can see that the average performance of all the funds in the sample is -0.10%. We can further see a breakdown of this figure from Table 4 where the full sample of funds have been sorted into five equally weighted portfolios based on the highest and the lowest performances. Here we can see that the poorest performing funds (Portfolio 1) actually have a much lower negative average performance of -0.37% whereas the best performers (Portfolio 5) have a positive average performance of 0.16%. Segregating the average performance of all the funds in this manner into different portfolios gives us a clearer picture. We

can distinguish between the poorest and best performing funds more conveniently. However, it is also important to mention that there is only a slight variation in the average market beta (the loading on RMRF) between the poorest and the best performing portfolio. Funds in Portfolio 1 actually have a higher average loading on RMRF (0.92) than Portfolio 5 funds (0.90). This result is consistent with findings by Chen et al. (2004) who report that funds with positive abnormal performance have a lower loading on RMRF than funds with negative abnormal performance.

Furthermore the two figures below show the distribution of t-statistics for all the funds in Portfolio 1 and Portfolio 5, highlighting relevant significant abnormal performance of each fund in the portfolios. Figure 7 shows that the number of funds with significant average performance of -0.37% in Portfolio 1 is just above 200 whereas Figure 8 shows that out of 242 funds in Portfolio 5 that report average positive abnormal performance of 0.16%, the number of funds with statistically significant positive abnormal performance is only 24. This gives a picture of the presence of small number of funds in the whole sample of 1206 funds that truly have positive abnormal performance for the entire period when performance is measured using the CAPM.

4.1.2 Full Sample Analysis using the Fama-French Three-Factor Model

The second model of performance measure that is used is the Fama-French three-factor model. This model captures the CAPM average return anomalies by adding two more factors in the CAPM – the SMB and HML. The SMB takes into account the difference between the return on a portfolio of small stocks and the return on a portfolio of large stocks (small minus big) and the HML takes into account the difference between the return on a portfolio of high book to market stocks and the return on a portfolio of low book to market stocks (high minus low). These two additional factors can do a better job than the single factor in the CAPM in explaining the cross-section of average returns.

As shown in Table 3 the average performance of all the funds in the sample calculated using the FF3FM is -0.139% with an overall average loading on the RMRF (the market beta) of 0.90. What is interesting to look at is how the various factors in this model load, when the overall sample is categorised into 5 equally weighted portfolios based on performance levels. Table 5 shows that Portfolio 1 consists of the poorest performing funds and Portfolio 5 consists of the best performing funds in terms of their alpha measures.

Table 5. Full Sample of Fund Analysis using FF3FM

Portfolio	Alphas	RMRF	SMB	HML
1	-0.40%	0.86	0.07	0.12
2	-0.23%	0.87	0.08	0.13
3	-0.14%	0.90	0.07	0.10
4	-0.05%	0.93	0.04	0.07
5	0.12%	0.94	0.07	-0.01

Note: The table shows the performance of five portfolios of funds as the average Alphas of each portfolio and also reports the corresponding average loadings on various factors for each portfolio, under the FF3FM. RMRF is the return on the market portfolio in excess of the one-month Treasury bill rate. SMB is the return on a portfolio of small stocks minus large stocks. HML is the return on a portfolio of high book-to-market stocks minus low book-to-market stocks. The portfolios are equally weighted and sorted based on lowest Alpha values to highest Alpha values where portfolio 1 holds the funds with the lowest abnormal performance (lowest alphas) and portfolio 5 holds the funds with the highest abnormal performance (highest alphas).

Table 5 shows that the poorest performing funds in Portfolio 1 which consists of 241 funds have an average abnormal performance of -0.40% whereas the funds in Portfolio 5, consisting of the same number of funds as in Portfolio 1, report an average abnormal performance of 0.12%. Even though there is a positive abnormal performance amongst the funds in portfolio 5, there overall average performance of funds remain to be -0.139% due to the fact that in Portfolios 2 to 4 the average abnormal performance of funds are all negative. This means that the majority of funds in the sample have negative abnormal performance over the time period. The poorest and the best performing funds have similar loadings on the SMB. However, the best performing funds load negatively on the HML but the poorest performing funds have an average HML factor loading of 0.12.

Figures 9 and 10 show the distribution of the t-statistics for all the funds in portfolios 1 and 2. Figure 9 reports that out of the 241 funds in portfolio 1 that have an average performance of -0.40%, 232 of those funds have a statistically significant negative

abnormal performance. However, the number of funds with significant positive abnormal performance in Portfolio 5 is only 15 as can be seen from Figure 10.

4.1.3 Full Sample Analysis using the Carhart Four-Factor Model

Table 6. Full Sample of Fund Analysis using C4FM

Portfolio	Alphas	RMRF	SMB	HML	UMD
1	-0.38%	0.87	0.07	0.06	0.00
2	-0.21%	0.89	0.05	0.07	-0.02
3	-0.12%	0.91	0.04	0.08	-0.03
4	-0.03%	0.92	0.06	0.09	-0.03
5	0.12%	0.88	0.08	0.09	-0.04

Note: The table shows the performance of five portfolios of funds as the average Alphas of each portfolio and also reports the corresponding average loadings on various factors for each portfolio, under the C4FM. RMRF is the return on the market portfolio in excess of the one-month Treasury bill rate. SMB is the return on a portfolio of small stocks minus large stocks. HML is the return on a portfolio of high book-to-market stocks minus low book-to-market stocks. UMD is the return on a portfolio of past winner stocks minus past loser stocks. The portfolios are equally weighted and sorted based on lowest Alpha values to highest Alpha values where portfolio 1 holds the funds with the lowest abnormal performance (lowest alphas) and portfolio 5 holds the funds with the highest abnormal performance (highest alphas).

As a third model for measuring performance of mutual funds Carhart (1997) Four-Factor model has been used. The results of the overall average performance for the full sample of funds from the C4FM is -0.12% as shown in Table 3 and has an average loading on the RMRF (the market beta) of 0.90 which is similar to loadings reported by the CAPM and the FF3FM. Again, the full sample of funds has been divided into 5 equally weighted portfolios based on performance levels in the same manner as it has been done for CAPM and FF3FM, i.e. Portfolio 1 consists of the funds with the poorest performance and Portfolio 5 consists of the funds with the best performance from the full sample as shown in Table 6. As under the CAPM

and the FF3M, there is significant difference in the average performance of the poorest performing funds and best performing funds under the C4FM as well. Portfolio 1 funds have an average abnormal performance of -0.38% whereas funds in Portfolio 5 have a positive average abnormal performance of 0.12. The result is similar to that found from the CAPM and the FF3FM. The poorest and the best funds in the sample load almost in the same manner on SMB and HML as the FF3M but here another factor called momentum (UMD) is added that takes into account the difference in returns between the portfolio of past winner stocks and the portfolio of past loser stocks. The poor performing funds in this case have higher loading than the funds that have better performance on momentum. For instance, Portfolio 1 funds take a loading of 0.00 on UMD whereas the corresponding loading for funds in Portfolio 5 is -0.04.

The figures below again tell us a similar story, as under the CAPM and the FF3FM, that in the full sample of funds a large proportion of them have statistically significant negative abnormal performance (as can be seen from the t-statistics distribution of the performance of Portfolio 1 funds in Figure 11) and funds that have significant positive abnormal performance is comparatively quite small as shown in Figure 12 (the t-statistics distribution of the performance of Portfolio 5 funds).

4.2. Performance of Growth Funds, Growth and Income Funds, and Income Funds

Table 7. Performance of Growth Funds

	CAPM	FF3FM	C4FM
Alpha	-0.06% (-2.07)	-0.11% (-3.90)	-0.10% (-3.77)
RMRF	0.93	0.89	0.88
SMB		0.13	0.11
HML		-0.06	-0.08
UMD			0.03

Note: Table shows the averages of pooled data of abnormal performances across all the years in the sample and the relevant factor loadings of ‘Growth Funds’ calculated using three performance

measuring models – Capital Asset Pricing Model (CAPM), Fama and French (1993) Three-Factor Model (FF3FM) and the Carhart (1997) Four-Factor Model (C4FM). The t-statistics are shown in parenthesis. The sample period is from January 1993 to December 2012.

Table 7 shows the averages of pooled data of abnormal performances across all the years in the sample and the relevant factor loadings of Growth Funds. Average abnormal performance ranges from -0.06% to -0.11% across the three performance measuring models with average loading on the RMRF (the market beta) of around 0.90. This gives the idea that under any of the performance measurement models mentioned in this paper, the average performance of the Growth Funds remains negative on an annual basis. The average performances of the funds across all the three measuring models have been found to be statistically significant. The average abnormal performance reaching as low as -0.11% (as measured by the FF3FM) also reflects the fact that Growth Funds being those funds which invest in securities with comparatively higher risk. Furthermore, the table shows that Growth Funds load positively on the SMB and negatively on the HML under both the FF3M and the C4FM. Growth funds also have a very low positive loading on the momentum factor (UMD).

Table 8. Performance of Growth and Income Funds

	CAPM	FF3FM	C4FM
Alpha	-0.06% (-2.14)	-0.04% (-1.44)	-0.08% (-3.34)
RMRF	0.80	0.85	0.86
SMB		-0.03	-0.02
HML		0.12	0.13
UMD			-0.05

Note:Table shows the averages of pooled data of abnormal performances across all the years in the sample and the relevant factor loadings of ‘Growth and Income Funds’ calculated using three performance measuring models – Capital Asset Pricing Model (CAPM), Fama and French (1993)

Three-Factor Model (FF3FM) and the Carhart (1997) Four-Factor Model (C4FM). The t-statistics are shown in parenthesis. The sample period is from January 1993 to December 2012.

Averages of pooled abnormal performance and the factor loadings for ‘Growth and Income Funds’ across all the three performance measurement models is reported in Table 8. ‘Growth and Income Funds’ shows less extreme performance when compared to the performance of ‘Growth Funds’. Across the three performance measurement models, the average abnormal performance ranges from -0.06% to -0.08% which is also found to be statistically significant except for the Three-Factor Model. The funds have an average RMRF loading of around 0.84, which is slightly less than that of ‘Growth Funds’. This seems rational since this group of funds also include Income funds. However, ‘Growth and Income Funds’ have negative average loading on the SMB, positive average loading on the HML and negative average loading on the UMD.

Table 9. Performance of Income Funds

	CAPM	FF3FM	C4FM
Alpha	0.01% (0.09)	0.06% (0.69)	-0.002% (-0.04)
RMRF	0.75	0.84	0.86
SMB		-0.04	-0.03
HML		0.22	0.24
UMD			-0.07

Note: Table shows the averages of pooled data of abnormal performances across all the years in the sample and the relevant factor loadings of ‘Income Funds’ calculated using three performance measuring models – Capital Asset Pricing Model (CAPM), Fama and French (1993) Three-Factor Model (FF3FM) and the Carhart (1997) Four-Factor Model (C4FM). The t-statistics are shown in parenthesis. The sample period is from January 1993 to December 2012.

Table 9 reports the averages of pooled abnormal performance and the factor loadings for Income Funds across all the years in the period (1993 to 2012). It shows that amongst the three group of funds, Income Funds are the only ones that report positive but very low average abnormal performances of 0.01% and 0.06% when measured by the CAPM and the Three-Factor Model respectively. However, the average performances of these funds have been found to be statistically insignificant across all the performance measurement models. Income funds also have a lower average loading on the RMRF of around 0.82. This may be because Income Funds are not as aggressive as Growth Funds. Out of the 1206 funds in the sample, there are only 97 Income Funds. However, the loading on SMB for the Three-Factor Model is -0.04 and the corresponding loading on the Four-Factor Model is -0.03. Income Funds load positively on HML across both performance measurement models and negatively on UMD, which is a similar pattern like that of Growth and Income Funds.

The analysis of the performance of funds across the three performance measurement models shows underperformance by the average fund over the entire time period. Significant negative average performances are reported for the full sample of funds. When these funds are sorted into five equally weighted portfolios according to their performances, it shows that the difference between the average performance of the best performing portfolio and the poorest performing portfolio is around 0.50% across all the performance measurement models. However, the poor performing funds dominate in the full sample. ‘Growth Funds’ and ‘Growth and Income Funds’ report significant negative average performance across almost all the performance measurement models. However, ‘Income Funds’ show a positive but insignificant abnormal performance under the CAPM and FF3FM.

5. CONCLUSION

In this paper the performance of U.S. mutual funds have been evaluated. More precisely three groups of domestic equity mutual funds receive attention in this study. Using monthly data from January 1993 to December 2012 of ‘Growth Funds’, ‘Growth and Income Funds’ and ‘Income Funds’, I evaluate the performances of the funds in each group by utilizing three performance measurement tools. These are the Capital Asset Pricing Model (CAPM), the Fama-French Three-Factor Model (FF3FM) and the Carhart Four-Factor Model (C4FM).

Consistent with past research on the performance of U.S. mutual funds, I find the results of the performance of the funds in my sample to have negative average abnormal performance across all three performance measurement models during the entire time period. In analysing the performance of the full sample of funds,

I find an average abnormal performance of -0.10% under CAPM. To make my results robust, when performance is measured using two additional performance measurement models – FF3FM and C4FM – that addresses more risk factors such as the effect of size, book-to-market and momentum, I find similar results of underperformance by the average fund. Moreover, performances are also found to be statistically significant. This shows that the ability of the models to explain the cross-sectional variation in average returns.

To further investigate the behaviour of the funds, I sort the full sample of funds into five equally weighted portfolios according to their performances. This allows me to segregate the poor performing funds from the better ones into smaller groups and observe how each of the portfolio performs. Across all three performance measurement models, I find that four out of the five portfolios report negative average performance. This gives a clear picture of the underperformance by the majority of the funds in the sample. Moreover, this also enables us to distinguish between the best and the poorest performing group of funds. Amongst the poor performing portfolios, I find the poorest one to have an average performance of -0.40% under the FF3FM. However amongst the best performing portfolios, the one to report the highest figure had an average abnormal performance of 0.16%. This was found under the CAPM but it should be noted that the number of funds reporting positive abnormal performance in the sample is very small. I find that the difference in the average performance of the best performing portfolio and the poorest performing portfolio to be around 0.50% across all performance measurement models.

I further analyse the performance of the funds in my sample for the three style categories separately. Given the aggressive nature of ‘Growth Funds’, I find the average performance of the funds in this group to be the lowest as compared to ‘Growth and Income Funds’ and ‘Income Funds’. This may be the result of ‘Growth Funds’ investing in relatively higher risky securities than ‘Growth and Income Funds’ and ‘Income Funds’.

Evaluating the performances of ‘Growth Fund’, ‘Growth and Income Fund’ and ‘Income Fund’ in this paper has enabled us to have a deeper understanding of their significant contribution to the US mutual fund industry. It further enables us to understand that the growth of US mutual funds stem from these different types of domestic equity funds. As this paper focused on only three types of domestic equity fund, there is scope for further research on other types such as ‘Hybrid Fund’ and ‘Bond Fund’. Further this paper not only shows us its significance but also proves to be valuable to corporate managers in the asset management industry. US domestic equity fund could act as a model for developing countries as investment in this industry may contribute in the development and growth of that economy.

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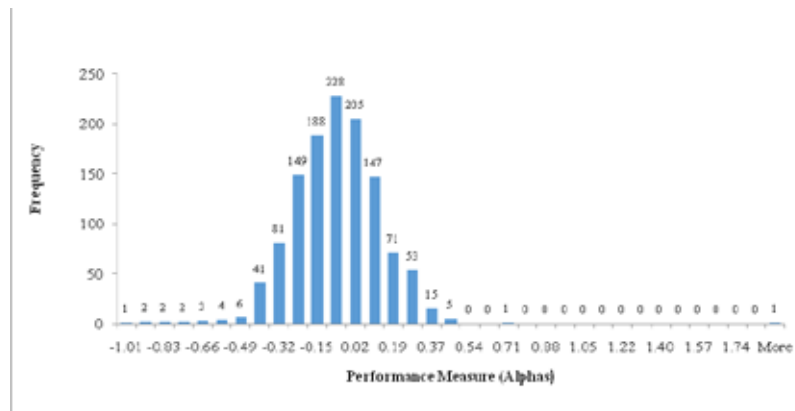
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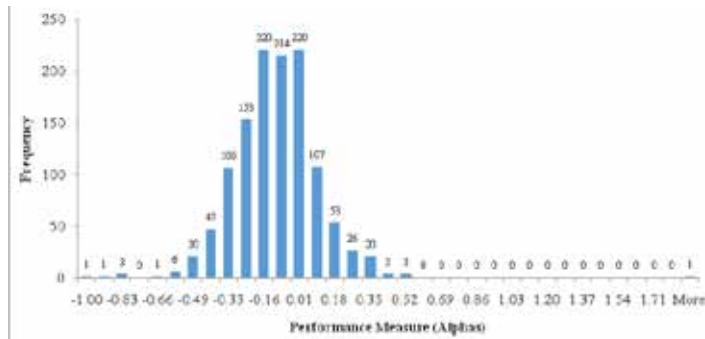
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APPENDIX



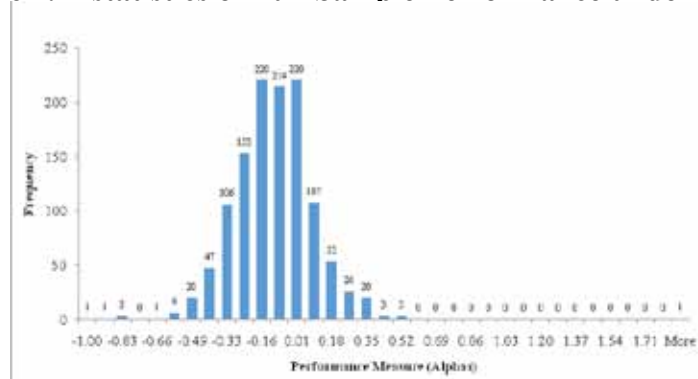
Note: This figure shows the distribution of the overall performance over the entire period (from January 1993 to December 2012) of all the funds in the sample using the Capital Asset Performance Model (CAPM).

Figure 1. Full Sample Performance under CAPM



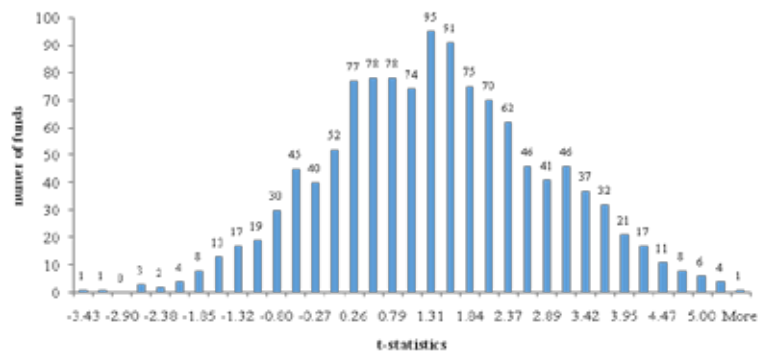
Note: This figure shows the distribution of the t-statistics of the abnormal performances, calculated using the CAPM, for all funds in the sample over the entire period from January 1993 to December 2012.

Figure 2. T-statistics of Full Sample Performance under CAPM



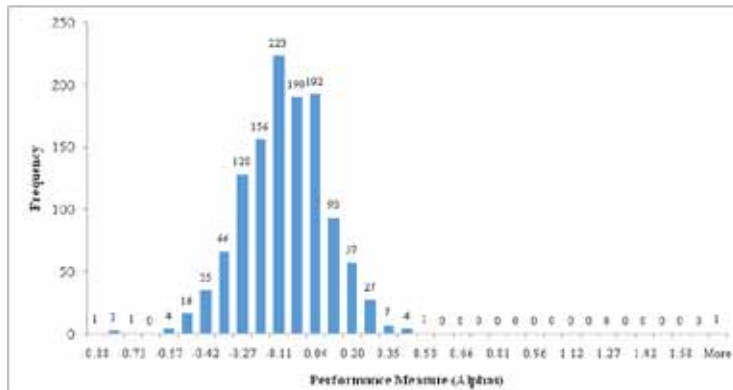
Note: This figure shows the distribution of the overall performance of all the funds in the sample over the entire period (from January 1993 to December 2012) using the Fama-French Three-Factor Model (FF3FM).

Figure 3. Full Sample Performance under FF3FM



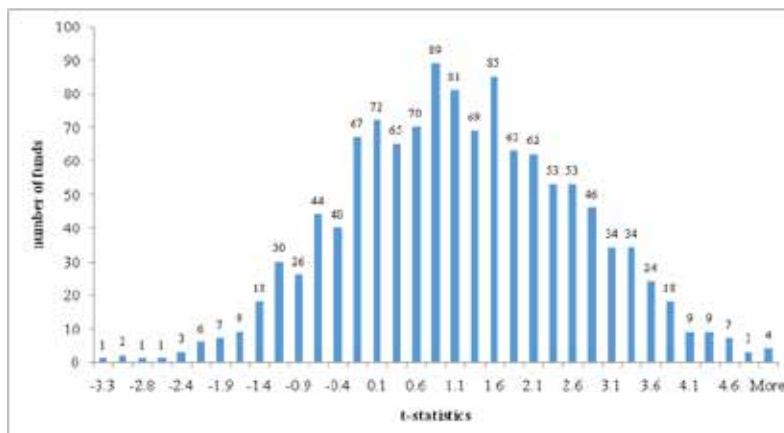
Note: This figure shows the distribution of the t-statistics of the abnormal performances, calculated using the FF3FM, for all funds in the sample over the entire period from January 1993 to December 2012.

Figure 4. T-statistics of Full Sample Performance under FF3FM



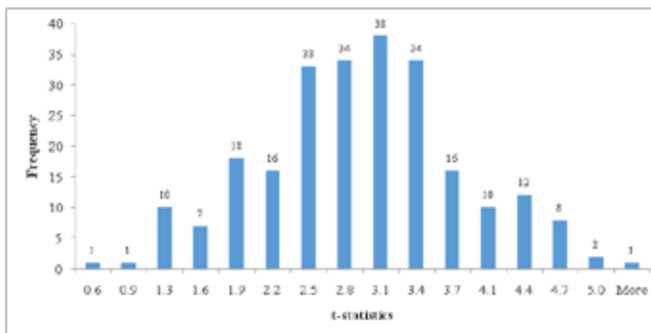
Note: This figure shows the distribution of the overall performance of all the funds in the sample over the entire period (from January 1993 to December 2012) using the Carhart Four-Factor Model (C4FM).

Figure 5. Full Sample Performance under C4FM



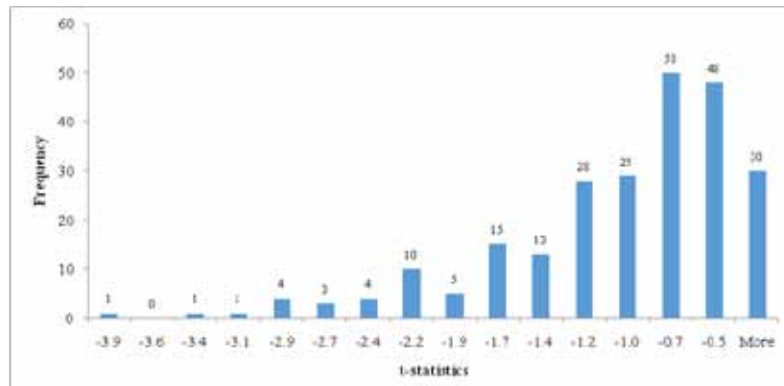
Note: This figure shows the distribution of the t-statistics of the abnormal performances, calculated using the C4FM, for all funds in the sample over the entire period from January 1993 to December 2012.

Figure 6. T-statistics of Full Sample Performance under C4FM



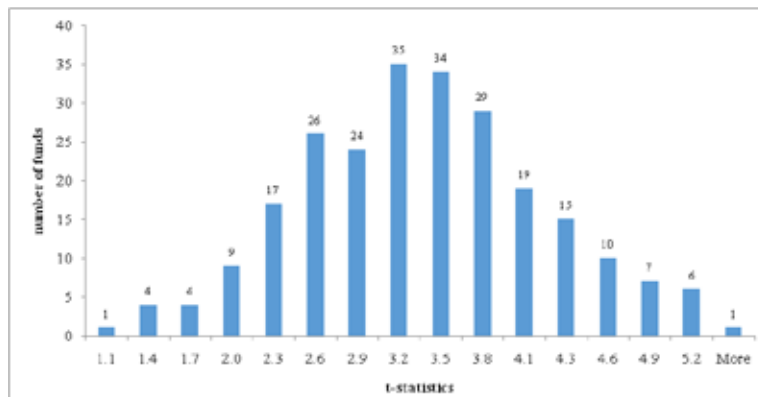
Note: This figure shows the distribution of t-statistics of the corresponding average performances of each fund in Portfolio 1 under the CAPM.

Figure 7. T-statistics of Portfolio 1 Fund Performance under CAPM



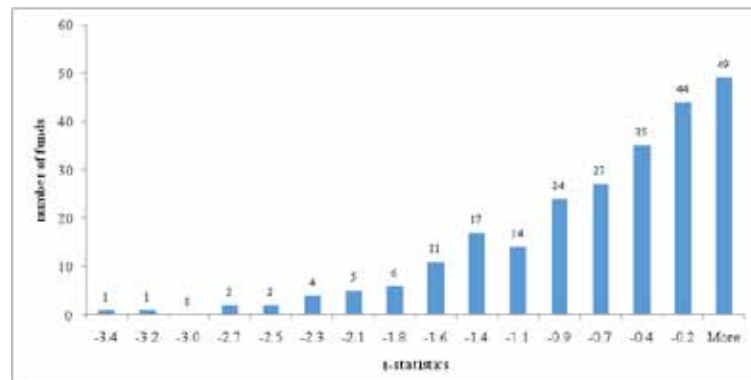
Note: This figure shows the distribution of t-statistics of the corresponding average performances of each fund in Portfolio 5 under the CAPM.

Figure 8. T-statistics of Portfolio 5 Fund Performance under CAPM



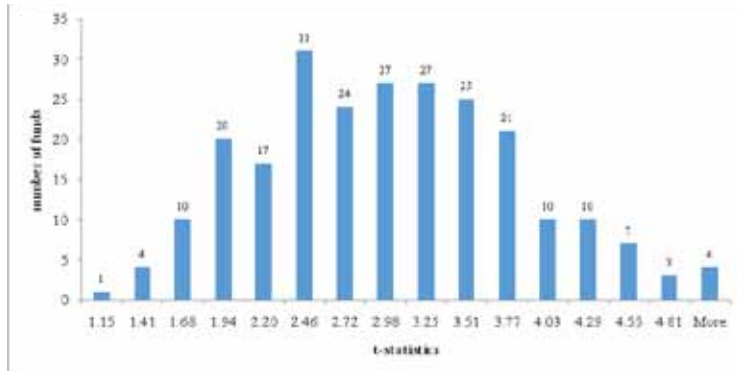
Note: This figure shows the distribution of t-statistics of the corresponding average performance of each fund in Portfolio 1 under the FF3FM.

Figure 9. T-statistics of Portfolio 1 Fund Performance under FF3FM



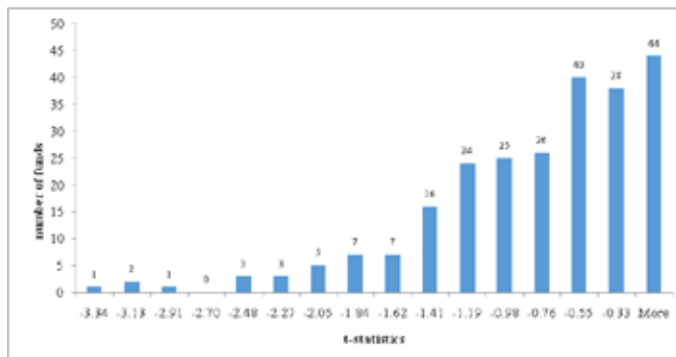
Note: This figure shows the distribution of t-statistics of the corresponding average performance of each fund in Portfolio 5 under the FF3FM.

Figure 10. T-statistics of Portfolio 5 Fund Performance under FF3FM



Note: This figure shows the distribution of t-statistics of the corresponding average performance of each fund in Portfolio 1 under the C4FM.

Figure 11. T-statistics of Portfolio 1 Fund Performance under C4FM



Note: This figure shows the distribution of t-statistics of the corresponding average performance of each fund in Portfolio 5 under the C4FM.

Figure 12. T-statistics of Portfolio 5 Fund Performance under C4FM

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HOW DO BANGLADESHI INVESTORS TAKE DECISIONS? AN ETHNOGRAPHIC DECISION TREE MODEL OF STOCK SELECTION

Ashiqul Haq Chowdhury^a, Asad Karim Khan Priyo^b

ABSTRACT

The study explores the decision making process of Bangladeshi stock market investors. We interview 31 investors currently holding stock portfolio in the Dhaka Stock Exchange (DSE) to understand their choices and decision making process. Based on the findings, we develop an Ethnographic Decision Tree Model (EDTM) of Stock Selection. We find that a stock usually comes to an investor's attention through news/ rumors or suggestions received from family/ friends/ broker or on the basis of past experience. Information use often depends on trust and the necessity to act on it immediately. In an active search process, 'filter' criteria are used to reduce the choice set of stocks for further evaluation. The nature of evaluation depends on whether investors look to invest for the long or the short term. Finally, stock selection depends on whether investors perceive the stock to be undervalued and whether the stock fits her/ his investment strategy. We also find that collective intelligence affects an individual's investment decision and trustworthiness of the information source is a key factor in determining her/ his investment behavior.

Keywords: Bangladesh Stock Market, Investor Information Collection Process, Investor Decision Making Process, EDTM of Stock Selection, Collective Intelligence.

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1. INTRODUCTION

Market efficiency has received significant attention from scholars since Eugene Fama (1970) introduced the Efficient Market Hypothesis and is an important feature which determines how effective the stock market is in promoting economic development (Hassan et al., 2000). Several studies suggest that the Capital Market of Bangladesh is inefficient (e.g. Hassan et al., 2000; Mobarek et al., 2008). According to these studies, lack of proper regulatory framework and monitoring, and lack of investor knowledge and rationality are the leading causes for the inefficiencies of the Dhaka Stock Exchange (DSE) and the Chittagong Stock Exchange (CSE). One of the reasons behind the 2010-11 stock market crash is argued to be a preceding huge surge of demand for stocks by a large group of new investors, most of whom without having enough knowledge about the stock market invested most or all of their savings in the market (Saha, 2012).

Indeed, a popular perception regarding Bangladeshi stock market investors is that a large portion of them invest in the market without really understanding what they are getting into and take unreasonable amount of risk. This perception can be understood by the following comments made by several past and present regulators/policy makers of the country at different times. Mirza Azizul Islam, former finance advisor to the caretaker government, e.g., said, "I have information that once again many people are selling off their land or borrowing money to invest in the share market. This is absolutely not the right thing to do." Farooq Ahmed Siddiqui, former chairman of Bangladesh Securities and Exchange Commission (BSEC) suggested, "It is not wise for those who do not understand the stock market to invest in it." Sheikh Hasina, the Prime Minister of Bangladesh, commented, "Do not buy any and every bit of information. One ends up making an investment, then losing everything and then crying that the fault is of the government, the fault is of the finance minister. That should not happen." (bdnews24.com, 2017).

Given the debacles that the Bangladesh stock market has faced over the years, it sure is interesting to probe into the investment decision making process of the investors and investigate, among other things, whether the popular perception is correct or not. Although a number of innovative studies have been undertaken in order to clarify our understanding of the investor information processing and decision-making behavior (e.g. Clarkson & Meltzer, 1960; Slovic et al., 1972; Bouwman et al., 1987; Nagy & Obenberger, 1994; Loibl & Hira, 2009), such studies are rare if not nonexistent in the context of Bangladesh capital market. Majority of the studies on Bangladesh stock markets focus on market efficiency and regulations on information disclosure requirement (Hassan et al., 2000; Mobarek et al., 2008). In

a relatively recent study on investors in the Dhaka Stock Exchange (DSE), Mamun et al. (2015) seek to find out whether DSE investors are rational or irrational and claim to have found a complete absence of the assumption of either rationality or irrationality in a number of critical issues. None of these studies explicitly analyze information collection and decision making process of the investors. In this paper, we attempt to fill this void by exploring the decision making behavior of Bangladeshi stock market investors. In contrast to the studies conducted on Bangladesh stock market, the focus of this paper is on the ‘why’ and the ‘how’ as opposed to the ‘what’ in order to have a deeper understanding of the decision-making process of the investors.

Efficiency level of the stock market is a critical factor in determining the ability of the firm sector of an economy to generate funds to finance capital investments, which in turn plays a pivotal role in achieving sustainable economic development. Understanding the decision making process of the stock market investors is the first step in understanding how efficient the stock market is. Our research is important because this is the first methodical and direct effort – to the best of our knowledge – of understanding the details and the nuances associated with information collection and decision making process of stock market investors of Bangladesh.

Our primary objective is to have an understanding of why and how stock market investors in Bangladesh choose which stocks to invest in. In doing so, we also explore the process the investors follow in searching for information and making decisions with a view to identifying possible patterns and biases. We interview investors holding portfolios in the DSE and on the basis of the interview findings, we develop an Ethnographic Decision Tree Model (EDTM) that captures this stock selection process of Bangladeshi investors. Interestingly, our analysis suggests, somewhat contrary to the popular perception, that Bangladeshi investors as a whole, follow a rather logical decision making process when selecting stocks to invest in. We find that a stock usually comes to an investor’s attention through news/ rumors or suggestions received from family/ friends/ broker or on the basis of past experience. Information use often depends on trust and the necessity to act on it immediately. In an active search process, ‘filter’ criteria are used to reduce the choice set of stocks for further evaluation. The nature of evaluation depends on whether investors look to invest for the long or the short term. Finally, stock selection depends on whether investors perceive the stock to be undervalued and whether the stock fits her/ his investment strategy. We also find that collective intelligence affects an individual’s investment decision and trustworthiness of the information source is a key factor in determining her/ his investment behavior.

The rest of the paper is organized as follows. Section 2 discusses the literature on decision making process and factors affecting investment decisions; section 3 explains the research methods; section 4 summarizes the data; section 5 presents the EDTM for stock Selection which is the novel contribution of this paper; section 6 discusses some of the important findings and their implications while section 7 concludes the paper.

2. LITERATURE REVIEW

In this segment of the paper, we perform a literature review focusing on two broad areas relevant for our purpose – papers that attempt to identify factors affecting investment decisions and papers that study decision making process and biases. The literature review has helped us develop the list of questions we use to interview Bangladeshi investors. We have also compared and contrasted the various findings summarized in the literature review in order to analyze the investors' decision making process.

2.1 Factors Affecting Investment Decisions

The literature on utility theory focuses on the development and refinement of “macro” models that explain aggregate market behavior (Nagy & Obenberger, 1994) and does not typically address individual investor's decision processes. Classical theory of portfolio choice has strong assumptions e.g. no transaction cost, awareness of all assets available and knowledge of their risks and returns etc. If all the investors face the same distribution of returns and have the same information set, in equilibrium, they select the same set of risky assets. Difference in risk attitude affects the allocation of wealth between safe and risky assets but not the assets selected. But empirical studies have shown significant heterogeneity in household portfolio holdings, inconsistent with the uniformity expected by the theory (Guiso & Jappelli, 2004).

A number of empirical studies have tried to elicit factors that explain the difference in investment behavior among individuals. In order to develop a client specified valuation model Baker and Haslam (1974) investigate factors that cause investors to vary in their perception of desirability of a particular stock and whether the factors systematically connect to their socioeconomic and behavioral characteristics. They identify two distinct types of investor: i) those who prefer dividends and ii) those who prefer capital appreciation. The first group's decision variables are related to the amount of dividend and financial stability whereas the second group is more reliant on future expectations. Investors are not homogenous. Rather, certain types

of stock are more attractive to certain types of investor.

Nagy & Obenberger (1994) like Baker & Halsam (1974) use a questionnaire approach. They report that classic wealth maximization criteria e.g. expected earnings, diversification need, minimizing risk etc. are important to investors, even though investors use diverse criteria when selecting stocks. Contemporary concerns such as local or international operations, environmental track record etc. are only given a cursory consideration. Financial Advice from brokers, family members etc. are, in most cases, not given much consideration. A large portion of the respondents reported that they do not use any type of valuation models when evaluating stocks. Lewellen et al. (1977) undertook a more rigorous approach to understand the factors affecting investment decision by using both questionnaire and transaction data of the respondents. They looked at four broad elements of investment activity: i) basic portfolio objectives, ii) information collection and decision mechanics, iii) instrument selection and portfolio composition and iv) return perceptions and market attitudes. They report strong indication of systematic changes in investment objectives and risk preference across age brackets and, to a milder extent, income classes. Gender, family size, education etc. are also reported as causes of systematic difference in investment activity in some cases. These are reflected in differences in investment tactics, portfolio composition and environmental attitudes.

Cohn et al. (1975) provide evidences for decreasing relative risk aversion i.e. as wealth increases, a greater proportion of total assets is invested in risky assets. Riley Jr. & Chow (1992) also examine the factors affecting relative risk aversion of investors. They find that risk aversion decreases with age, education, wealth and income. They also find that risk aversion increases significantly after the age 65, decreases as one passes the poverty level and significantly decreases as individual's wealth rises to the top 10% of the population.

Al-Tamimi (2006) follows a similar approach to Nagy & Obenberger (1994) to study the factors affecting investors in the UAE market. The most influencing factors, in order of importance, are: expected corporate earnings, potential for getting rich fast, stock marketability, past performance of the firm's stock, government holdings and the creation of the organized financial markets. On the other hand, the five factors found to be the least influencing factors on the UAE investor behavior in order of importance are: expected losses in other local investments, minimizing risk, expected losses in international financial markets, family member opinions, gut feeling on the economy.

Kabra et al. (2010) look at the factors influencing Indian investors. Using factor

analysis, they identify 6 key factors: security, opinion, awareness, hedging, duration and benefits. They find while the factor “benefits” dominates younger age group (22 - 40), “hedging” influences the decision of the older age groups the most, which suggests that young investors generally demonstrate relatively more risk taking behavior. They also find that men are primarily affected by the factor “awareness” whereas women are more influenced by “benefits” and “hedging”. The authors suggest that men exhibit more risk taking behavior and eager to know about different schemes available in market whereas women are relatively more risk averse.

2.2 Decision Making Process and Biases

Normative theories of decision making under uncertainty are almost always variants of expected utility rule put forward by Von Neumann & Morgenstern (1944). But rational choice theory does not provide an adequate foundation for descriptive theory of decision making. The deviations of actual behavior from the normative model are too widespread to be ignored, too systematic to be dismissed as random error, and too fundamental to be accommodated by relaxing the normative system (Tversky & Kahneman, 1986). With the expansion of traditional cost-benefit analysis of decision making, researchers find decision making heuristics insightful to explain consumer decision making behavior (Lee & Marlowe, 2003).

Past researches, usually in the field of consumer choice, have studied different decision-making heuristic models e.g. linear compensatory, additive difference, conjunctive, disjunctive, elimination by aspect, lexicographic etc. These strategies can be grouped in two ways. One is by type of comparison: alternative by alternative/ inter-dimensional evaluation strategy (consumers evaluate one alternative at a time) and attribute by attribute/ intra-dimensional evaluation strategy (attribute by attribute comparisons across alternatives). Secondly, these can be grouped by compensatory nature of decision making i.e. whether the consumer uses “compensatory strategy” that allows trade-off between different attributes of an alternative or “non-compensatory strategy” where consumers do not compensate one attribute with another (focuses on one or a subset of dimensions and eliminate all the alternatives that do not meet consumer’s desired level on those dimensions) (Payne, 1976; Lee & Marlowe, 2003).

Payne (1976) finds that a decision maker’s information processing leading to preferential choice varies as a function of task complexity. Lee & Geistfeld (1998) propose two types of model. “Ideal Choice Model” represents “true preference” which is well developed, stable and not distorted by cost elements of the decision-making process. On the other hand, “Descriptive Model” describes how and why

consumers think and act. In an environment with no search cost, descriptive choice models will likely coincide with ideal choice models. Task/ Decision Complexity is identified as an important element causing descriptive model to differ from ideal choice model. Factors affecting decision complexity include the number of alternatives in a choice set, the number of attributes for each alternative, the relationships among attributes, and the amount of time available for making a decision. Payne (1976) finds that consumers faced with two alternatives use a decision strategy which employs the same amount of information search for each alternative. This suggests the use of compensatory decision models in this scenario. But when consumers face more complex task with 6 or 12 alternatives, they exhibit variable information search across alternatives which suggests the use of non-compensatory decision models. The findings validate the author's hypothesis that increase in complexity of a decision situation will result in decision makers using choice heuristics to reduce cognitive strain. Payne et al. (1988) report that under moderate time pressure, subjects accelerate their processing and, to a lesser extent, focus on a subset of the available information. Under severe time pressure, people accelerate their processing, focus on a subset of the information, and change their decision strategies. There is slightly more attribute-based processing and more variance in the proportion of time spent on various attributes as time pressure increases.

Bouwman et al. (1987) study the investment screening process of financial analysts. The authors try to generalize the findings and draw attention to 3 major aspects of the investor behavior: information search strategies, the vehicles used to guide information search and task-specific knowledge. The "information search strategies" of the experts vary along two dimensions: i) the extent to which specific information is searched and ii) ease with which the search is interrupted due to change in objective. In the first dimension, an investor has either a "directed" approach where they look for specific information or a "sequential" approach where the information pieces are examined one by one. The analysts mostly employ the directed strategy as it is less time intensive and it enables them to view only the information which they believe are important for decision making. Some of them employ sequential search strategy only in order to check whether they have missed any key piece of information. In the second dimension, an investor pursues either an "active" strategy in which analyst quickly changes her/his objective or "methodical" strategy in which analyst completes the current goal before starting a new one. According to the study, the analysts vary considerably in this dimension. Those pursuing active strategy reach to a final decision faster than others. The authors identify 3 vehicles that determine the direction of analysts' search: "checklist" of important indicators, developing a "theme" of a company's nature and future prospects and "conditional

checklist”. All the analysts use checklists though its elements vary from analyst to analyst. Authors indicate that the variance in checklist maybe because of the lack of attention the checklist approach receives in financial training. The analysts hence build their own checklists from their experience. Conditional checklists contain those factors about which the analysts want to know more than what is available in the report. In such cases, they are willing to interrupt their current task to get the complete information. “Task-specific knowledge” is also an important determinant of analysts’ information search. An analyst usually resorts to “financial templates” which are memory structures based on her/ his accumulated experience. Financial templates are complex structures that contain a variety of knowledge: industry specific standards of what is acceptable, “pictures” of typical company behavior, typical problems for a particular type of company or industry, and ready-made evaluations of the attractiveness of an investment.

Daniel et al. (2002) review evidences of psychological biases that affect investors. Since human information processing capacity is finite due to limited cognitive resources such as time, memory and attention, there is a need for imperfect decision-making procedure; the authors call it “heuristic simplification”. This has been identified as a source of psychological bias along with self-deception and emotion-based judgment. Heuristic simplification helps explain many different documented biases, such as salience and availability effects (heavy focus on information that stands out or is often mentioned, at the expense of information that blends in with the background), framing effects (wherein the description of a situation affects judgments and choices), money illusion (wherein nominal prices affect perceptions), and mental accounting (tracking gains and losses relative to arbitrary reference points).

They cover a number of investor biases which have been covered in the extant literature. Firstly, investors often do not invest in different asset or security categories. They invest only in stocks that are “on their radar screens”. Many investors entirely neglect major asset classes (e.g. commodities, stocks, bonds, real estate), and omit many individual securities within each class. Investors are strongly biased toward investing in stocks based in their own home countries. Investors with more social ties are likelier to participate in the stock market. Employees tend to invest in their own firms’ stocks and perceive these stocks as low risk. A focus on salient features, familiarity or ‘mere exposure’ effects, (e.g. a perception that what is familiar is more attractive and less risky) and ambiguity aversion are cited as possible causes for such behaviors.

Secondly, investors exhibit loss averse behavior. Individuals are concerned

about gains and losses as measured relative to an arbitrary reference point. These psychological effects help explain the disposition effect, i.e., investors are more prone to realizing gains than losses. Odean (1998) shows that the individual investors trading through a large discount brokerage firm are more likely to sell their winners than their losers.

Thirdly, investors use past performance as an indicator of future performance in mutual fund and stock purchase decisions. Sirri & Tufano (1998) provide evidence that flows into mutual funds are concentrated among those funds which have had extraordinarily high performance in the past. This evidence suggests that investors are naively extrapolating past mutual fund success, when empirical evidence suggests that there is little or no persistence in performance. The fact that the flows are concentrated among the top performing mutual funds in each category is potentially consistent with limited attention/ salience effects.

Fourthly, investors trade very aggressively. It has been argued that the volume of trade in speculative markets is too large, and overconfidence of traders has been advanced as an explanation. Evidence suggests that more active investors earn lower returns as a result of incurring higher transaction costs. Barber & Odean (1999) find that investors who have experienced the greatest past success in trading are the likeliest ones to switch to online trading and will trade the most in the future. This evidence is consistent with self-attribution bias, meaning that the investors have likely attributed their past success to skill rather than to luck. Also, there is some evidence that access to internet trading appears to encourage more active trading.

3. RESEARCH METHODS

3.1 Data Collection Method

The main purpose of this study is the exploration of the decision-making process of Bangladeshi stock market investors. While questionnaires are relatively easy to administer and can be used to collect information of a large sample, it suffers a major drawback for which this method is not selected for the study. A questionnaire allows a respondent to answer only within a restricted set of responses, which often cannot fully capture her/ his thoughts and emotions. Interviews and focus groups are better suited to provide the depth of information that would be more useful. Interviews can be used as a primary data gathering method to collect information from individuals about their own practices, beliefs, or opinions. They can be used to

gather information on past or present behaviors or experiences (Harrell & Bradley, 2009). In order to fully understand the nuances of individual decision making, a qualitative approach has been deemed fit. Interview has been chosen as the method of inquiry. We interview a total of 31 investors, 5 of whom are institutional investors while the remaining 26 are non-institutional investors, regarding various aspects of their investment decision-making process. We use separate interview guides for institutional and non-institutional investors. Interview guide used for institutional investors includes questions regarding their organizations' decision process as to how they choose and manage their clients' portfolios whereas non-institutional investors have been asked questions solely pertaining to how they choose and manage their own investment portfolios.

Though Qualitative studies in Finance are rare, these are not totally non-existent. Clarkson & Meltzer (1960) and Bouwman et al. (1987), e.g., employ "Protocol Analysis", a method where the decisionmaker is asked to verbalize each step of her/his decision-making process. The researchers then analyze this data to construct a model of the decisionmaking process.

3.2 Data Analysis Method

In order to make sense of the qualitative data, we resort to an Ethnographic Decision Tree Model (EDTM). EDTM assesses behavioral choices made in certain situations and constructs formal models to represent decision choices (Hazra, 2014). An important assumption in EDTM is that groups are likely to abide by a common set of decision rules even though variations may exist at the individual level decision making (Johnson & Williams, 1993; Beck, 2005). Gladwin (1989), in a seminal work, outlines in detail the steps required to be followed by studies using EDTM. The method involves formulation of decision criteria using data obtained from a sample of decision makers and construction of "a decision tree, table, flow chart, or set of 'if-then rules' or expert systems" (Gladwin, 1989, p. 8). EDTM has been used in various academic fields such as health, psychology, agriculture, sociology, Information Systems etc. to make sense of a variety of decision making processes (see e.g., Johnson & Williams, 1993; Fairweather, 1999; Beck, 2000; Gladwin, Gladwin & Peacock, 2001; Oh & Park, 2004; Ryan & Bernard, 2006).⁵ We have not come across any study that uses EDTM to analyze the decision making process of stock selection. This study is unique from that perspective also.

¹As cited by Hazra (2014).

4. DATA

Semi-structured interviews have been conducted on 31 investors who hold portfolio in the Dhaka Stock Exchange (DSE). The interviewees were selected on the basis of personal connections and their willingness to give time (purposive sampling). They have been asked open ended questions based on the interview guides regarding their motivation to enter the market, information search and portfolio construction strategies, self-assessment of their knowledge, portfolio performance assessment, overall attitude towards investment in the stock market etc. The average interview time is about 49 minutes. All interviews have been recorded and transcribed.

4.1 Demographic and Information Use Characteristics

Table 1 reports the demographic and information use characteristics of the interviewees. The group of investors interviewed mostly consist of people belonging to the age group 31 – 40 (42%). The next largest age group is 21 – 30 (35.5%). Vast majority of the respondents are men (90%). More than half of the respondents are married (64.5%). All but one interviewee are University graduates, and more than half of all respondents hold Master’s degree.

Most of the respondents in this group are private service holders (39%) and investment professionals (23%). The group also includes banker, university teacher, businessmen and retired engineer. In terms of monthly income, more than half the interviewees fall either in the group “Between Tk. 20,000 and 50,000” or “Between Tk. 100,000 and 300,000”. The income group “Between Tk. 100,000 and 300,000” covers about 40% of the respondents when monthly family income is considered.

Table 1: Demographic and Information Use Characteristics

Investor Information	Percentage
Age	
21 to 30	35.5
31 to 40	41.9
41 to 50	9.7
50+	12.9
Gender	
Male	90.3
Female	9.7
Marital Status	
Married	64.5
Single	35.5
Highest Level of Education	
Higher Secondary School	3.2
Bachelor's	41.9
Master's	51.6
PhD	3.2
Profession	
Service	38.7
Accountant	3.2
Banker	3.2
Investment Professional	22.6
Student	9.7
Lecturer/Professor	9.7
Businessman	9.7
Retired Engineer	3.2
Monthly Income	
Below Tk. 20,000	7.4
Between Tk. 20,000 to 50,000	33.3
Between Tk. 50,000 to 80,000	14.8
Between Tk. 80,000 to 1,00,000	11.1
Between Tk. 1,00,000 to 3,00,000	33.3
Monthly Family Income	
Between Tk. 20,000 to 50,000	8.3
Between Tk. 50,000 to 80,000	8.3
Between Tk. 80,000 to 1,00,000	8.3
Between Tk. 1,00,000 to 3,00,000	41.7
Over Tk. 3,00,000	33.3
Years in the Stock Market	
<1 year	6.5
1 to 5	32.3
5 to 10	29.0
10 to 15	22.6
20+	9.7
Stock Market Holding as % of Total Financial Asset	
0 to 10%	8.7
11 to 20%	8.7
21 to 30%	4.3
51 to 60%	21.7
71 to 80%	13.0
81 to 90%	8.7
91 to 100%	34.8
Percentage of Information/Concept Used	
21 to 30%	12.9
41 to 60%	29.0
61 to 80%	35.5
81 to 100%	22.6

Substantial variation exists among investors in terms of length of involvement in the stock market, total financial assets and the amount of investments in the stock market. Total time involved in the stock market ranges from 4 months to 31 years. 32% of the respondents have been investing in the stock market for 1 to 5 years. We also look at the portion of one's financial assets invested in the stock market. This portion ranges from 10% to 100% of total assets. 35% of the respondents have more than 90% of their total financial assets in the stock market.

Additionally, investors were asked to fill up a questionnaire in order to accurately record their demographic and financial characteristics, awareness and use of information and concepts employed in investment decision making. To check the latter, investors were asked to rate 41 different types information and concepts (taken from the DSE website and Textbooks) in terms of familiarity and use on a 4-point scale (0=Never heard of it, 1=Heard of it but do not use it, 2=Heard of it and often use it and 3=Use it frequently). These contain market information (e.g. change in price, volume of trade etc.), accounting information (revenues, EPS, dividends etc.), concepts (e.g. Efficient Market Hypothesis) and macroeconomic indicators (e.g. fiscal policy, interest rate etc.). Based on the responses, the top 5 information used are: i) change in stock price, ii) day's value, iii) day's price range, iv) revenue, and v) Price to Earnings (P/E) Ratio. On the other hand, the bottom 5 information/concepts used are: i) Efficient Market Hypothesis, ii) Hedging, Speculation and Arbitrage, iii) S&P500, NASDAQ, Dow Jones Industrial Average (DJIA), iv) Risk Adjusted Returns (e.g. Sharpe Ratio), v) Beta and Expected Return (CAPM Model). It is important to note that the top 5 are available in the DSE website whereas the bottom 5 are not.

In order to have an overview of the percentage of the information/ concepts understood and used in constructing portfolio by an investor, total points across 41 categories for each investor were calculated and converted into percentage of total possible score.

Mean and median of the percentage use is 63% and 62% respectively. 14 investors score above this average. The top 3 investors in terms of this measure use 97%, 93% and 90% of the concepts, respectively. Two of the top three are finance professionals and all hold Master's degree. All of them are highly knowledgeable in the field of Finance and hence are expected to know more than an average investor. The investors with the lowest scores use 28%, 28% and 34% of the concepts respectively. Two have them have Master's degree and one of them holds a Doctorate degree. Two of these three investors are women. In their interviews, these two investors reported that they are more reliant on advices from their friends, colleagues and

advisors. This might be the reason behind their lower use and understanding of different information and concepts.

5. FINDINGS

5.1 *An Ethnographic Decision Tree Model (EDTM) of Stock Selection*

In order to summarize the findings and understand the factors affecting the stock selection decision of an investor participating in Bangladeshi Stock Market, an Ethnographic Decision Tree Model (EDTM) explaining an investor's process of selecting a particular stock is presented. In this section, we discuss the structure of this Decision Tree Model and support the elements with excerpts from the interviews.

The decision tree has three outcomes: "buy", "do not buy" and "consider it for later". From the interviews, three different ways by which stocks come to an investor's attention are identified. These are past experience, news/ suggestion/ rumors and active search for stocks to invest in. The stocks an investor chooses usually fall in one of these three categories.

Investors, especially those who are experienced, know about some stocks in details. These are not analyzed as frequently or thoroughly as a stock new to them. We find, somewhat similar to Sirri&Tufano (1998) and Al-Tamimi (2006), that many of the investors, based on a stock's reputation and past performance, have identified a set of stocks which are deemed 'safe'.

"I used to buy and sell stocks very recklessly before. Since the stock market crash, I invest in large and good companies whose financial conditions are known to me. For example, there is Beximco, Grameen-phone, Square etc. I hold these stocks. This is because investment in these stocks is very safe. These companies do not get into trouble that easily. Even after the market crashed, these stocks had relatively high price. Though their price fell significantly, their condition was good."

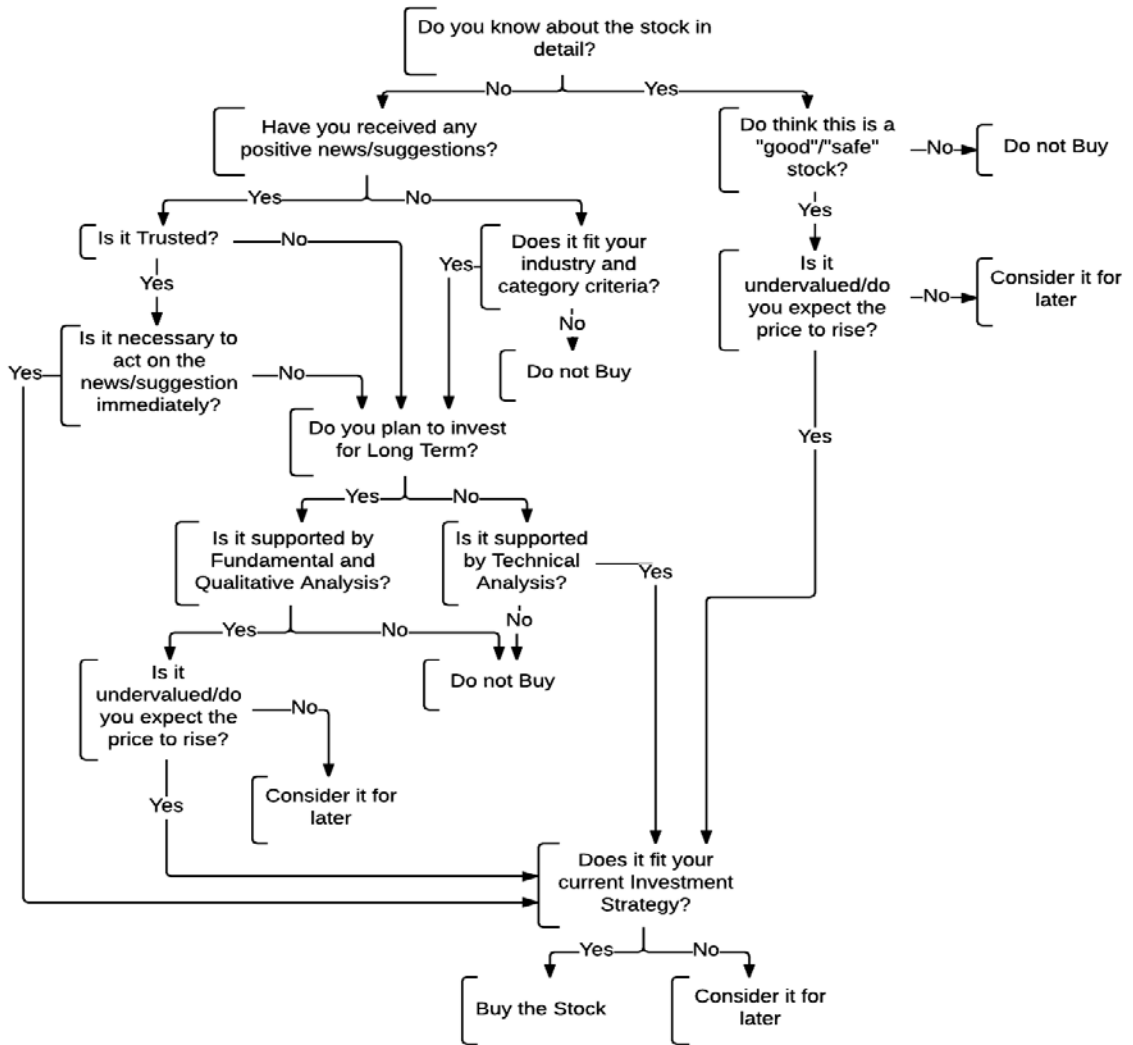


Figure 1: An Ethnographic Decision Tree Model (EDTM) of Stock Selection by Bangladeshi Investors

The interviews also show in contrast to the findings of Nagy & Obenberger (1994) that Bangladeshi investors often choose a stock based on news/ suggestions/ rumors they receive from their family/friends/acquaintances/broker. Final decisions are often taken based on information even before it is verified or validated by the investor as they put their trust on these sources and believe that immediate action is necessary to benefit from the investment. But in most cases, investors deem it necessary to study the stock before they act on the information.

“Those of us who trade have made a lot of friends. We collect the information from them. The information is not like those which can be found searching the internet. Information, e.g., that a company will start another operation is not available in the internet. Those who know the company’s directors or staffs collect the information. Then they buy the share. After they purchase, they suggest us to buy it.”

“I have an individual analysis of each stock. If I believe that the stock is comparatively cheap, I consult with some of my friends who are working in different organizations to get their opinion about it. If they give me some positive news and I see that the volume is rising, then it becomes easier for me to take the decision. I am then confident that I should buy this stock. This helps me a lot.”

Investors often actively search for stocks they are going to invest in. As many of the non-institutional investors do not have the time or capacity to look at all the stocks traded in the market, they use some ‘filter’ criteria to narrow down the choice set. From the interviews, the most common such criteria were ‘industry’ and ‘share category’. We find that investors prefer some industries over others based on their expectation of its future prospect, which is a finding similar to that of Al-Tamimi (2006) and Nagy & Obenberger (1994). Some of the investors also report strict avoidance of certain category of stocks, e.g, Z category. Hence these were used in the Decision Tree Model. Further studies may generate other such criteria.

“When you look at the 300 stocks industry wise, it comes to 10 to 15 companies. Then I analyze the industry; and the movements of different industries. I look at what movements there are in the market and which industries have the possibility of future movements. Using some technical tools, I look at the position the industries are in currently and what might their position be in the future. If I find out that an industry has the possibility of movement in the future, then I scan particular stocks from that industry using my fundamental and technical knowledge.”

“I look at the basic things like everyone. I check its condition, how much debt it has, whether it was in Z category at any time etc. I always check the category. I never buy Z category shares. This is a problem category. If there is any problem, the company goes into the Z category. It becomes difficult to sell it. It gets stuck then.”

Our analysis reveals that investors usually use a combination of past experience, news/ suggestion/ rumors and active search to identify which stocks are eligible for investment. But they are usually inclined to one or two of these sources. For example, an investor in most cases may resort to active search whereas another depends mostly on suggestions. The interviews show that different investors have a varied level of trust and dependence on suggestions. Again, different investors may have different ‘filter’ criteria or different definitions of fundamental soundness of a company and consequently different definitions of a ‘good’ company.

The interviews show that the path of analysis of a stock is dependent on the plan of the investor. Investors intending to invest for the long term usually resort to fundamental analysis along with some other evaluations based on some qualitative criteria such as management strength, shareholding structure etc. The focus on technical analysis, on the other hand, is always associated with short-term investments but never long-term investments. Even those who use mostly fundamental analysis do not do such analysis when planning for short-term investment.

“First I used to look at the profitability of the company. If the company has past years’ information, then I looked at the profit of those years. It may be so that the information tells me that they have earned good profit in the past i.e. the trend of the profit is good. They may also do well in the future. But a company with high profit might also have large capital. Then their Earnings per Share (EPS) will not be that high. But a company with good profit but small capital will have a higher EPS. So, I looked at this too. I also look at the reserves. The company may have profited in the last few years but did not give any dividend. They built up their reserves for the future. These are shareholders’ money. So, I look at whether the company has good reserves.”

“If the Management is strong, then I will invest. An example is Olympic Industry. They sell biscuits now. But when they first started out, they were a bad company. They used to sell battery then. The product did not have much value and much demand; there ratios were not good, and their future was unclear. These three indicators are very poor, but the Management is very strong. They are honest. I will invest here. Business can be bad. But it is the Management that turns this around. Olympic was a battery company. The business was bad. Then they completely shifted their focus from battery to biscuit. The product may not have potential. Then change the product, change the industry. They shifted

to food industry. Now they are doing very good in that industry. Battery is still there. They are currently selling battery, foods and they will also bring some new things into the market in the future. The company is performing better. This is because Management was very strong and had good business sense.”

“For Z category stocks, I look at the 52 weeks range. I look at whether these are at 52 weeks’ or 2 years’ low. If I see that in last one month it fell by around 20% and the market has a tendency to rise, I buy the share. I do not even look at any other thing, neither income statement nor balance sheet. I just look at the price. Let’s say that a stock’s price is at 52 weeks’ low. I then observe for a few days to see how the price behaves. The overall market is important too. When I see that the overall perception about the stock market is good and the market is steady, I buy the stock. It’s a very short-term investment, maximum 3 to 4 weeks. If I get 5-10% return within 3-4 weeks, I sell the stock.”

The ‘Point of Entry’, i.e, when to buy is always dictated by whether the stock is or perceived to be undervalued or whether the stock’s price is expected to rise in the future by the investor. A stock selected after analysis may not meet the point of entry criterion always. But rather than totally avoiding the stock, investors may consider it at point when the criterion is met. On top of that, an investor’s current investment strategy may not be consistent with the decision to purchase the stock (e.g, according to one’s investment strategy, she/ he should not exceed a pre-defined level when investing in short-term stocks or if the market condition is not favorable for risk taking etc.).

“Now, before I buy anything, I always look at the fundamentals. Then I look at the technical analysis. I examine fundamentals to judge the quality of a stock. But I also look at technical analysis as it helps me to determine when to enter the market.”

“It depends on a lot of things. For example, the market now has a positive trend. People are getting good return from the market; other things which influence the market are positive. In that case, I will invest about 60% in the short term. By short term I mean a month or 2-3 weeks, i.e., I will buy today and sell within a month. So, I will allocate 60% in short term and 20% each for medium and long term. It depends on the market condition.”

We find that there are a couple of important factors which influence the decision making process and the outcome. These are discussed below.

5.2 *Collective Intelligence*

Although investors usually incline towards either experience, news/ rumors/ suggestions or active search to guide their decision-making process, it is not easy to group investors into these three categories as the decisions are mostly a combination of these factors. Our findings suggest that stock market investment decision is a result of “collective intelligence” rather than individual intelligence. Whether active or not, each of the investors is part of a group or a network that shares information with each other. Though the information given or received is not always acted upon, news, suggestions and rumors always travel through this network. This group usually contains friends and family members who invest, brokers, fellow investors who use the same Brokerage house, members of share market related Facebook groups etc. In many cases, an individual enters the stock market with the help of her/ his friend(s) or family member(s). We also find that in the initial stage, investors are more dependent on financial advice they receive from different sources. These advices received in the initial stage of investment together with the investor’s education and experience play important role in shaping an investor’s decision-making process. The nature of a group and its influence on the decision of its members are not always addressed in Finance and Economics literature, especially in Bangladeshi context.

Collective Intelligence certainly has its advantages. It allows an individual investor to access information that s/he has not directly searched for or analyzed. If utilized properly, this can reduce the drawbacks an individual suffers due to time and resource constraints. Institutional investors enjoy the fruits of division of labor as they employ dedicated analysts for each sector. This allows them to access and analyze more information than a non-institutional investor. Organization’s structure assists them to pool information and plan their portfolio. Conscious recognition of this network and realization of its usefulness may enable investors to plan their investments more effectively. Nowadays a lot of investors and professionals are taking formal training in investment. This is likely to have a positive impact on the investment environment of Bangladesh as information shared by these qualified individuals may help to raise the quality of decision making of other investors.

5.3 Trust

The extent to which an investor depends on news/ rumors/ suggestions may depend on the trust s/he puts on her/ his sources. While investors report that they receive news from a wide variety of sources, they usually do not act upon the news before they verify it. However, among the various sources, there are some that they value and trust more than others. Investors often act upon information received from such sources almost immediately.

Things become complicated due to the existence of market manipulation. Bangladeshi investors are concerned about such activities. This may make it difficult for investors to put their trust on a particular source as they fear the news they receive may not be accurate. Investors have also expressed their distrust of published financial statements. Many of them believe the figures presented are often manipulated and do not provide a true picture of a company's financial health. Lack of trust on both public and private information often make it difficult for investors to define their preference for information and take effective decisions. This lack of trust results in investors being less reliant on published financial information and more reliant on qualitative criteria, e.g, management quality, shareholding structure, past record of board members etc. Based on these criteria, investors form an opinion about a company which in turn influences the stock selection decision. Such findings suggest potential ineffectiveness of disclosure policies. This a significant barrier in investment assessment and hence a roadblock on the way to achieving market efficiency.

5.4 A Few Additional Findings

A few other findings are worth mentioning here. A subset of the interviewees who faced the stock market crash of 2010-11 report that they did not consider risks at all when they used to invest before the crash. The high return they saw other people receiving by participating in the market attracted them. Those who started investing a year or two before the crash saw their investments garnering tremendous returns, even if the investment decisions were not well thought out. They did not take the potential risks into account, did not set a specific target for return and became aware of the risks only after they experienced the crash. This corroborates findings presented in Saha (2012) and brings forward the importance of studying investment risk communication methods in Bangladesh.

One of the Institutional investors interviewed identified broker dependence as a major problem in the Bangladeshi Stock Market. He alludes to the existence of

agency problem between the broker and the investor as the broker's incentive lies in volume of trading instead of the client's profit. But, for many investors in Bangladesh, a brokerage firm is the primary source of information. A naïve investor may not be aware of the fact that a broker may present information with a view to maximizing her/his own objective function rather than the client's. This is a problem that also requires attention.

6. DISCUSSION

In constructing the EDTM, several sources of difference among investors have been identified. Namely, we have identified differences in the following areas: how the stock comes into investor's attention (i.e. whether the choices they evaluate are actively searched for or based on suggestions given by family/ friends/ broker or based on past experience), level of trust on the received news/ rumors/ suggestions, definition of a "good" company, choice set 'filter' criteria (e.g. industry nature, share category etc.), investment duration (long-term or short-term) and evaluation criteria (fundamental analysis/ technical analysis/ other qualitative criteria), definition of undervalued stock (process of determining value or formation of expectation about future price) and finally portfolio construction strategy.

Several of our findings are supported by the literature. Daniel et al. (2002), e.g., mention that while choosing investment instruments, many investors ignore other major asset classes (e.g. bonds, real estate etc.). Our findings show that 35% of the respondents have more than 90% and 79% of the respondents have more than 50% of their total financial assets in the stock market. Barber & Odean (2008) propose that agents faced with multiple alternatives primarily consider options which have attention attracting qualities. When alternatives are many and search costs high, attention may affect choice more profoundly than preference. This proposition is consistent with our finding that news, rumors and suggestions often hold more weight than other criteria in influencing investors' decisions. We find that investors use 'filter' mechanisms to simplify the task of stock selection when presented with many alternatives. This is consistent with the work of Payne (1976) where he provides evidence that decision makers use choice heuristics to reduce cognitive strain when faced with increased complexity in investment decision making. Bouwman et al. (1987) report that financial analysts develop and use "themes" based on company's nature and future prospects to guide their analysis. Our findings present similar results as it shows that investors prefer some industries over others based on their expectations on the industries' future performance.

7. CONCLUSION

Most of the studies on Bangladesh stock markets address the issue of market efficiency without taking into account the nature of investors and their decision-making processes. This study looks to close that gap by exploring stock selection process of Bangladeshi investors. 31 investors who are currently holding portfolio in Dhaka Stock Exchange (DSE) have been interviewed regarding their choices and decision making processes. The contents of the interviews are analyzed to develop an Ethnographic Decision Tree Model (EDTM) of stock selection which helps us understand the different stages of decision making of a Bangladeshi stock market investor such as how a stock comes into an investor's attention, how choice set is handled when actively searching for stocks, how investment plans affect evaluation of a stock, how expectation of price and investment strategy affect final choices, etc. In addition, the study finds that collective intelligence and trust are two key factors that influence decision making of a Bangladeshi stock market investor.

This study is exploratory in nature. In EDTM, the researcher's interpretation of data also plays a big role. Hence, it is difficult to generalize the study's findings. One of the main contributions of this study is that it helps to identify factors specific to decision making in Bangladesh context. These findings can serve as a repository of hypotheses that can be studied further and tested to understand its validity. The method followed in this study is different from the traditional methods used in analyzing stock market decision making. It has served its purpose of generating insights which would have been difficult to obtain using other methods.

The findings of our paper have pertinent implications for business owners/managers, investment bankers/ financial institutions/ non-bank financial institutions (NBFIs), individual investors, educators and students. Business owners/ managers trying to raise funds through the capital market can be benefitted by gaining a basic understanding of the choice behavior of the potential buyers of their shares, which may have important implications for their decision to issue shares and for the pricing of their IPOs (initial public offerings). Investment bankers/ financial institutions /NBFIs can benefit from gaining useful insights regarding more prudent management of their clients' investment portfolios. Individual investors can be benefitted by acquiring an initial working knowledge as to how to go about choosing the stocks to invest in. Educators in Bangladesh teaching investment theory can use the findings for teaching purpose whereas Bangladeshi students of finance can be motivated by being able to connect the theories they learn in class with the realities of stock market decision making process of the Bangladeshi investors.

One of the limitations of the paper is that the EDTM does not include mechanism to determine allocation of funds among various forms of investment instrument in the presence of budget constraint. The interviews do not contain information on how investors determine the amount they invest in or the minimum volume they purchase for each stock. Further study is required in order to model this portion of the decision making.

The findings presented and the EDTM constructed in this paper can serve as the basis for future research on Bangladesh stock markets. The study does not depend on traditional risk-return based theoretical framework and therefore can provide a different understanding of investor behavior. As it solely focuses on Bangladesh Market, the findings capture the nuances of Bangladeshi investors. By pairing the model with economic theory, a more robust understanding of investor decision making can be studied in the future. This study also provides scope for future research on the process of information transmission within a group setting and the determinants of trust in terms of investment decision making. This research can be seen as a stepping stone to understanding a myriad of aspects regarding investment decision making in the context of Bangladesh.

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