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School of Management and Business Studies
Mahatma Gandhi University
Priyadarsini Hills P.O., Kottayam, Kerala, India - 686 560

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School of Management and Business Studies is a regular statutory Department for Management studies in Mahatma Gandhi University. The School had a humble beginning on 25th March 1999 with a two year full-time MBA program for the management aspirants with the objective of moulding enterprising youth into career oriented and competent management professionals. With dedicated and high calibre professional expertise and state-of-art infrastructure, the institution imparts the best of theory and practical knowledge to carve a niche for itself in the challenging two year MBA, M.Phil and Ph.D programmes on Management and Business Studies.

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CONTENTS

Dear Readers,

Consortia, the research based journal of School of Management and Business Studies of Mahatma Gandhi University primarily aims at publishing research outputs in the domain of Management studies and related areas. With great pleasure, we present this issue to our readers which contain an eclectic combination of seven research papers. The first paper attempts to evaluate and compare the performance of shariah complaint mutual fund with non-shariah/ conventional mutual fund. The second paper aims at discussing the concepts of virtual learning, E-Training, and the initiatives in the domain of E-Training in Kerala by various agencies. The purpose of next paper is to assess the organizational commitment of employees of star classified hotels in Kerala. The paper on optimized RFID discusses the similarity based data analysis of RFID tags movements in over the proposed data structure by analyzing the sequence similarity metrics obtained by the dynamic programming techniques. The fifth paper attempts to predict the market potential of FIBC products, a set of new innovations which provides better features than ordinary plastic bags. The next paper evaluates the effect of celebrity endorser on recall of celebrity and brand combination in jewellery advertisement. The seventh paper tries to provide an understanding about the inclusive financing in India and the important steps taken by the government in ensuring financial inclusion.

Consortia provide a common platform with academic scholars and professional thinkers to express their valuable thoughts and share their research findings in the Field of Finance, Marketing, Human Resources and Other Related Areas. We invite quality research papers from authors for the upcoming issue of Consortia.

We hope that contents of this issue will benefit readers. We would appreciate feedback from our readers with suggestions, comments and critique.

With regards

Editorial Board

A COMPARATIVE STUDY ON THE RISK-RETURN ANALYSIS OF ISLAMIC MUTUAL FUNDS WITH CONVENTIONAL MUTUAL FUNDS: AN EMPIRICAL EVIDENCE FROM INDIAN CAPITAL MARKET

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Abstract

Shariah based funds are gaining more popularity in India nowadays and new shariah complaint mutual funds are being introduced by different asset management companies. Shariah funds based funds do not target a particular community alone, but is intended for those groups of investors who have a special preference for ethical complaint funds. In this context, there is a need to analyze the performance of shariah complaint funds with respect to non-shariah complaint funds .This study evaluates and compares the performance of shariah complaint mutual fund with non-shariah/conventional mutual fund.

Keywords*: Islamic Fund, Shariah Compliance Fund, Islamic Mutual Fund, Conventional Mutual Fund.*

1. Introduction

The global Islamic funds industry has progressed tremendously having grown from a USD29.2bln Assets under Management (AuM) market in 2004 to an almost USD73.7bln market as on 9th December 2013. The number of funds in the industry has also grown four-folds from approximately 285 funds in 2004 to an estimated 1053 funds in the same time period. Despite its impressive growth in other parts of world such as the Middle East, South East Asia (which primarily include Malaysia and Indonesia) and Europe, it is yet to find favour with the Indian Market. Today, Islamic banking is not functioning in India, but it has shown its presence in the form of Non-banking Financial Corporation (NBFCs). These institutions mostly work at the regional level, catering to a niche segment. However, Indian financial market has been launched three *Shariah* compliant funds, one of which is a passively managed fund, while the other two funds are actively managed. Benchmark Mutual Fund (recently acquired by Goldman Sachs group) was the first to launch a *Shariah* based Exchange Traded Funds (ETF) called the *Shariah* BeES (now renamed as GS S&P *Shariah* BeES) in March 2009. This was followed by Taurus Mutual Fund, which launched an actively managed *Shariah* Compliant fund 'Taurus Ethical fund' in the same year. After this, there was a repositioning of a 15 year old equity diversified fund from the Tata stable called Tata Select Equity Fund, which has been renamed as Tata Ethical Fund in September 2011.

2. Objectives of the study

The study aims to investigate and compare the performance of a *shariah*/Islamic based open ended equity fund with a non-*shariah*/conventional based open ended

equity fund. In this paper, an attempt has been made to analyse and compare the portfolio structure, the risk, and return profile of Islamic mutual fund with conventional mutual fund.

3. Materials and Methods

The study was designed on the basis of descriptive and analytical approach. For the purpose of the study the researcher has selected mutual fund products of Tata Assets Management Company. Because, the Tata AMC is the only company offer Islamic Mutual Fund along with other conventional mutual funds in India. The study focused on the comparative performance of analysis of Islamic Mutual Fund with select conventional Mutual Fund. So, the scholar selected Tata Ethical Fund from Islamic Mutual Fund products segment and Tata Infrastructure Fund from conventional mutual fund products category. Both products are an open-ended equity oriented scheme with high risk elements from Tata Mutual Fund. Further, investment objectives of these funds are also same, and therefore, these two funds are chosen for the comparative study. The materials used for the study were collected from secondary source of data. The data were collected from official publication (Fact sheet), and website of the Tata AMC/Mutual Fund. The periods of the study covers from the date of inception of the fund such as Tata ethical fund from 24/05/1996 to 31/03/2014, and Tata infrastructural fund from 31/12/2004 to 31/03/2014. The collected date has been analyzed with the help of different financial and statistical tools of modern portfolio theory such as Standard Deviation, *Sharpe Ratio, r-squared, Beta, Treynor, and Jenson index* etc. These statistical measures are historical predictors of investment risk/volatility. The modern portfolio theory is a standard financial and academic methodology used for assessing the performance of mutual fund investment by comparing them to market benchmarks. The performance of Tata Ethical mutual funds and Tata infrastructural funds were compared with their respective benchmark index such as CNX 500 *Shariah,* and CNX 500 indices respectively.

4. Review of Literature

Over the past two decades, investment in ethical equity mutual funds whether based on social responsibility principles; environmental considerations, good corporate governance, engagement in local communities or, adherence to religious beliefs (Islamic, Jewish or Christian) have grown considerably around the world. It was observed that an ethical-based mutual fund underperforms compared with conventional funds due to lower diversification and missed investment opportunities (Abderrezak, 2008). However, such funds may outperform conventional funds in the longer term due to lower volatility, lower cash outflows (especially during recessions), and investors' commitment to the funds. Since one of the important considerations for an ethical investor is to satisfy their respective ethical criteria, instead of the traditional risk-return trade-off (Al-Shakfa and Lypny, 2011; Renneboog et al., 2008). Investors in Islamic Mutual Funds (IMFs), as well as other ethically motivated investors, are similarly concerned with the potential marginal cost in terms of lower returns or higher risk as a result of adherence to their belief. It was found that IMFs perform better than

conventional funds especially in the economic downturn due to the absence of financial leverage (Abdullah et al., 2007; and Hoepner et al., 2011). Globally, AUM of IMFs represent less than one percent of the USD 25.92 trillion global mutual funds market. However, IMFs' market is growing rapidly across both developed and under-developed capital markets, with more than 700 mutual funds currently offered globally, which specialize in diverse asset classes including equities, commodities, fixed income and money markets. The AUM of IMFs have grown from USD 3.3 billion in 2003 to USD 58 billion in 2010 (Ernst & Young, 2011). Comparing the performance of IMFs with that of the conventional fund has been the primary focus of prior research in IMFs. Prior evidence shows that IMFs underperforms their equity benchmarks and are more likely to suffer small cap bias due to stricter screening criteria (Abderrezak, 2008; Hayat and Kraeussl, 2011; Merdad et al., 2010). However, in a recent study found that IMFs neither underperforms their equity market benchmarks nor experience a small cap bias (Hoepner et al., 2011). The majority of studies on the performance comparison of IMFs with conventional funds face the benchmark selection problem where performance of IMFs is compared against conventional index, or poorly selected benchmarks (Elfakhani et al., 2007; and Merdad et al., 2010). It has been stated that IMFs provide hedging opportunity to investors due to their capability to produce positive returns during those time periods when market experiences bearish trends. The study proposes that Islamic indexes have developed some unique risk-return characteristics that are not affected by the broad equity markets. Selection of appropriate benchmark is crucial for the performance measurement of active managers. Unsuitable benchmarks may defeat the objectives of performance evaluation by misidentifying the better performing managers (Brown and Reilly, 2009; Lehmann and Modest, 1987; Shukla and Singh, 1997). It was found that a portfolio of Shari'ah-compliant equities performs better than a portfolio of non-*Shari'ah* compliant portfolios extracted from S&P Europe 350, as proxy for the market during the financial crisis (Alam and Rajjaque, 2010). However, the *Shari'ah* compliant portfolio underperforms the market when the market is generally trending upward. This result should not be surprising due to the fact that equities in the *Shari'ah* compliant portfolios have lower leverage than the non-*Shari'ah* compliant portfolios. The study found that IMFs are relatively less risky than conventional funds and perform better than conventional funds during bearish economic periods (Abdullah et al., 2007). The empirical results provide evidence of better performance of IMFs relative to conventional funds during the economic crisis. In addition, although, there is no evidence of relative superiority in market timing ability, managers of IMFs appears to have better stock selection ability during the economic crisis. The combination of superior stock selection ability of IMFs and the negative market timing ability of conventional funds suggests that IMFs offer better hedging opportunity to investors during periods of economic downturn. All investors, regardless of ethical or religious orientation, can enjoy the benefit of hedging by holding a proportion of investment portfolio in IMFs. Similarly, managers of conventional funds can improve the risk adjusted performance by following similar screening criteria as IMFs during economic slowdowns

(Dawood Ashraf, 2012). The study reveals that there is a superior fund selectivity skill but inferior market timing expertise among the Islamic fund managers. In the contrary, results signify that the Islamic funds have been able minimize the risks as compared to the benchmarks and their returns performance is comparable to the market benchmark (Raheel Mumtaz Muhammad Usman Saad Bin Nasir, 2014). Nowadays *shariah* based funds are introduced into the Indian financial market with the aim of targeting certain specific communities and investors interested in ethical funds. There are no much studies which analyze and compare the performance of a *shariah* based fund with non-*shariah* based funds. Hence, this study is an attempt fills this lacuna.

5. Data Analysis and Discussions

In this section, an attempt has been made to analyze and discuss the comparative features of the select mutual fund products in terms of portfolio allocation/ structure, fund size and portfolio turnover, Net asset value, Risk, and Return of the portfolio by using modern portfolio theory.

5.1 Portfolio Allocation/Structure

Tata Ethical Fund, an open-ended equity oriented scheme, from Tata Mutual Fund is India's First Actively Managed Equity Oriented *Shariah* Compliant Diversified Fund. It is managed by seasoned Investment Professionals from Tata Mutual Fund. Investment objective of the Tata Ethical Fund is to provide capital appreciation and income distribution to unit holders through investment in a diversified portfolio of equities, which are based on the principles of *Shariah.* The investments in this fund are based on the fundamentals of *Shariah*, which are guided by the Islamic investment philosophy which invests in companies based on certain screening norms. Investment strategy of *Shariah* mutual fund Schemes will be invested in the companies which are based on the principles of *Shariah* whereby, it is not permissible to acquire the shares of Companies providing financial services on interest like conventional banks, insurance companies or the companies involved in some other business not approved by *Shariah,* such as companies manufacturing, selling or offering liquors, meat, or involved in gambling, night club activities, pornography etc. The Fund Manager will identify the stocks for investment from the stock universe available from S&P BSE 500 *Shariah* Index which is the benchmark index for this scheme. Stocks will be screened using two main criteria- Sector based screens and Accounting based screens. Companies that are found to be non-*shariah* compliant are screened out. Accounting based screens involve studying the structure of the business under three aspects - Leverage Compliance, Receivables & Cash Compliance and Revenue Share from Non-Compliant Activities. Tata Infrastructure Fund is an open ended diversified and theme-based equity fund that seeks to generate long term capital growth. To provide capital appreciation and income distribution to unit holders by investing pre-dominantly in equity and equity related securities of the Companies belonging to infrastructure sector, and it's related industries inclusive of suppliers of capital goods, raw materials and other supportive services to infrastructure companies and balance in debt and money market instruments. This product is suitable for investors who are seeking long

term capital appreciation, investment in equity & equity related instruments of companies from Infrastructure Sector and a higher tolerance for risk. As far as the portfolio allocation is concerned, Tata ethical funds, and infrastructural funds invest in bullish sectors like Auto Ancillary, cement, capital goods, Information Technology, Pharmaceuticals, Electric Equipment, Oil Exploration etc. As compared to Tata Ethical Fund, the Tata infrastructural fund allocate on an average of 30% of the portfolio concentrated in the banking, insurance and finance sector; but, in the case of Tata Ethical Fund, the allocation of funds in finance and banking sector is not engaged. The market capitalization-wise exposure of the portfolios of the funds indicates no significant difference between Tata Ethical Fund and Tata Infrastructure fund (Table 1). Both funds allocate majority of the investment in equity shares of large cap companies, which is slightly higher (74.93%) in Tata Ethical funds when compared to Tata infrastructure funds (69.38%).

Table 1: ***Market Capitalization-wise Exposure of Tata Ethical Fund and Tata Infrastructure fund (As on 31/10/2014)***

Market Cap	Tata Ethical Fund (%)	Tata Infrastructure Fund (%)
Large Cap	74.93	69.38
Mid Cap	23.36	27.48
Small Cap	1.71	3.14

Source: *Fact Sheet of Tata Mutual Fund (www.tatamutualfund.com)*

5.2 Fund Size and Portfolio Turnover

The actively managed Shariah funds constitute only 0.11% of total AUM of all equity diversified fund of Tata AMC. An insight into the fund size of Tata ethical fund shows that the corpus has increased from INR 103.61 crores to INR 223.82 crores during the period of 2011 to 2014. The AUM of Tata infrastructural Fund (INR 816.65 crores) was four folds higher than that of Tata Ethical Fund (Table 2). Portfolio turnover ratio is the percentage of fund's holdings that have changed in a given year. If the portfolio is churned many times during a year, the fund will incur higher transaction cost. Aggressively managed funds generally have higher portfolio turnover rates than conservative funds. A low turnover rate (30% to 50%) would indicate a buy-and-hold strategy. From this angle, portfolio turnover rate of Tate ethical fund is significantly lower (27.57%) than Tata Infrastructural fund (72.13%). So, the portfolio of Tata ethical fund adopts buy-and-hold strategy when compared to aggressively managed funds of Tata infrastructure mutual fund (Table 2).

Table 2: ***Fund Size and Portfolio Turnover of Tata Ethical Fund and Tata Infrastructure fund (As on 31/10/2014)***

Funds	Fund Size (INR in Crores)	Portfolio Turnover (%)
Tata Ethical Fund	223.82	27.57
Tata Infrastructure Fund	816.65	72.13

Source: *Fact Sheet of Tata Mutual Fund (www.tatamutualfund.com)*

5.3 Net Asset Value (NAV)

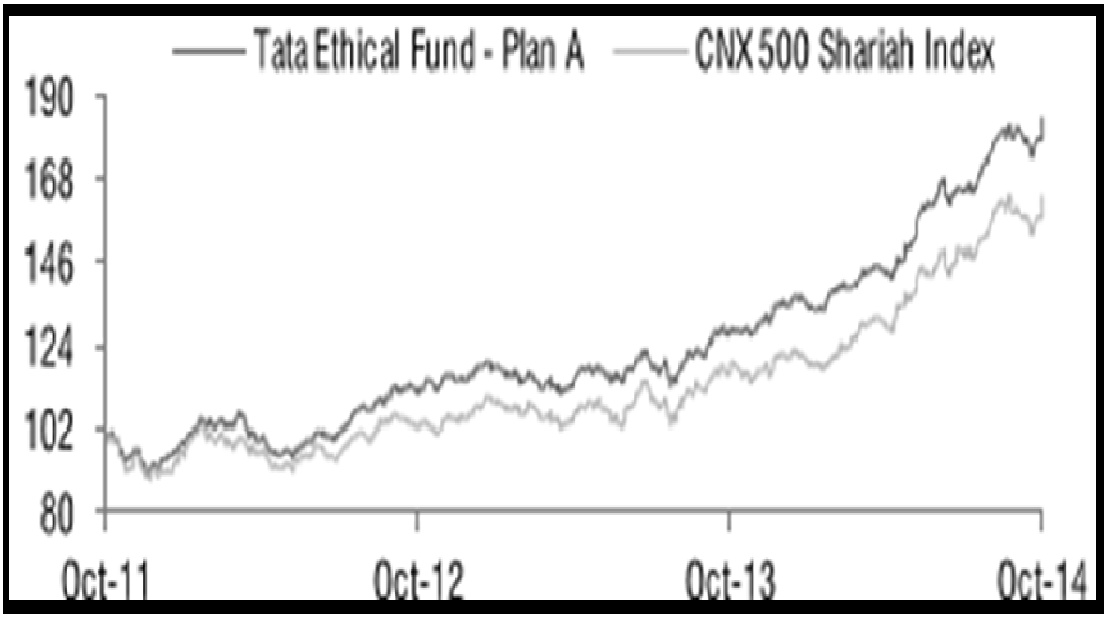
Net asset value (NAV) represents a fund's per share market value. It is derived by dividing the total value of all the cash and securities in a fund's portfolio, less any liabilities, by the number of shares outstanding. It depicts the value of the investor's current investment in the mutual fund schemes. NAV of all the schemes of Tata ethical funds are significantly higher when compared to Tata Infrastructural funds (Table 3). The NAV of Tata ethical fund has been increasing more than the rate of its benchmark CNX 500 *shariah* during the period of October 2011 to October 2014(Fig. 1). But, in the case of Tata infrastructure fund, the NAV has been increasing in less than proportionate rate of its benchmark CNX 500 index during the period (Fig. 2).

Table 3: ***NAV of Tata Ethical Fund and Tata Infrastructure fund (As on 31/10/2014)***

Schemes	Tata Ethical Fund (INR)	Tata Infrastructure Fund (INR)
Direct-Growth	117.23	39.03
Direct-Dividend	70.52	25.73
Plan A- Growth	115.43	38.72
Plan A-Dividend	65.36	25.52

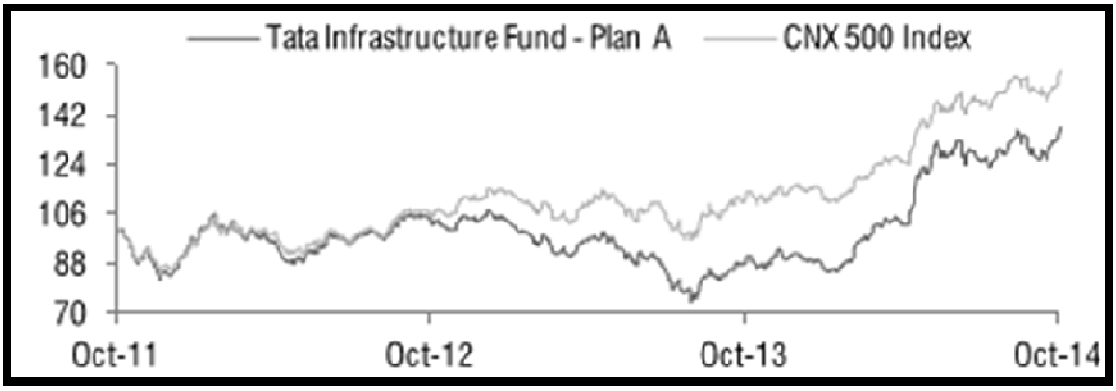
Source: *Fact Sheet of Tata Mutual Fund (www.tatamutualfund.com)*

Figure 1: ***NAV of Tata Ethical Fund and its Bench Mark index: CNX 500 Shariah (October 2011 to October 2014)***



Source: *Fact Sheet of Tata Mutual Fund (www.tatamutualfund.com)*

Figure 2: ***NAV of Tata Infrastructure Fund and its Bench Mark index: CNX 500 (October 2011 to October 2014)***



Source: *Fact Sheet of Tata Mutual Fund (www.tatamutualfund.com)*

5.4 Scheme Returns

It has been observed that Tata Ethical Fund provides comparatively higher returns than Tata Infrastructural fund from the data of inceptions of the fund to the investors. The Tata Ethical Fund has generated positive returns when compared to the negative returns of Tata Infrastructural Fund during the period of 01/04/2011 to 31/03/2013. Further, the cumulative annual growth rate of Tata Ethical Fund from the date of inception shows 16.73%, which is comparatively higher than the returns of Tata Infrastructural Fund (12.12%). When comparing the returns with benchmark index shows that Tata Ethical Fund has been given higher positive returns than the returns of its benchmark CNX 500 *Shariah* during the period of study. In contrast to this, the returns of Tata Infrastructural Fund were lower than its benchmark CNX 500 index in the above said period (Table 4).

Table 4: ***Scheme Returns of Tata Ethical Fund and Tata Infrastructure Fund with Benchmark Index (Since inception to 31st March 2014)***

Periods	Islamic Mutual Fund		Conventional Mutual Fund	
	Tata Ethical Fund (Plan-A Growth)	CNX 500 *Shariah* (Benchmark)	Tata Infrastructure Fund (Plan-A Growth)	CNX 500 Index (Benchmark)
01/04/2013 to 31/03/2014	24.68%	22.74%	10.38%	17.72%
01/04/2012 to 31/03/2013	08.51%	05.60%	-06.42%	05.13%
01/04/2011 to 31/03/ 2012	01.41%	-06.52%	-14.82%	-08.75%
Since inception: CAGR	16.73%	10.73%	12.12%	12.17%
	24/05/1996 to 31/03/2014		31/12/2004 to 31/03/2014	

Source: *Fact Sheet of Tata Mutual Fund (www.tatamutualfund.com)*

5.5. Risk/Volatility Measurers

The modern portfolio theory suggests important parameters to measure risk/volatility of mutual fund investment such as standard deviation, *beta, R-squared, Sharpe index, Treynor index, Jenson index* etc. These measures are most commonly used to measure the performance of mutual fund products, and to take appropriate investment decisions. Standard deviation is a statistical measurement that shows how much variation there is from the arithmetic mean (simple average). In finance, standard deviation is applied to the annual rate of return of an investment to measure its volatility (risk). A volatile stock would have a high standard deviation. With mutual funds, the standard deviation tells us how much the return on a fund is deviating from the expected returns based on its historical performance. The annualized standard deviation of Tata Infrastructural fund was comparatively more than that of Tata Ethical fund (24.23>11.23), and hence, it can be inferred that Tata ethical fund is less volatile/risky than Tata infrastructural fund (Table 5). The benchmark indices of ethical, and infrastructural funds also shows same phenomenon (18.07>12.44).

Table 5: ***Risk /Volatility Measurers of Tata Ethical Fund and Tata Infrastructure Fund with Benchmark Index (As on 31st October 2014)***

Parameters	Islamic Mutual Fund		Conventional Mutual Fund	
	Tata Ethical Fund	CNX 500 Shariah (Benchmark)	Tata Infrastructure Fund	CNX 500 Index (Benchmark)
Standard Deviation (SD: Annualized)	11.23	12.44	24.23	18.07
Portfolio Beta (ß)	0.82	1.00	1.27	1.00
R-squared	0.83	1.00	0.90	1.00
Sharpe index	0.33	0.21	0.06	0.14
Treynor index	1.31	0.76	0.34	0.74
Jenson Alpha	0.45	NIL	-0.50	NIL

Source: *Fact Sheet of Tata Mutual Fund (www.tatamutualfund.com)*

Beta, with regard to mutual fund investing, is a measure of a particular fund's movement (ups and downs) compared to the overall market. *Beta* can be considered a measure of sensitivity or systematic risk. *Beta* measures higher than 1.00 will indicate higher highs but lower lows (wider swings in price or NAV for mutual funds). A mutual fund investor looking for a fund with less volatility (less swings in price or NAV) might look for funds with betas lower than 1.00. It has been reported that the *beta* value of Tata Ethical Fund is lower than one (0.83), which indicates the sensitivity or volatility of Tata Ethical Fund to the market is

comparatively lower than that of Tata Infrastructure Fund (1.27). But, there is no significant difference in the *beta* value (1.00) of benchmark indices of both funds (Table 5).

R-Squared is a statistical measure that represents the percentage of a fund portfolio's or security's movements that can be explained by movements in a benchmark index. *R-squared* values range from 0 to 100. A mutual fund with an R-squared value between 0.85 and 1.00 has a performance record that is closely correlated to the index. A fund rated 0.70 or less would not perform like the index. Mutual fund with high R-squared ratios is generally criticized by analysts as being "closet" index funds. In the case of Tata Ethical fund, *r-square* value is slightly lower than Tata Infrastructure fund (0.83<0.90) while keeping r-square value of their benchmark index as same (1.00). So, it is inferred that Tata ethical fund is not so closer to the index when compared to infrastructural fund (Table 5).

Sharpe's performance index offers a single value to be used for the performance ranking of different funds or portfolio. It is a reward to variability ratio. The *sharpe* index measures the risk premium of the portfolio in terms of its total risk. The greater a portfolio's Sharpe ratio, the better its risk-adjusted performance has been. A negative Sharpe ratio indicates that a risk-less asset would perform better than the security being analyzed. It is evident that *sharpe* ratio of Tata Ethical Fund is comparatively higher than that of Tata Infrastructure Fund (0.33>0.06), and hence Tata Ethical Fund is ranked as a better fund (Table 5). The *Sharpe* ratio of benchmark CNX 500 *shariah* index also perform better than CNX 500 index (0.21>0.14).

The Teynor ratio/index attempts to measure how well an investment has compensated its investors given its level of risk. Unlike *Sharpe Ratio, Treynor* Ratio utilizes *beta* instead of total risk/SD. Good performance efficiency is measured by high ratio. In this context, it has been noted that *Treynor* ratio of Tata ethical fund is higher than Infrastructural fund (0.1.31>0.34), and it shows good performance on the part of Tata ethical fund (Table 5). The *Treynor* ratios of the benchmark indices of the two funds also shows same phenomenon (0.76>0.74).

Jenson's Alpha is performance ratio to measure risk-adjusted performance of a portfolio, intended to help investors determine the risk-reward profile of mutual fund. *Alpha* measures the difference between a fund's actual returns and its expected performance, given its level of risk. A positive *alpha* means the fund has outperformed its benchmark index. Correspondingly, a negative *alpha* would indicate an underperformance. Here, it is observed that Jensen's alpha of Tata ethical fund shows positive figure (0.45), and it outperformed with its benchmark CNX 500 *Shariah*. But, in the case of Tata Infrastructure fund, *Jensen's alpha* indicates negative figure (-0.50), and it shows underperformance of the fund with its benchmark CNX 500 index.

6. Conclusion

Islamic/*Shariah* complaint mutual funds offer investment opportunity to those who prefer to invest in ethical/social responsible funds. The study clearly indicates that

Islamic mutual funds are as good as conventional/non-*shariah* complaint funds in terms of risk-return characteristics. While considering different parameters of mutual fund performance such as NAV, returns, SD, *beta, r-square, Sharpe, Treynor, and Jensens's index*; the performance of Tata Ethical Fund was comparatively better than Tata Infrastructural Fund. So the investors need not stay back from Islamic/*shariah* complaint funds with the misconception that returns maybe lower. However, it has been observed that actively managed *Shariah* funds in Indian capital market constitute only a meager share of the total AUM of all equity diversified funds which clearly indicates that the fund houses are not successful in creating awareness about this product to the investors. This is a clear indication of the fact that the investors for whom this product is actually designed are not really aware about this offering; and in this regard, the fund houses need to make a serious effort to reach out to the respective community and create awareness about this product. These findings are of interest to both academics and investors where investors can earn better risk adjusted return while investing in Islamic Mutual Funds.

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SKILL DEVELOPMENT THROUGH E –TRAINING IN THE CONTEXT OF KERALA

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Abstract

The state of Kerala is in the process of changing its view on training youth for skill development, from a conventional approach to more of a modern perspective, with the widespread adoption of virtual learning methods. Digitalizing classrooms and implementing E-Training programmes are the major initiatives undertaken with the objective of achieving skill development. E-Training involves the use of computer and other electronic devices to provide training. The reason for massive adoption of virtual learning programmes can be attributed to the continuous efforts of Technology Giants world over, which resulted in the development of user friendly E-Training technologies at affordable prices. The purpose of this paper is to discuss the concepts of virtual learning, e-training, and the initiatives in the domain of E-Training in Kerala by various agencies.

Keywords*: Virtual Learning, E-Training.*

1. Introduction

Virtual learning is a wider term used to denote computer based learning and training with the help of Information and Communication Technology (ICT). E-Training refers to delivering of learning or training program by electronic means. The continuous efforts of technology giants in the world over have brought in user friendly E-Training technologies at affordable prices. Training the youth is a vital responsibility of the state, as it can equip them to have a competitive advantage. One of the emerging trends in training is e-training. E-Training has developed into a revolutionary way of learning during the past few years. Today digital education is no longer limited to the four walls of a classroom. It has paved way for virtual classrooms around the world being connected together, making learning a relatively easy attainable goal for any age group. Digital literacy in schools helped India to raise the level of education, literacy and economic development of the country. The goal of E-Training in government schools and vocational training centres in India is to equip the students with the skills and knowledge required to set a strong foundation at an early stage of their education so that they are well-prepared for higher education and also for taking up job related challenges in the future period of time. E-Training methods can help in getting proper training and accessibility to learning content, which can be retrieved according to the needs of the learner. The training should be in such a way that

young brains must be in a position to accept it and use it in their future. The increased user-friendly training programmes have given new horizons for training methods. Indian government has come up with several programmes to develop the skill of individuals. One major initiative to it is Ministry of skill development and entrepreneurship (MSDE) which celebrated its second year in 15th July 2017. The main schemes include Pradhan Mantri Kaushal Vikas Yojana (PMKVY), UDAAN, STAR (Standard Training Assessment and Reward) and Vocationalisation of Education (MSDE, 2015) on the first anniversary of Skill India on 15th July 2016 announced the launch of India Skills Online Portal. Launched in collaboration with National skills Development Corporation (NSDC), this is an online platform to learn various skills from any place and time as per individual's convenience. The portal is a major step towards using digital technology to reach millions of job aspirants, on-the-job trainees and skilled students in India (Dubey, 2016).

2. Types of E -Training

There are synchronous approach and asynchronous approach in e -training. In synchronous approach, both learning and teaching takes place in real time even though the trainer and learners are physically separated from each other. Main advantages of this approach is that learner can learn from anywhere without having to travel to reach a training centre and the convenience of interacting with the trainer and other learners instantly. The defect of this approach is that learners have to find time to attend classes with the prior time allotted for the sessions. In the asynchronous approach, the learning takes place with a time delay. The learner and trainer are separated physically from each other. The advantage of this approach is that leaner can learn from any place and time of his choice. There is no time restriction and the learner can learn at his pace and convenience. The only disadvantage of this approach is that there is no space for direct question answer sessions and no virtual scope for interaction between co-learners. Since, the learner, co-learners and trainer are separated; an active interaction is not feasible. Cloud based training system is one of the recent advancements in the field of e-training. In Cloud based training system, resources are stored in a virtual environment which can be accessed through various forms of web-enabled devices. A group of learners can meet and be present in virtual links in a cloud based system. Cloud-based systems offer low costs and high levels of ease. Cloud-based training and content delivery systems allow companies to build robust training programs with little more than content, since the software handles the formatting and delivery of the content. Beyond the cost and ease-of-deployment benefits of the cloud, it also offers the ability to fully leverage mobility (Teaching, 2017). Information availability and mass storage ability are main advantages of e -training. Online directive and servers for mass storage makes it more attractive, as anyone can assess the knowledge from anywhere at any time around the globe. The function of E-Training is to empower educators and learners to express their ideas easily, interact with others, explore and discover the world, manage the training process, and finally assess its quality and quantity. The advancements in wireless and innovative technology are the key elements in e -

training. Having lessons based on the Internet cannot be considered as part of e -training. E-Training aims at collective training that is integrated, based on demand, and to a great extent, personalized. E-Training benefits include supplementary and complementary learning. E-Training helps save precious time, provides fundamental concepts, mass training, and is geographically unlimited. In this approach, the roles of the instructor and of the learner have changed. The instructor's roles are to coach and mentor and act as manager, fellow learner, and content creator. The learner acts as the explorer, investigator, researcher, analyst, and problem solver. E-Training is getting popularity even in rural areas. E-Training saves institutions at least 50% of cost when they replace traditional instructor-based training. Instruction time can be cut down by up to 60%. It is estimated that by 2020; approximately half of all college classes will be using E-Training facilities as the part of conducting courses. E-Training is also Eco-friendly. E-Training consumes 90% less energy than traditional courses. The amount of Carbon dioxide emissions (per student) is also reduced by up to 85%.Recent research shows that E-Training has the power to increase information retention rates by up to 60%. That means that, E-Training is more cost efficient as well as more effective, in terms of how much knowledge is truly acquired during the learning process.

3. E-Training in Kerala

Kerala was declared as a 'complete digital state' in 2015, with the state making remarkable initiatives in the implementation of digitization across various Government departments and related agencies. The state has achieved 100 per cent mobile density, 75 per cent e-literacy, highest digital banking rate and broadband connection up to panchayat level. The implementation of e-District programmes in all districts and linking of Aadhaar and bank accounts have laid a strong foundation for Digital Kerala. Government is taking steps to set up Wi-Fi hotspots in all local self-government institutions and implement complete mobile governance in the next phase to achieve the best results of the Digital Kerala initiative (India, 2015). Following sections discuss some of the initiatives for virtual learning in the state of Kerala.

Cisco Education Enabled Development

It is generally believed that Skills and Knowledge are the driving forces of economic growth and social development. The need of the hour is to narrow down the gap between industry demand for skilled manpower and the availability of requisite quality and quantum of qualified personnel. Taking up this formidable challenge, in 2012, the Department of Employment and Training, Government of Kerala embarked on an ambitious program to make high quality training available to students across the state, by embracing and deploying a cutting-edge Information Technology (IT) solution in 34 Industrial Training Institutes (ITIs). As of mid - January 2014, close to 2, 00,000 student hours of training and teaching have been conducted using this platform. Subjects as diverse as Employability and Soft skills to Winding of electrical motors and Operation of Lathes have been taught using this platform. Cisco conceived, designed and developed this at its centre in Bangalore,

called CEED (Cisco Education Enabled Development). It is a comprehensive, integrated, and open training and teaching solution, designed to bring collaboration and video to the heart of teaching, training and learning. It leverages the power of networking, internet, video and collaboration tools to create a real-time interactive environment between the remote trainers, instructors, teachers and the students. With the support of Department of Employment and Training, this was deployed across thirty four ITIs. Principals, instructors and students were trained on the use of the solution. In due course of time, they realized its utility and its potential to be a game-changer in the learning – teaching paradigm – particularly in the remote rural ITIs. Courses, that earlier, were not possible to be delivered across interior locations and with consistent quality are now being offered. Trained and expert instructors from elsewhere in the country are able to take classes. Students are benefitting from this experience and expertise. Cisco and its partner's enable skills training and Community Outreach programs remotely to Industrial Training Institutes (ITIs). While Governments and NGOs want to train vast numbers of unemployed youths, Corporates look to train or re-skill their employees. Expert and experienced trainers are fewer, harder and more expensive resources. The CEED platform allows their virtualization across geographies in a cost effective and time optimal manner. Due to unavailability or shortage of expert trainers, courses that normally inaccessible, can now be offered more effectively. In May 2012, Kerala became the first state to launch remote skills development using the Cisco solution. In the first phase, 34 of the 72 government run ITIs in Kerala have deployed this solution. Theseinclude very remote institutes located in places like Attappadi, Nilambur, Kattappana, Kayyur etc. and 9 Women's training institutes**.** At each ITI, Cisco has enabled two classrooms and one workshop with the solution. This has enabled "Master instructors" who are experts in teaching "repairing of an automotive engine" or "repairing an electric motor" or " repairing a disc brake of a two - wheeler" to teach students at other ITIs where such expertise is not available. Theory classes with power point slides, graphics or flash files or videos can be conducted and so can "live" demo classes be shown from the workshop. By virtualising expert teachers and master trainers and making them available to under-served populations, Cisco believes that CEED is an ideal vehicle to achieve inclusive growth and therefore bridge the rural-urban gap. Following on the footsteps of Kerala, several other states and premier technical training organizations have deployed the CEED platform for training and teaching (CISCO, 2017).

Centre for e-learning in Kerala Agricultural University

A Centre for e-learning (CEL) has been established to provide learning avenues for rural youth and working professionals by way of providing online courses pertaining to agricultural technology and continuous learning. It offers technical information and technological advice online. Several online courses to impart knowledge and training to rural youth in agricultural oriented entrepreneurship activities and farming aspects are also being offered through this centre. An agricultural web portal operated by this centre provides instantaneous information

and advice to farmers online. It has won international laurels by winning the prestigious World Education Summit Award as well as South West India Digital Empowerment Foundation (DEF) Award in 2014.The objective of the Centre for e-learning (CEL) is to make local and frontier areas of farm technology available to the farmers and all other agricultural-stakeholders round the year, free of cost. The Centre functions with the activities like, establishing Agri-Infotech Portal for Kerala. e - karshaka Jaalakam, an interactive web portal in Malayalam for the farming community of Kerala is a notable initiative. Online courses for farmers, students, farm entrepreneur groups and other agri-stake holders are initiated. Advanced E-Training Centre aims at imparting training in agro-tech areas through on-line and face-to-face interactions. Production and supply of Multimedia presentation materials for agricultural education and transfer of technology is another area of concern. It has established an Agro-tech Database and Interactive Cyber Platform for knowledge sharing (University, 2015)

Rajiv Gandhi Panchayat Sashaktikaran Abhiyan (RGPSA) Virtual Classroom

Rajiv Gandhi Panchayat Sashaktikaran Abhiyan (RGPSA) is a centrally sponsored scheme implemented by the Ministry of Panchayati Raj, Government of India for setting up Virtual Class Rooms. In Kerala, Local Self-Government Institutions have been meaningfully empowered through massive transfer of resources as well as administrative powers. With the decentralization of power, Local Self Government Department (LSGD) has gained an important role in formulation and implementation of developmental works at the grass-root level. Today Panchayat Directorate, Directorate of Urban Affairs, Commissionerate of Rural Development, Town and Country Planning Department and LSGD Engineering wing are the major allied departments of LSGD. Apart from these, there are different allied institutions and training centres under LSGD to address different capacity building activities of the local bodies, both rural and urban. Initiatives are taken to strengthen the capacity building initiatives by Local Self Government Department under the subcomponent of SATCOM (Satellite Communication Group) of RGPSA. Under this scheme it is intended to set up 28 trainee nodes (2 in each district) and 5 trainer nodes (Kerala, 2017).

IT @ School

The IT @ School Project under General Education Department was set-up to augment the IT education in schools and also to enhance the quality of IT education towards a complete ICT enabled educational system. The Project envisages enhancing the role of Information Technology as a teaching aid for learning all subjects. IT @ School Project is termed as the Single largest simultaneous deployment of Free and Open-Source software (FOSS) based ICT education in the world. Headquartered in Thiruvananthapuram, the Project has District Resource Centers in each district. The project is the nodal agency for all e-Governance activities under General Education Department and also the nodal agency for implementing EDUSAT operations in the State, under which an educational channel Versatile ICT Enabled Resource for Students (VICTERS) is functioning. Kerala has been the role-model for other states in terms of numerous educational initiatives.

Government of Kerala rolled out the IT @ School Project in year 2001, to augment the IT education in schools and to enhance the quality of IT education towards a complete ICT enabled educational system.

ICT Online Resources

Resource Portal was developed in 2010 (http://resource.itschool.gov.in) which enabled the self-learning capabilities of students. This was a major step in the ICT education in the State. For the first time in the country, an unique resource DVD for teachers was developed by IT @ school project, which included the latest edition of Edusoft, 50 selected articles from Malayalam Wiki, Malayalam Computing tools, IT @ School Linux Operating system, New Edition of Ubuntu OS, ICT Training module, Educational contents on Biology & Math and PDF versions of Textbooks and Handbooks (ICT, 2017).

EDUSAT (Educational Satellite)

Kerala became the first state to launch virtual classes through EDUSAT in elementary education. It is a collaborative project of ISRO, the Union Ministry of Human Resource Development, State Departments of Education and the Indira Gandhi National Open University. It is the first exclusive satellite for serving the educational sector in India. Growing demand for an interactive satellite based distance education system through audio-visual medium, employing Direct to Home quality broadcast prompted the government to launch it. The satellite has multiple regional beams covering different parts of India -five Ku-band transponders with spot beams covering northern, north-eastern, eastern, southern and western regions of the country, a Ku-band transponder with its footprint covering the Indian mainland region and six C-band transponders with their footprints covering the entire country (Iype,2005). The Education Department of Kerala (India) has launched four separate EDUSAT-based education channels for primary, secondary, high school and higher secondary classes in order to broaden the reach of IT (Information Technology) education in the State (Learners,2006).

Kerala Academy for Skills Excellence (KASE)

With the objective of imparting skills to the young workforce of Kerala and elevating their skills to global standards for employment in India and abroad, the Government of Kerala has set up Kerala Academy for Skills Excellence (KASE), skill development mission of Government of Kerala as the nodal agency for all skill development activities of the state. Initiatives of KASE include interlinked virtual classrooms, digital libraries and certification for courses which are approved Internationally (KASE, 2017).

e @ Vidhya

Learning will go digital in state-run schools in Kerala from first standard through e @ Vidhya. The Education Department has announced the holistic intervention of Information and Communications Technology (ICT) assisted education to its 9279 schools, from classes 1 to 7 in the state. The initiative would be implemented through IT @ School Project, a state government initiative to impart IT education in

schools, in the academic year starting from June 1, 2017. Kerala, being a role-model in ICT enabled education, had already started IT education under IT @ School Project for High School classes (standards 8 to 10) in early 2005. ICT training had been imparted to more than seven lakhs lower primary and upper primary teachers in the state. BSNL is providing broadband connectivity to as many as eight thousand nine hundred and eighteen LP&UP schools. This will help in building strong base for computer based education system. All contents in the new ICT textbook, 'e @ Vidhya' is prepared entirely using free and open source software. In addition to the Malayalam version, the new ICT textbook is also made available in English, Tamil and Kannada languages. Each school would also be provided with a DVD that contains the software packages which would assist in learning the ICT-enabled contents in the textbook; IT @ School sources added (Kerala, 2017).

4. Conclusion

E-Training has developed into a revolutionary way of learning during the past few years. E-Training methods can help in getting proper training and accessibility to learning content, which can be retrieved according to the needs of the learner. Kerala plays a major part in supplying skilled labour force around the world in every field. The state of Kerala has achieved 100 per cent mobile density, 75 per cent e-literacy, highest digital banking rate and broadband connection up to panchayat level. Initiatives in the domain of E-Training in Kerala by various agencies such as Cisco Education Enabled Development for ITI s, Centre for e-Learning in Kerala Agricultural University, RGPSA Virtual Classroom, IT @ School Project under General Education Department, EDUSAT, Kerala Academy for Skills Excellence and e @ Vidhya are discussed in detail in this paper. These initiatives have undoubtedly helped the students in Kerala, especially who are located in rural areas, to access learning contents through virtual platforms and acquire various skills, which otherwise may not be possible for them. Kerala has been the role-model for other states in India, in terms of numerous educational initiatives. They have taken inspirations from these initiatives, especially the projects like IT @ School for initiating various ICT based E-Training programmes aimed at achieving skill development.

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AN EMPIRICAL EXAMINATION ON ORGANIZATIONAL COMMITMENT AMONG EMPLOYEES OF SELECT STAR CLASSIFIED HOTELS IN KERALA

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Abstract

Organizational Commitment has clearly emerged as the most recognized and researched construct of the employee's attachment or loyalty to the organization. The purpose of this study is to assess the organizational commitment of employees of star classified hotels in Kerala. The influences of gender, age, educational qualification, designation, experience and star classification of hotels on employees' perceptions of organizational commitment were identified. Exploratory factor analysis (EFA) is adopted in this study to find out the three dimensions of organizational commitment which are affective, normative and continuance organizational commitment. The data have been collected from 450 employees belonging to the three star, four star and five star hotels in Kerala. The tools used for data analysis includes analysis of variance (ANOVA) and independent sample t-test. The results publicized that gender has no significant difference between three dimensions of organizational commitment and star classification, age, educational qualification, designation and experience of employees have influence on organizational commitment of employees. Implications of the study, limitations and scope for further research are also discussed.

Keywords*: Star Classified Hotels, Demographic Factors, Organizational Commitment.*

1. Introduction

A hotel industry is a service industry dependent on high-quality employees to deliver, operate and manage customers for its survival and competitive advantage. Achieving service quality excellence which leads to customer satisfaction and loyalty depends on the attitudes, performance and behaviour of employees. An employee with high level of organizational commitment is an asset for the organization because reduced labour turnover and increased performance can be ensured from them. Highly trained, satisfied and committed employees in the industry, delivering high service quality levels, is of paramount importance, whereby the employees are often seen as an integral part of the service experience (Kyriakidou et al., 2010; Chand, 2010; Vinten, 2000). However retention of employees is still a major concern in the industry. High staff turnover in hotels is a major factor affecting workplace efficiency, productivity and hotel cost structure (Deery and Shaw, 1997; Lashley and Chaplain, 1999). Organizations

need to strategize its employee's retention activities in order to minimize the employee turnover. Employee retention strategies can be initiated through enhancing commitment level of employees to their particular organization (Branham, 2005). Organizational commitment is considered one of the most important concepts in the area of organizational behaviour and human resource management (Cohen, 2007). Employees who have a strong faith in the values and beliefs of an organization and readily accept its goals and objectives and are ready to exert extra effort for or on behalf of the organization are considered to have a very high level of organizational commitment (Angel & Perry, 1981; Porter, Steers, Mowday, & Boulian, 1974). This suggests that those who are strongly affiliated to an organization with a higher level of commitment can be motivated to achieve organizational goals without looking for an opportunity for personal gain. The purpose of this study is to investigate the organizational commitment (OC) among star classified hotel employees in Kerala. The aim is to identify the perception of employees concerning organizational commitment that they have perceived at their workplace and, how gender, education level, age, designation, experience and star classification of hotels affect them.

2. Organizational Commitment – An Overview

Organizational commitment has been a widespread field of research amongst organizational behaviour researchers since 1960s. A calculative approach to commitment is developed by (Becker 1960). As an alternative to calculative approach a study was developed which emphasized the attitudinal approach to commitment (Porter, Steers, Mowday & Boulian, 1974). Alternative approach to reviewing organizational commitment was introduced by (O'Reilly & Chatman, 1986) who described the employees' psychological attachment to the organization by the way of attitude changes of compliance, internalization, and identification. (Meyer & Allen, 1984) firstly viewed organizational commitment as a two dimensional concept; i.e. continuance and affective. After further exploration into similar concept they found out the third dimension namely normative commitment (Meyer & Allen, 1990). Accordingly organizational commitment is conceptualized as tri-dimensional concept including affective, normative and continuance dimensions (Meyer & Allen, 1990). Collectively the three dimensions of organisational commitment outlook that it is a psychological state that symbolizes employees' relationship with the organisation and has effects for the decision to continue or discontinue membership in the particular organisation (Meyer & Allen, 1997).

Affective organizational commitment is considered as a work related attitude which involves positive feelings towards the particular organization (Morrow, 1993). Sheldon (1971, p 148) also defined this type of attitude as "an orientation towards the organization, which links or attaches the identity of the person to the organization". When individual's needs and expectations about their organization are matched by their actual experience in that particular organisation, affective organizational commitment of employees is affected (Storey, 1995).

Continuance organizational commitment is the second component of tri-dimensional organizational commitment model. Meyer and Allen (1997, p 11) defined continuance commitment as "awareness of the costs associated with leaving the organization". It is calculative in nature because of the individual's perception or weighing of costs and risks associated with leaving the current organization (Meyer & Allen, 1997). Meyer and Allen (1991, p 67) further states that, "employees whose primary link to the organization is based on continuance commitment because they need to do so". This indicates the difference between continuance and affective commitment.

Normative organizational commitment refers to employee's feelings of obligation to stay with their organizations because of pressure from others. People who have high degrees of normative commitment are greatly concerned about what others would think of them for leaving. Meyer (1993) defined normative commitment as a perceived obligation to remain with the organisation. Individuals who experience normative commitment stay with the organisation because they feel that they should.

3. Past Researches in Organizational Commitment

(Angle & Perry, 1981)analysed the organizational commitment and its relationship with organizational effectiveness of lower-level employees of bus services organization. The results indicated that organizational commitment has an effect on overall effectiveness of the organization. (Bateman & Strasser, 1984) conducted a longitudinal analysis of the antecedents of organizational commitment of nursing department employees. The outcome revealed that organizational commitment is an antecedent to job satisfaction and it is not an outcome of job satisfaction. A large number of studies have examined the commitment level of employees toward their organization and its relationship with various employee work related outcomes, such as turnover, performance, and organizational citizenship behaviour. Along similar lines, a number of studies has been conducted in India that have revealed that organizational commitment has a direct relationship with trust (Nambudiri, 2012), cultural values (Singh & Mohanty, 2011), participation satisfaction (Kanwar, Singh, & Kodwani, 2012) and a mediating relationship between HR practices and turnover intentions (Guchait & Cho, 2010). Meta-analysis has indicated that employees with low levels of commitment are more likely to leave their organizations (Meyer, et al., 2002). Given that OC is an important antecedent of turnover (Peters, Jackofsky & Salter, 1981), it is therefore important for organizations to maintain high levels of employee commitment as well as perceived levels of support enhancing the organization's bottom line by promoting employee loyalty, reducing turnover costs and increasing quality guest service delivery (Lashley, 1995; Waltz & Niehoff, 2000). (Kanchana & Panchanatham, 2012) identified the relationship between demographic characteristics like age, job position, and gender, psychological characteristics which includes job satisfaction, role clarity and organizational commitment of employees in Tamil Nadu paper limited. The results indicated that there was a significant relationship between psychological, demographic variables and

organizational commitment. The study concluded by suggesting that job satisfaction and role clarity have influence on the three components of organizational commitment. (Ariffin & Che Ha 2015) conducted a study on organizational commitment of hotel employees in Malaysia and the influence of gender, salary and educational level of employees on the perceptions regarding organizational commitment. The results revealed that gender has no significant effect on organizational commitment and salary and educational level of employees have significant differences on employees' organizational commitment.

4. Objectives of the Study

- To assess the organizational commitment of employees of star classified hotels in Kerala
- To study the influence of star classification of hotels, gender, age, educational qualification and experience of employees on their perceptions on organizational commitment

5. Hypothesis of the Study

H1: There exist a significant difference between organizational commitment of employees and star classification of hotels, age, gender, designation, educational qualification and experience of employees.

6. Methodology of the Study

The present study is a quantitative research approach to assess organizational commitment of hotel employees of Kerala. Both primary and secondary data has been used for the study. Secondary data has been collected from various sources including websites, journals, articles and other published sources. Primary data for the study was collected from employees of three star, four star and five star hotels in Kerala.

7. Sample and Data Collection

Primary data for the study was collected from employees of star classified hotels (Three stars, four stars and five stars) in Kerala. Survey method was used to collect primary data and the tool for data collection is questionnaire. Respondents are the employees of star classified hotels. The population for the study are the employees of star classified hotels in Kerala and samples were collected from the population based on convenience sampling technique, where the samples are selected based on the convenience of the researcher. 500 questionnaires were distributed among the hotel employees and among that 450 responded and the sample size for the study is 450.

8. Scale of Measurement

Standard scales were used in this study and measured on a five point Likert scale ranging from 1= strongly disagree to 5= strongly agree. Organizational commitment is measured using Meyer and Allen's (1997) three component model of organizational commitment. Meyer and Allen commitment scale are the most valid commitment scales used to measure organizational commitment of employees

(Cohen, 2007). The three-component model of organizational commitment is represented by 23 items to measure organizational commitment. Eight items assess affective organizational commitment, nine items assess continuance organizational commitment and six items assess normative organizational commitment. The data collected has been analysed by SPSS 21.0 version tool. ANOVA and independent sample t-test were used for statistical analysis. Exploratory factor analysis was also done. Parameters like mean and standard deviations were also used.

9. Results and Discussions

a. Profile of the Employees

Out of the 450 respondents selected for the survey male employees represented 72% and female employees 28%. This result is similar to previous studies in the similar area proposed by Bulut & Culha (2010); Ahmad & Bakar (2003); and Dhar (2015). Majority of respondents (44%) belongs to the age group 26-35, hence 70% are below age 35 and 30% belongs to the age group 36-45. Majority of the employees are graduates (42%), 32% are diploma holders and 26% are post graduates. 50% of employees are under the designation category executive, 26% belongs to manager category and 24% are under the designation assistant. Regarding the total experience of the employees, 56.9% have total experience of 3-5 years, 21.3% have total experience of 6-8 years and 19.1% have total experience of 0-2years. 56% employees have 0-2 years experience in the current hotel itself and 44% employees have 3-5 years of experience.

b. Reliability Testing and Exploratory Factor Analysis

Inorder to findout whether the values of the distribution was adequate for conducting factor analysis, the Kaiser-Meyer-Olkin (KMO) test was used with a result of 0.72 (> 0.60). Bartlett's Test of Sphercity measured the multivariate normality of the set of distributions. It shows a significant value 0.000 ($P<0.05$) and test value 17196.389. Therefore the feasibility of the data for conducting factor analysis was ensured. The communalities of the 23 original measures range from 0.554 to 0.864, it shows a strong association among the variables. Three factors of organizational commitment were derived from the analysis with eigen values exceeding one, explaining 36.10%, 30.01% and 14.72% of the variance respectively. To determine which items were loaded to which factor, rotated component matrix was computed. The findings suggest that there are three factors related to organizational commitment. The factor loadings of the items in the three factors were between 0.832 to 0.954 for affective organizational commitment, 0.740 to 0.910 for continuance organizational commitment and 0.753 to 0.919 for normative organizational commitment. These three factors will be used to understand the Organizational Commitment of the employees. Thus the 23 variables in the data are reduced to 3 factor model. A reliability test is conducted to measure the internal consistency of the construct using Cronbach's Alpha. A Cronbach's Alpha value of 0.7 and above is considered as reliable (Nunnally, 1978). The Cronbach Alpha reliability of affective commitment scale is 0.649, continuance

commitment scale is 0.781 and normative commitment scale is 0.748 respectively. The reliability test shows adequate results. Thus, it can be inferred that the scale has internal consistency and reliability.

c. Testing Differences – Affective Commitment and gender, star classification of hotels, designation, age, educational qualification, experience in the current hotel

Table 1: ***Result of t-TEST/ ANOVA of Affective Organizational Commitment Based on gender, star classification of hotels, designation, age, educational qualification, and experience in the current hotel.***

Groups	Class	Descriptive Statistics					
		N	Mean	SD	df	t/FValue	Sig.
Gender	Male	324	2.878	1.126	448	0.197	0.844
	Female	126	2.902	1.124			
Star Classification	Five Star	45	4.250	0.113	2,447	282.41*	0.000
	Four Star	90	4.125	0.112			
	Three Star	315	2.335	0.891			
Designation	Asst Manager	117	3.817	0.820	2,447	71.51*	0.000
	Executive	225	2.535	1.035			
	Assistant	108	2.604	1.026			
Age	Up to 25	117	2.433	1.011	2,447	18.03*	0.000
	26 - 35	198	3.188	1.147			
	36 - 45	135	2.833	1.050			
Educational Qualification	Post Graduate	117	2.281	0.899	2,447	92.61*	0.000
	Graduate	189	2.744	1.034			
	Diploma	144	3.855	0.855			
Years with Current Hotel	Up to 2 years	252	2.692	1.069	448	4.181*	0.000
	2 – 5 years	198	3.131	1.149			

Source: *Primary data* **Significance at 5 per cent level*

Independent t-test was used to measure the mean difference of employees' opinion regarding affective organizational commitment based on gender. Table 1 show that the t-value is not significant at 5 per cent level. It can be concluded that employees' opinion regarding affective organizational commitment does not differ

on the basis of gender. The result supports the previous studies done by Pathardikar & Sahu (2011), Ariffin & Ha (2015) and Griffin (2013). One-way ANOVA was used to find out the mean difference of employees' opinion regarding affective organizational commitment based on star classification of hotels, designation of employees, age and educational qualification. Table 1 show that the F-value is significant at 5 per cent level for star classification of hotels. It can be observed that employees' opinion regarding affective organizational commitment differ significantly on the basis of star classification of hotels. Table 1 show that the F-value is significant at 5 per cent level for designation of employees. Hence it can be inferred that employees' opinion regarding affective organizational commitment differs significantly on the basis of designation. Employees' opinion regarding affective organizational commitment differs significantly on the basis of age ($p < 0.05$). It can be inferred that employees' opinion regarding affective organizational commitment differs significantly on the basis of educational qualification ($p < 0.05$). Various other studies in the similar area have revealed the same results (DeCotiis & Summers, 1987; Mottaz, 1988; Ahmad & Bakar, 2003). Highly educated individuals usually have high expectations leading to dissatisfaction with current organization. Independent sample t-test was used to examine the mean difference of employees' opinion regarding affective organizational commitment based on years with the current hotel. Table 1 show that the t-value is significant at 5 per cent level. Hence employees' opinion regarding affective organizational commitment differs significantly on the basis of years with the current hotel.

d. Testing Differences – Continuance Commitment and gender, star classification of hotels, designation, age, educational qualification, experience in the current hotel

Table 2: ***Result of t-TEST/ ANOVA of Continuance Organizational Commitment Based on gender, star classification of hotels, designation, age, educational qualification, and experience in the current hotel.***

Groups	Class	Descriptive Statistics					
		N	Mean	SD	df	t/FValue	Sig.
Gender	Male	324	3.830	0.715	448	1.51	0.133
	Female	126	3.706	0.939			
Star Classification	Five Star	45	3.888	0.956	2,447	1.94	0.146
	Four Star	90	3.655	0.890			
	Three Star	315	3.822	0.722			
Designation	Asst Manager	117	3.863	0.743	2,447	4.96*	0.007
	Executive	225	3.684	0.904			
	Assistant	108	3.953	0.477			
Age	Up to 25	117	4.009	0.747	2,447	7.66*	0.001

Groups	Class	Descriptive Statistics					
		N	Mean	SD	df	t/FValue	Sig.
	26 - 35	198	3.657	0.903			
	36 - 45	135	3.815	0.564			
Educational Qualification	Post Graduate	117	3.683	0.974	2,447	5.19*	0.006
	Graduate	189	3.735	1.717			
	Diploma	144	3.965	0.668			
Years with Current Hotel	Up to 2 years	252	3.762	0.827	448	1.025	0.306
	2 – 5 years	198	3.839	0.729			

Source: *Primary data* **Significance at 5 per cent level*

Independent t-test was used to measure the mean difference of employees' opinion regarding continuance organizational commitment based on gender. Table 2 shows that the t-value is not significant at 5 per cent level. It can be concluded that employees' opinion regarding continuance organizational commitment does not differ on the basis of gender. The result supports the previous studies done by Pathardikar & Sahu (2011), (Ariffin & Che Ha, 2015) and Griffin (2013). One-way ANOVA was used to find out the mean difference of employees' opinion regarding continuance organizational commitment based on star classification of hotels, designation of employees, age and educational qualification. Table 2 shows that the F-value is not significant at 5 per cent level for star classification of hotels. It can be observed that employees' opinion regarding continuance organizational commitment don't differ significantly on the basis of star classification of hotels. Table 2 shows that the F-value is significant at 5 per cent level for designation of employees. Hence it can be inferred that employees' opinion regarding continuance organizational commitment differs significantly on the basis of designation. Employees' opinion regarding continuance organizational commitment differs significantly on the basis of age ($p < 0.05$). It can be inferred that employees' opinion regarding continuance organizational commitment differs significantly on the basis of educational qualification ($p < 0.05$). Various other studies in the similar area have revealed the same results (DeCotiis & Summers,1987; Mottaz, 1988; Ahmad & Bakar, 2003). Independent sample t-test was used to examine the mean difference of employees' opinion regarding continuance organizational commitment based on years with the current hotel. Table 2 shows that the t-value is not significant at 5 per cent level. Hence employees' opinion regarding continuance organizational commitment does not differs significantly on the basis of years with the current hotel.

e. Testing Differences – Normative Commitment and gender, star classification of hotels, designation, age, educational qualification, experience in the current hotel

Table 3: ***Result of t-TEST/ ANOVA of Normative Organizational Commitment Based on gender, star classification of hotels, designation, age, educational qualification, and experience in the current hotel.***

Groups	Class	Descriptive Statistics					
		N	Mean	SD	df	t/FValue	Sig.
Gender	Male	324	2.578	1.042	448	0.043	0.966
	Female	126	2.583	1.005			
Star Classification	Five Star	45	3.066	1.105	2,447	119.99*	0.000
	Four Star	90	3.683	0.700			
	Three Star	315	2.195	0.824			
Designation	Asst Manager	117	3.038	1.103	2,447	16.96*	0.000
	Executive	225	2.393	0.913			
	Assistant	108	2.472	1.040			
Age	Up to 25	117	2.576	1.037	2,447	0.99	0.369
	26 - 35	198	2.515	1.009			
	36 - 45	135	2.678	1.057			
Educational Qualification	Post Graduate	117	1.865	0.215	2,447	66.10*	0.000
	Graduate	189	2.881	1.092			
	Diploma	144	2.974	1.088			
Years with Current Hotel	Up to 2 years	252	2.244	0.855	448	8.374*	0.000
	2 – 5 years	198	3.008	1.079			

Independent t-test was used to measure the mean difference of employees' opinion regarding normative organizational commitment based on gender. Table 3 shows that the t-value is not significant at 5 per cent level. It can be concluded that employees' opinion regarding normative organizational commitment does not differ on the basis of gender. The result supports the previous studies done by Pathardikar & Sahu (2011), Ariffin & Ha (2015) and Griffin (2013). One-way ANOVA was used to find out the mean difference of employees' opinion regarding normative organizational commitment based on star classification of hotels,

designation of employees, age and educational qualification. Table 3 shows that the F-value is significant at 5 per cent level for star classification of hotels. It can be observed that employees' opinion regarding normative organizational commitment differ significantly on the basis of star classification of hotels. Table 3 shows that the F-value is significant at 5 per cent level for designation of employees. Hence it can be inferred that employees' opinion regarding normative organizational commitment differs significantly on the basis of designation. Employees' opinion regarding normative organizational commitment does not differ significantly on the basis of age ($p > 0.05$). It can be inferred that employees' opinion regarding normative organizational commitment differs significantly on the basis of educational qualification ($p < 0.05$). Various other studies in the similar area have revealed the same results (DeCotiis & Summers, 1987; Mottaz, 1988; Ahmad & Bakar, 2003). Independent sample t-test was used to examine the mean difference of employees' opinion regarding normative organizational commitment based on years with the current hotel. Table 3 shows that the t-value is significant at 5 per cent level. Hence employees' opinion regarding normative organizational commitment differs significantly on the basis of years with the current hotel.

10. Limitations of the Study

The study concentrated on star classified hotel employees of Kerala and hence results cannot be generalised to other sectors too. The employee perceptions and their state of mind during the time the survey was conducted would have impacted the responses and this was not controlled by the researcher.

11. Scope for Future Research

The present study is to assess the organizational commitment of employees of star classified hotels in Kerala. Every organization differ in its activities and employee policies, hence the result is different for different types of organizations. So this particular study can be done in other type of organizations, particularly in other service industries like airlines, banks and hospitals. Other work related attitudes like job satisfaction; job involvement etc. can also be included in the framework for future study.

12. Conclusion

The purpose of this study is to investigate the three dimensions of organizational commitment of hotel employees in Kerala. Employees are the asset of every successful organization. An employee with high level of organizational commitment is an asset for the organization because reduced labour turnover and increased performance can be ensured from them. According to the findings of the study gender has no significant impact on the three dimensions of organizational commitment. Regarding the star classification of hotels affective and normative commitment of employees is influenced. Designation of employees has significant influence on the three dimensions of organizational commitment. Age of the employees have significant influence on continuance and affective commitment of employees. Educational qualification of employees has significant difference on their opinion regarding three dimensions of organizational commitment.

Employees experience with the current hotel has significant influence on the normative and affective organizational commitment of the employees. This particular research contributes to managerial research and practice of organizational commitment in the hotel industry of Kerala.

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AN OPTIMIZED RFID BASED SUPPLY CHAIN MODEL USING DYNAMIC PROGRAMMING

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Abstract

Radio Frequency Identification (RFID) has played a pivotal role in developing technologies for supply chain managements. Over the years, tremendous amount of research inputs has been invested to develop novel technologies to improve the efficiency of product tracking and supply. Due to wide availability of RFID tags at reduced cost, this technology has been widely spread in industrial applications like tracking of product movements in supply chain. This technological development opens up new avenues of tracking the objects movements in order to analyze pattern of movement. As this huge amount of data generated from RFID devices, managing and finding useful pattern from this data of large size become a challenging exercise. We address this issue by proposing suitable mathematical model using path encoding scheme, unique factorization theorem, Chinese remainder theorem and Euler's algorithm. The paper also discusses the similarity based data analysis of RFID tags movements in over the proposed data structure by analyzing the sequence similarity metrics obtained by the dynamic programming techniques.

Keywords: *RFID, Dynamic Programming Techniques.*

1. Introduction

Radio Frequency Identification (RFID) is a technology [1,2] widely spread in industrial applications like tracking of product movements in supply chain, due to wide availability of RFID tags at reduced cost. The manufacturer's objective in Supply Chain Management [3] is to analyze product and logistic information in order to ensure that the optimum quantity of products arriving at the proper time to the right destinations. However there are many challenges that RFID data management requires as it has to record data from multiple RFID readers, which comes data in peta bytes.

2. RFID Database modeling

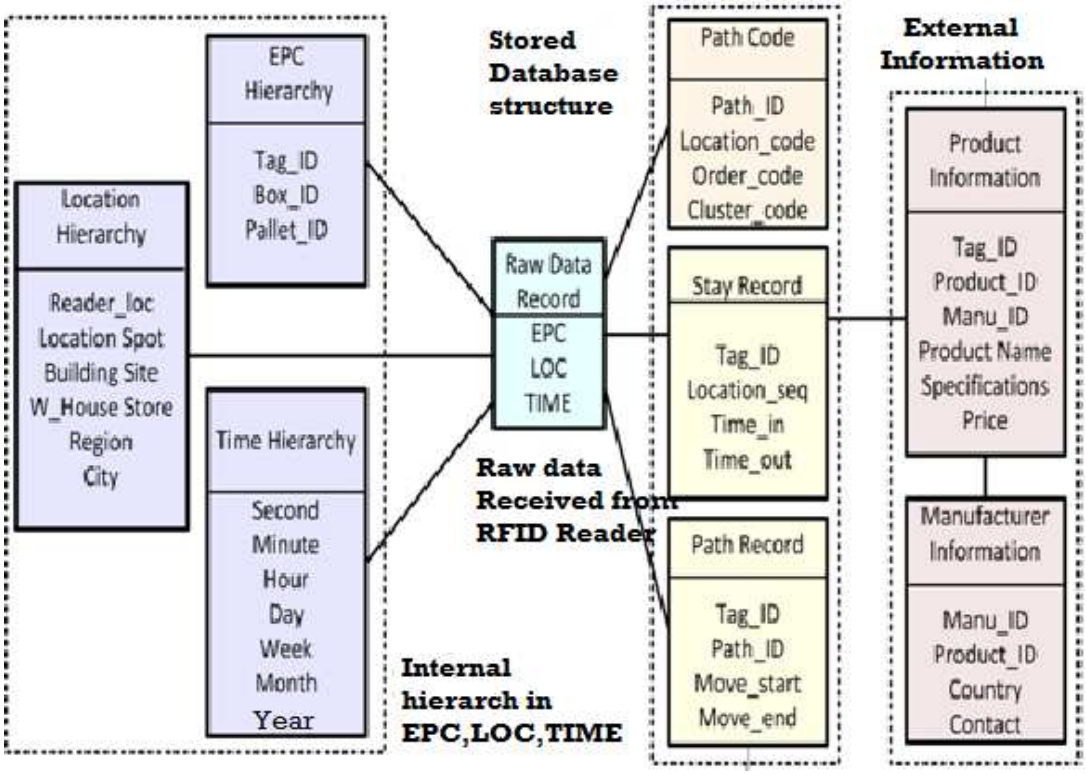
We design an RFID database model and implement an extensible storage system for RFID data to support further searching and extracting hidden knowledge. Basically an RFID system [4] consists of three components like Radio frequency tag, antenna and receiver. A tag T in a location reflects RF signals within its allowed detection region. When the product that carry the tag detected by the antenna, the

reader understand the signal and stores the EPC and the current timestamp into the RFID database. We represent paths, tags, times and other information in the model and develop path coding schemes for the movement of T in a stored data model. We also incorporate the internal hierarchies and relevant product information into the product data model and the logistic hierarchy data model respectively, which are depicted in Figure 1 based on the data model proposed in paper [4]. This serves as a foundation for the database implementation.

To explain the database model in Figure 1, we start by assuming a simple model of RFID raw data in SCM. An RFID reader detects a tag and generates *Raw Data Record* having three attributes (EPC, LOC, and TIME) where EPC is a unique ID of a tag and LOC is the location of the (unique) RFID reader and TIME is the time instant of detecting the tag. We then collapse the raw data into the *Stay Record* entity having four attributes (tag id, loc code, time in, time out) where time in and time out are the time instants of the first detection and the final detection of the tag.

A stay record represents an RFID tag moving through a location during a specific time interval. However, using a stay record as a stored data model is too simplistic to support the evaluation of path queries that track objects, particularly for those path queries involving many locations, which need to perform self-joining of the table many times.

Figure 1: ***RFID Database Model with Stored data structure and External data***



Thus, we develop various sophisticated coding techniques and include *Path Record* and *Path Code* entities into the model.

3. Location Sequencing of RFID Tags

In the context of market basket analysis in a supermarket each basket is imbedded with an RFID tag, the sequence of these basket movements due to customer preferences can used as a tool for predicting the frequent moving path of the customer. This may be useful for the administrators to re-arrange the locations of related products nearby in order to maximize the sales and also to provide better customer satisfaction.

In order to find out the most similar basket movements based on location sequence alignment of RFID tag attached, we consider a known sequence by assuming a possible set of locations sequence where more customers preferred in a heuristic way. Then we make a query sample which consists of all such locations selected and then this query tag movement path is being used to compare the sequence alignment of all available customer basket movement paths to find whichever is more similar to the query path in terms sequence alignment.

We represent each RFID tag movement path as a string consisting of sequence of locations. Here length of a path is the number of locations in the string. For two strings of length rand s, optimal sequence alignment has zero or more gaps inserted into the sequence to maximize the number of positions in the aligned strings that match. Dynamic programming techniques [[74]Gunduz 2003, [75]Weinan 2002] is used in finding out the optimal sequence alignment which is being discussed in the following section.

3.1. Sequence Alignment

Sequence alignment is one of the fundamental operations performed in computational biology research. It is at the heart of the Human Genome Project, where sequences are compared to gather evidence for a common function or biological origin. The goal is to produce the best alignment for a pair of DNA or protein sequences (represented as string of characters).

Generally there are two popular methods for sequence alignment such as global alignments and local alignments. Global alignment computation is the form of global optimization that aligns the entire length of all query sequences. On the other hand, local alignments divide long sequences into widely divergent sub sequences and then identifying the regions of similarity. The practical difficulty with local alignments is the complex calculation involved in finding out sub region which are divergent in nature. A number of computational algorithms are available to the sequence alignment problem. These include slow but formally correct methods like dynamic programming and, heuristic algorithms or probabilistic methods designed for large-scale database search, that do not guarantee to find best matches. In this paper we have chosen the dynamic programming as the most accurate method for sequence alignment [8].

3.2 Dynamic Programming for Sequence Alignment

Dynamic Programming is a mathematical technique well suited for the optimization of multistage decision problems

Iterative Methodology

A good alignment has zero or more gaps inserted into the sequences to maximize the number of positions in the aligned strings that match. For example, consider aligning the sequences “ATTGGCT" and “AGGAC". By inserting gaps (“-") in the appropriate place, the number of positions where the two sequences agree can be maximized:

ATTGG-CT

A—GGAC--

Here, the aligned sequences match in four positions. Algorithms for efficiently solving this type of problem are well known and are based on dynamic programming [[74]Gunduz2003]. Aligning the sequences “ATTGGC" and “AGGAC" reduces to finding the maximum cost path through an array of size m + 1 and n + 1 (m = 5, n = 6, adding an extra row and column to include the gap).

We use a scoring system which helps to find the optimal matching between two trajectory sequences generated from RFID tag movement. An optimal matching is an alignment with the highest score. The score for the optimal matching is then used to calculate the sequence similarity between two tag movement paths obtained from market basket movements. The various principles followed in matching the sequences are shown below.

(i) The location sequences can be shifted right or left to align as many pages as possible.

For example, path1 includes a sequence of locations L_1,L_2,L_3,L_4,L_5 Here each location is represented by its corresponding bit string as described previously. Similarly another path path2 assumes a sequence of locationsL_2,L_3,L_4 The best matching between the two session sequences can be achieved by shifting path2:

$path1 : L_1,L_2,L_3,L_4,L_5$

$path2 : –,\ L_2,L_3,L_4,L_5$

(ii) For achieving better matching gaps(-) are allowed to be inserted into the beginning, middle, or end of location sequences. For example, for the following two trajectory sessions, a gap in path3 helps getting the best matching.

$path1 : L_1,L_2,L_3,L_4,L_5$

$path3 : L_1,L_2,\text{-},L_4,L_5$

(iii) We do not simply count the number of identical locations when we are aligning session sequences. For each pair of locations, the scoring function gives a similarity score where higher score indicates higher similarity between locations. We should have a scoring system to find the optimal matching when we use dynamic programming techniques to compute the similarity between travelling locations. For each identical matching, i.e. a pair of locations with similarity 1.0, the similarity score is 2; for each mismatching, i.e. a pair of locations with similarity 0.0 or match a location with a gap, the similarity score is -1.

Illustration

path1 =L_1,L_3,L_5,L_3,L_4,L_2,L_6

path2 =L_1,L_3,L_4,L_2,L_6

The path sequence becomes, after inserting gaps

path1 =L_1,L_3, L_5, L_4, L_2, L_6

path2 =L_1,L_3, -- , L_4, L_2, L_6

The Figure 2 contains a matrix which shows an example for alignment and finding optimal path and optimal score. The optimal path is shown in the arrows and the score in the bottom right most cell encircled is the optimal score.

Figure 2: ***Optimal path based on Optimum score***

P	-	L_1	L_3	L_5	L_4	L_2	L_6
-	0	-1	-2	-3	-4	-5	- -6
L_1	-1	**2**	1	0	-1	-2	-3
L_3	-2	1	**4**	3	2	1	0
L_4	-3	0	3	3	**5**	4	3
L_2	-4	-1	2	2	4	**7**	6
$_L L_6$	-5	-2	1	1	3	6	**9**

One sequence is placed along the top of the matrix and the other sequence is placed along the left side. There is a gap added to the start of each sequence which indicates the starting point of matching. The process of finding the optimal matching between two sequences is actually finding an optimal path from the top left corner to the bottom right corner of the matrix. Any step in any path can only go right, down or diagonal. Every diagonal move corresponds to matching of two locations. A right move corresponds to the insertion of a gap in the vertical sequence and matches a location in the horizontal sequence with a gap in the vertical sequence. A down move corresponds to the insertion of a gap in the horizontal sequence and matches a location in the vertical sequence with a gap in the horizontal sequence.

4. Experimental Evaluation

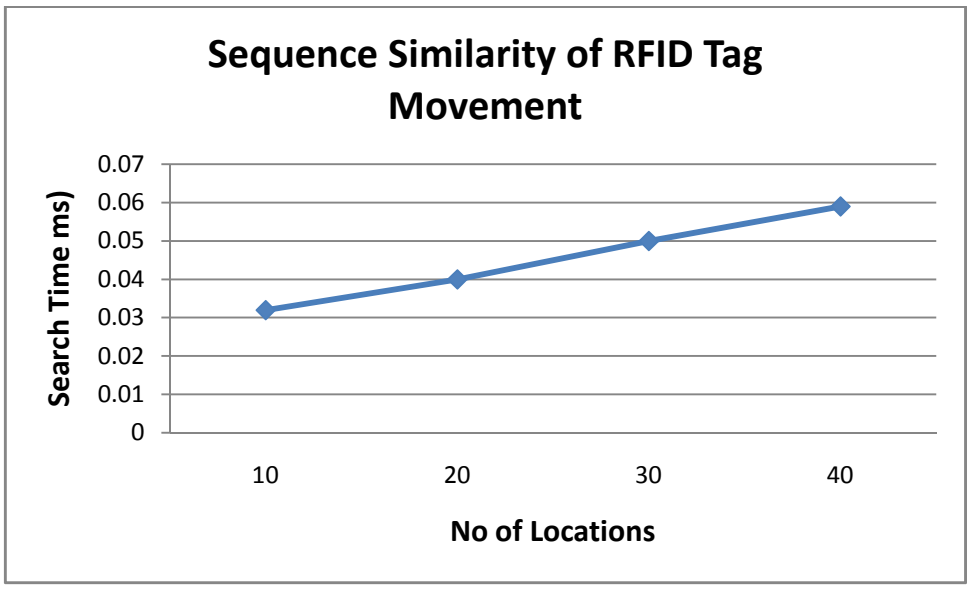
We have used a proximity card data set [9] which consists of thousands of individual proximity card data records each of which record the outcome of when a user presented a proximity card at a reader. One record will be generated when the RFID reader attempts to read a proximity card each time. The format of the raw RFID data recorded is as shown below

Date time time-period Access reader-code tag-id

Here a raw record is a space-separated set of attributes and corresponding data values. For example: 23/08/20106:45:02 PM granted 30210.

This data record specifies that tag number 210 was granted access to doorway controlled by reader 30 on date 23/08/2010 at 6:45:02 PM.

Figure 3: ***Search time for Proximity Card set***



This experimental set up focuses on RFID tag data set taken from above data set. Experiments were taken with query trajectory having 50,100,150 and 200 locations of interest. Scalability is measured in terms of how the search time grows with respect to increase in number of LoI's. The results of experiments confirm that (Figure 3) the average search time of our proposed sequence similarity algorithm (***Path Similar***) is linearly increasing as the increase in number of LoI's which supports the fact that the algorithm is scalable.

5. Conclusion

Organizations, worldwide in this era of globalization are continuously focusing on strategies of improving their competitiveness. Applying RFID technology is one such strategy which has been made revolutionary changes in supply chain domain by providing visibility for companies that want to track movements of physical items from manufacturer to the point of end customer. This paper introduces a model for the optimization of the storage structure of RFID database using theory of numbers and continued fraction. The paper also discusses the sequence similarity of RFID tags movement by using dynamic programming techniques.

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A PREDICTIVE STUDY USING EXTRAPOLATION ON GLOBAL MARKET POTENTIAL OF FIBC PRODUCTS

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Abstract

The study is undertaken to predict the market potential of FIBC products. FIBC products are a set of new innovations which provides better features than ordinary plastic bags. In India, FIBC industry manufactures wide variety of FIBC products which are of premium quality. The products are exported to European countries, middle-east and U.S. The study uses extrapolation method to predict the market potential of FIBC products by 2022. Using data for the years 2013-2016 as base data we carry out the predictive study. The main domains of the study include global bulk container packaging market, product wise analysis, region wise analysis and application based analysis. The study reveals that FIBC products holds high market growth rate and is gaining popularity worldwide and may eclipse plastic bag products in the future.

Keywords: *Packaging industry, FIBC, Market potential, global demand.*

1. Introduction

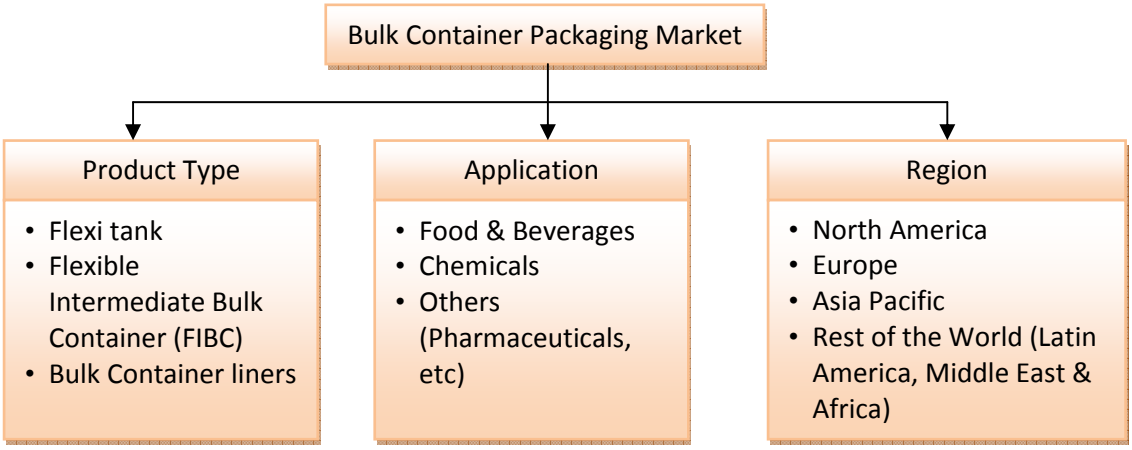
Bulk container packaging includes products used for bulk or high volume packaging. These are transported in containers via road, sea or railways. There are mainly three products under the bulk containers namely flexi tanks, flexible intermediate bulk containers (FIBC) and bulk container liners. A Flexi tank is a flexible bladder or a container manufactured using polyethylene and polypropylene to transport non- hazardous liquids in a standard 20ft container. FIBCs are also termed big bags or jumbo bags. These are made up of woven fabric for storage and transport of dry and free flowing products. This study includes market estimate and forecast of the bulk container packaging market from demand side in terms of revenue from 2013 to 2022. Major products analyzed include fexi tanks, FIBC and bulk container liners. Application segments include food & beverages, chemicals and others (including pharmaceuticals). Each of these product types and applications are estimated and forecast on the global as well as

regional level. We have segmented the global market in five regions: North America, Europe, Asia Pacific, Middle East & Africa and Latin America.

The global as well as regional market for each product type and application has been estimated from 2013 (as a base year) and forecast from 2014 to 2022 in terms of revenue (US$ Mn). Higher operational and cost efficiency of flexi tanks is one of the major driving factors for the growth of the global bulk container packaging market. Rise in exports of vegetable oil from Southeast Asia coupled with increase in bulk wine trade is anticipated to boost the market.

Market Segmentation

Figure1: ***Global Bulk Container Packaging Market Segmentation***



Source: *TMR Analysis 2014*

Export-oriented Indian Flexible Intermediate Bulk Container (FIBC) industry registered the growth in FY2017 (refers to the period April 01 to March 31) backed by increase in export and domestic demand. The domestic players in the flexible plastic packaging sector have increased their installed capacity or converted the existing installed polywoven sacks manufacturing capacity to manufacture FIBC during last five years (FY2012 –FY2016). In the medium-term, the Indian FIBC industry has the potential to maintain positive growth through demand emanating from international as well as domestic industries. In the domestic market, the industry is also envisaged to receive a boost from agriculture, mineral, petrochemical industries and various industrial markets. Internationally, the FIBC industry is estimated to demonstrate firm growth driven by acceptability and increase in usage by the pharmaceutical and food industry.

Growing steadily and taking significant strides since early 2000, the Indian FIBC industry has demonstrated its excellence to become one of the largest manufacturer and exporter in the world. FIBC gained prominence in the Indian packaging industry during the last decade and registered good growth on account of growing export of minerals, chemicals and polymer products which use FIBC for bulk packaging. The export of FIBC has increased consistently and at a higher rate when compared with other flexible packaging products.

2.Review of Literature

Constantine, Leonidas and Neil (2000) conducted a study on export performance and identified gaps in this evaluation. Guidelines for export performance measure development are, suggested. However a contingency approach in their application is ideal. Several conclusions and implications for export strategy and future research are derived from this analysis.

Leonidas, Constantine and Saeed (2002) conducted a study on identifying the marketing strategy elements that influence export performance has been the subject of sizeable empirical research. However, the findings reported in the literature are characterized by fragmentation and diversity, limiting theory development, and improvement of management practice in the field. This article aims to synthesize extant knowledge on the subject based on a meta-analysis of empirical studies on the export marketing strategy–performance relationship. The assessment reveals that: (a) although many marketing strategy variables demonstrate positive effects on overall export performance, the relationship is not always significant; (b) of the export performance measures examined in various studies, stronger effects are observed in relation to export proportion of sales; and (c) time of study, geographic focus, and product type had a limited impact on the effect of marketing strategy elements on export performance. Implications for export management and future research are discussed.

According to Clara, Donatella and (2011) since it's starting in the 19th century, modern food packaging has made great advances as results of global trends and consumer preferences. These advances are oriented to obtain improved food quality and safety. Moreover, with the move toward globalization, food packaging requires also longer shelf life, along with the monitoring of safety and quality based upon international standards. Nanotechnology can address all these requirements and extend and implement the principal packaging functions – containment, protection and preservation, marketing and communications. Applications of polymer nanotechnology in fact can provide new food packaging materials with improved mechanical, barrier and antimicrobial properties, together with nano-sensors for tracing and monitoring the condition of food during transport and storage.

3. Methodology

The current research process is uniquely designed, with enough flexibility to ensure best practices for each assignment but retaining the core elements that ensure accuracy and authenticity. Common parameters studied and evaluated for this assignment include: Macro-economic factors, Micro-economic factors, Technology & innovation, Regulatory and political scenario, Demographics, Industry ecosystem analysis, Industry impact forces, Industry insights

In-depth interviews and discussions with a wide range of key industry participants and opinion leaders were conducted for this research report. Primary research represents bulk of our research efforts, supplemented by an extensive secondary research. Key players' product literature, annual reports, press releases and

relevant documents were reviewed for competitive analysis and market understanding. Secondary research includes a search of recent trade, technical writing, internet sources, and statistical data from government websites, trade associations and agencies. This has proven to be the most reliable, effective and successful approach for obtaining precise market data, capturing industry participants' insights and recognizing business opportunities.

4. Data

The study mainly used secondary research sources for data with the following specific sources:

- Company websites, annual reports, financial reports, broker reports, investor presentations etc.
- National government documents, statistical databases and market reports
- News articles, press releases and webcasts specific to companies operating in the market
- World Cargo News
- The Flexible Intermediate Bulk Container Association(FIBCA)
- The Container Owners Association(COA)
- The Bulk Newspaper
- The Global Food Safety Initiative (GFSI)
- The British Standards Institution (BSI)
- The International Organization for Standardization (ISO)
- The top-down approach for estimating and forecasting by geography
- The bottom-up approach for estimating and forecasting by product type and application
- Demographic data: Population split by segments
- Macroeconomic indicators: GDP, producer price index, etc

Extrapolation is the process of estimating, beyond the original observation range, the value of a variable on the basis of its relationship with another variable. Extrapolation may also mean extension of a method, assuming similar methods will be applicable. Extrapolation is the technique used in this study to predict the future of FIBC industry.

5. Results and Discussion

Study on Global Packaging Industry [2013-2022]

This study includes market estimate and forecast of the bulk container packaging market from demand side in terms of revenue from 2013 to 2022. Major products analyzed include flexi tanks, FIBC and bulk container liners. Application segments include food & beverages, chemicals and others (including pharmaceuticals). Each

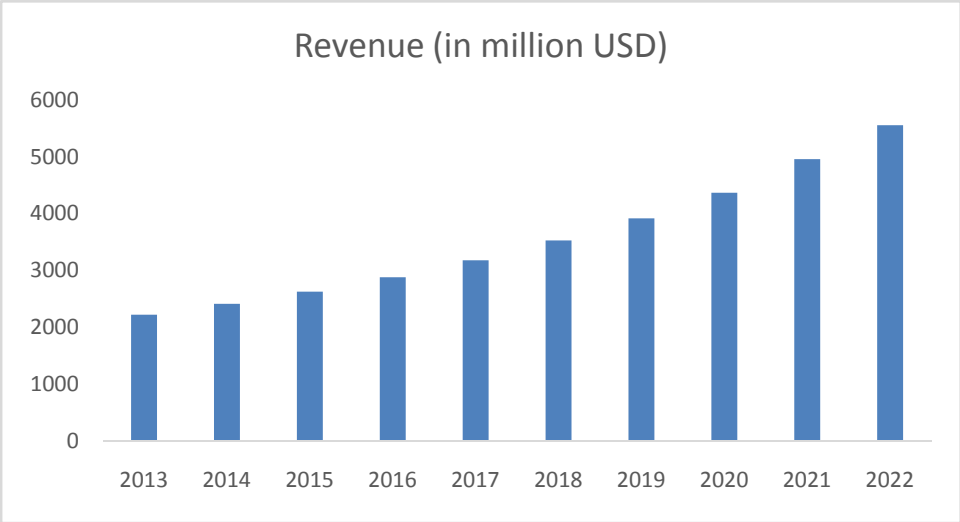
of these product types and applications are estimated and forecast on the global as well as regional level. We have segmented the global market in four regions: North America, Europe (including Western Europe, Central & Eastern Europe, Russia, and CIS), Asia Pacific, Latin America, Middle East and Africa. The global as well as regional market for each product type and application has been estimated from 2013 (as a base year) and forecast from 2014 to 2020 in terms of revenue (US$ Mn).In terms of revenue, the global bulk container packaging market was valued at US$ 2221.3 Mn in 2013 and is anticipated to reach US$ 5561.2 Mn by 2022.

Table 1: ***Global bulk container packaging market, 2013 -2022 (US$ Mn).***

Year	Revenue (in millionUSD)
2013	2221.3
2014	2415
2015	2625.6
2016	2879.7
2017*	3182.6
2018*	3527.3
2019*	3919.5
2020*	4371.8
2021*	4963.6
2022*	5561.2

Source: *Data Analysis* *Predicted Value

Figure. 2



Rising exports of oil & fats from Southeast Asia and growing bulk wine trade globally is anticipated to boost global bulk container packaging market. Moreover, higher performance levels in terms of cost and operations of flexi tanks than other substitute products available in the market is further driving the market. Flexi tanks, FIBC and bulk container liners are generally manufactured using

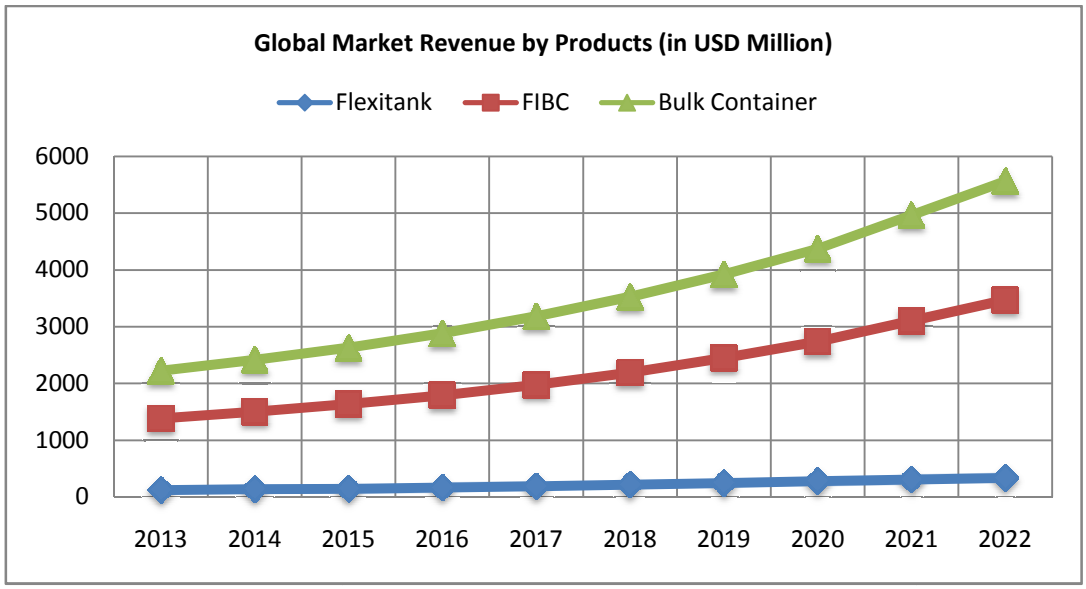
polyethylene or polypropylene. In 2013 the revenue from the industry is US$ 2221.3 Mn and the forecasted revenue in 2022 is US$ 5561.2 Mn as reported in Table 1.

Table 2: ***Product Wise Analysis (USD Million), 2013 -2022***

Product	2013	2014	2015	2016	2017*	2018*	2019*	2020*	2021*	2022*
Flexitanks	121.7	138.3	143.8	164.9	187.7	215.1	246.9	279.7	307.7	333.6
FIBC	1264.2	1365.3	1494.2	1628.01	1788.6	1975.2	2202.7	2456.9	2794.5	3136.5
Bulk Container	835.4	911.4	987.4	1086.7	1206.2	1336.8	1469.8	1635.05	1861.3	2091.01
Total	2221.3	2415	2625.6	2879.7	3182.6	3527.3	3919.5	4371.8	4963.6	5561.2

Source: *Data Analysis* * Predicted values

Figure. 3



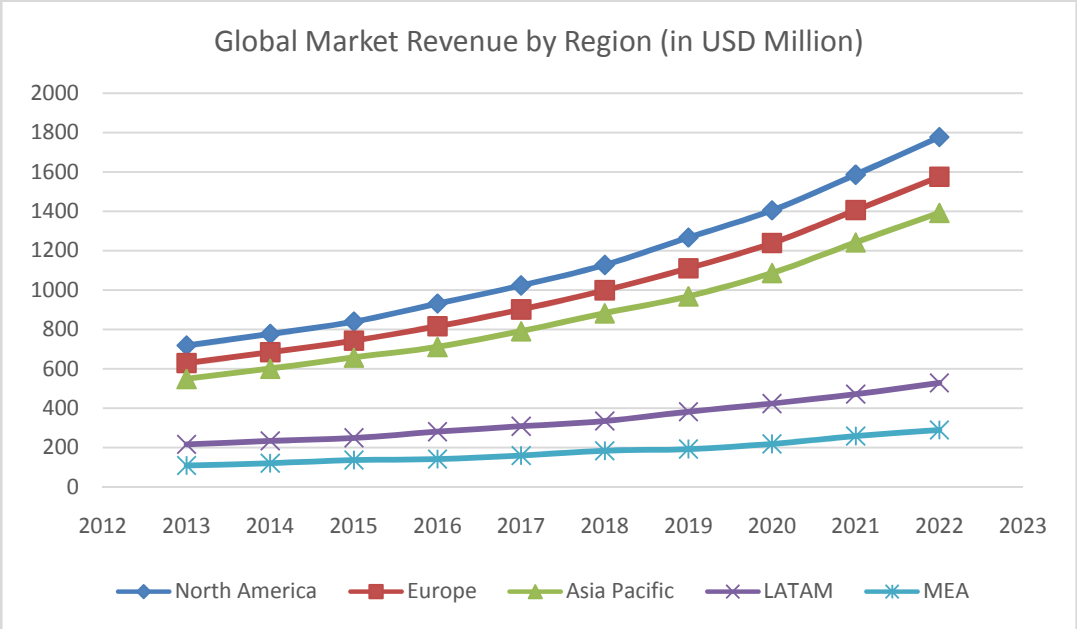
Product segments of bulk container packaging include flexi tanks, flexible intermediate bulk containers (FIBC) and bulk container liners. In terms of revenue, FIBC was the largest segment in the global bulk container packaging market in 2013. Flexi tanks held a smaller share of the global bulk container packaging market; however, the segment is expected to expand at the highest growth rate in the next few years. In terms of revenue, the Flexi tank had USD 121.7 Mn, FIBC had USD 1264.2 Mn and bulk container liners had USD 835 Mn in 2013. And the forecasted revenue for Flexi tank is 333.6, FIBC is 3136.5 and bulk container liners are 2091.01 in 2022.

Table 3: ***Region Wise Analysis (USD Million)- 2013 -2022***

Region	2013	2014	2015	2016	2017*	2018*	2019*	2020*	2021*	2022*
North America	718	776.2	839.1	930.7	1022.8	1127.3	1266.7	1405.09	1586.3	1777.3
Europe	629.6	684.2	743.5	816.1	901.6	998.9	1110.7	1238.5	1405.6	1574.9
Asia Pacific	548.4	600.1	656.6	710.7	790.5	882.1	967.3	1085.9	1241.3	1390.8
LATAM	216.5	234.01	249.4	280.7	308.3	335.09	382.1	423.6	471.5	528.3
MEA	109.06	120.7	136.5	141.3	159.1	183.4	192.4	218.5	258.1	289.1
Total	2221.3	2415	2625.6	2879.7	3182.6	3527.3	3919.5	4371.8	4963.6	5561.2

Source: *Data Analysis* * Predicted values

Figure. 4



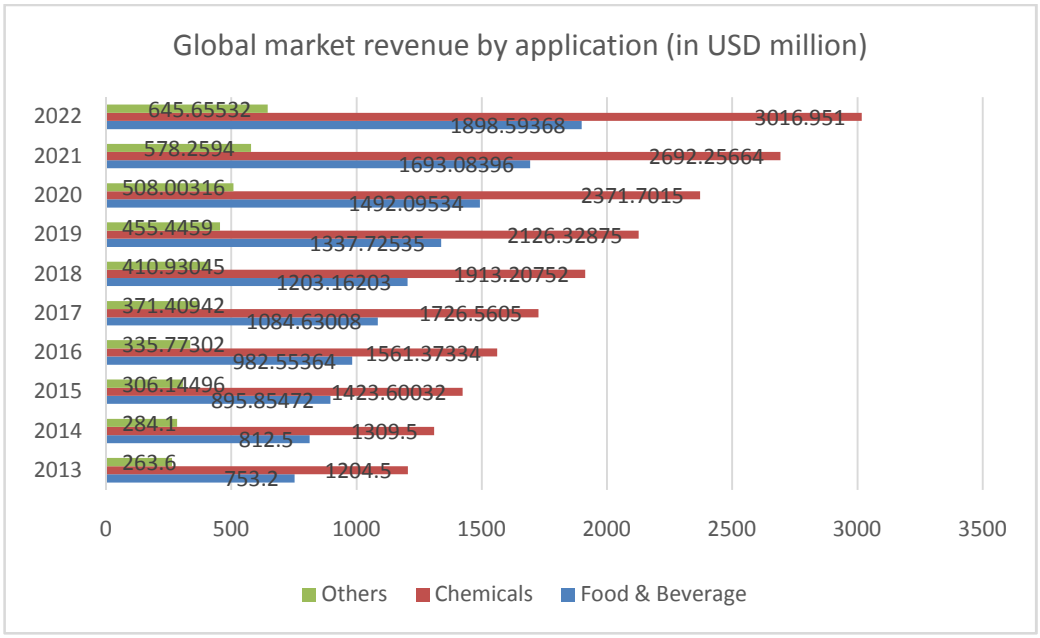
North America emerged as the largest market for bulk container packaging, accounting a revenue of USD 718 Mn in 2013. Europe accounted a revenue of USD 629.6 Mn and Asia Pacific had 548.4 Latin America had USD 216.5 Mn, Middle East and Africa had USD 109.06 Mn. The forecasted growth in terms of revenue for North America is USD1777.3 Mn, Europe accounted a revenue of USD 1574 Mn and Asia Pacific have USD 1390.8 Mn Latin America have USD 528.3 Mn, Middle East and Africa had USD 289.1 Mn. This industry is growing due to increasing exports of chemicals and oils to other regions and changing global chemical exports scenario owing to rising exports of bulk chemicals and food products.

Table 4: ***Application Base Analysis (USD Million)- 2013 -2022***

Region	2013	2014	2015	2016	2017*	2018*	2019*	2020*	2021*	2022*
Food & Beverage	753.2	812.5	895.8	982.5	1084.6	1203.1	1337.7	1492.09	1693.08	1898.5
Chemicals	1204.5	1309.5	1423.6	1561.3	1726.5	1913.2	2126.3	2371.7	2692.2	3016.9
Others	263.6	284.1	306.1	335.7	371.4	0410.9	455.4	508.003	578.2	645.6
Total	2221.3	2415	2625.6	2879.7	3182.6	3527.3	3919.5	4371.8	4963.6	5561.2

Source: *Data Analysis* *: Predicted Value

Figure.5



In terms of revenue, chemicals emerged as the largest application segment of the global bulk container packaging market in 2013. The segment accounted for over 50% share in 2013 and is anticipated to grow at a moderate rate during the forecast period. Chemicals segment is projected to remain the largest application in the near future. Bulk and commodity chemicals are raw materials used in various materials, polymers, specialty chemicals and other chemicals. Food & beverages was the second-largest segment of the bulk container packaging market in 2013. Demand for bulk container packaging products in other applications (including pharmaceuticals) is projected to rise at a slower pace in the next few years

Table 5: ***Global flexi tanks market revenue by region (USD Million), 2013-2022***.

Region	2013	2014	2015	2016	2017*	2018*	2019*	2020*	2021*	2022*
North America	22.6	25.8	26.7	30.6	34.9	40.1	45.8	52.04	57.2	62.2
Europe	43.8	50.1	51.7	59.4	67.9	77.9	88.8	100.9	111.1	120.8
Asia Pacific	36.5	41.8	43.1	49.5	56.6	65.04	74.04	84.1	92.6	100.8
LATAM	11.3	13.2	13.3	15.4	17.6	20.5	22.9	26.2	28.9	31.9
MEA	7.4	7.3	8.8	9.6	10.6	11.5	15.1	16.4	17.3	17.8
Total	121.7	138.3	143.9	164.9	187.8	215.2	246.9	279.8	307.4	333.7

Source: *Data Analysis* *Predicted Value

Flexi tank business accounted the major revenue of 43.8 million USD from Europe and 36.5 million USD from Asia Pacific of the industry in 2013 and will witness maximum gains over the estimated period. These tanks are suitable in transporting wine, fruit juices and edible oil. Increasing trade business of these products across the globe will significantly boost the bulk container packaging market size over the projected timeframe 2022 by having a revenue of 120.8 million USD from Europe 100.8 million USD from Asia Pacific.

Table 6: ***Global FIBC market revenue by region (USD Million), 2013 – 2022***

Region	2013	2014	2015	2016	2017*	2018*	2019*	2020*	2021*	2022*
North America	473.9	507.0	567.2	610.3	678.9	733.6	825.8	912.4	1060.7	1190.6
Europe	358.2	386.7	423.3	461.3	506.7	559.6	624.2	696.03	791.6	888.5
Asia Pacific	299.3	325.4	358.7	385.5	429.4	470.9	521.6	585.7	670.9	753.07
LATAM	99.9	104.9	112.07	128.7	134.1	151.9	174.2	188.9	209.5	235.2
MEA	32.6	40.9	47.8	42.002	57.2	59.2	56.8	73.7	89.4	100.3
Total	1264.2	1365.3	1494.3	1628.01	1788.6	1975.3	2202.8	2456.9	2794.5	3136.5

Source: *Data Analysis* *Predicted Value

FIBC business accounted the major revenue of 473.9 million USD from North America and 358.2 million USD from Europe of the industry in 2013 and will witness maximum gains over the estimated period. These are suitable in

transporting semi-finished products, chemicals lubricants, materials and minerals will propel industry growth.. Increasing trade business of these products across the globe will significantly boost the bulk container packaging market size over the projected timeframe 2022 by having a revenue of 1190.6 million USD from North America and 888.5 million USD from Europe.

Table 7: ***Global Bulk container market revenue by region (USD Million) 2013 – 2022***

Region	2013	2014	2015	2016	2017*	2018*	2019*	2020*	2021*	2022*
North America	221.3	238.2	295.8	288.002	361.3	349.4	389.4	427.4	557.6	626.4
Europe	271.1	294.6	319.1	352.7	389.8	432.1	477.09	528.6	601.6	675.8
Asia Pacific	206.1	226.3	246.9	268.2	301.6	332.06	362.7	406.1	465.5	522.9
LATAM	86.3	97.4	99.6	112.3	121.7	142.9	151.9	174.7	187.8	210.9
MEA	50.2	54.6	55.7	65.4	68.1	80.2	88.4	98.1	105.1	118.1
Total	835.4	911.4	987.5	1086.8	1206.2	1336.8	1469.8	1635.1	1861.4	2091.01

Source: *Data Analysis* *Predicted Value

Global Bulk Container business accounted the major revenue of 271.1 million USD from Europe and 221.3 million USD from North America of the industry in 2013 and will witness maximum gains over the estimated period. These are suitable in transporting corn, oilseeds, grains such as soybean, and feeds from the U.S. Increasing trade business of these products across the globe, will significantly boost the bulk container packaging market size over the projected timeframe 2022 by having a revenue of 675.8 million USD from Europe 626.4 million USD from North America.

6. Conclusion

Flexible Intermediate Bulk industry is creating waves in the packaging industry. FIBCs are available in a wide variety and are suitable for numerous applications in the chemical, pharmaceutical, and food industries. The industry has demonstrated its excellence to become one of the largest manufacturer and exporter in the world. The FIBC market is characterized by innovative offerings and customizations according to customer specifications. The growing needs to reduce the overall weight of the bulk packaging and transporting materials is a major factor driving the demand for FIBCs. With versatility, custom qualities, efficiency in conserving resources, sustainability and innovation they have become a global phenomenon. It is estimated that the global market for flexible packaging is expected to expand at a CAGR of 5.2% in terms of revenue from 2016 to 2024.

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IMPACT OF CELEBRITY GENDER AND POPULARITY ON ENDORSEMENT RECALL

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Abstract

The purpose of this paper is to evaluate the effect of celebrity endorser on recall of celebrity and brand combination in jewellery advertisement. The survey was conducted for ten days, starting from10/05/2015 morning to 20/05/2015 morning. A total of 61 respondents were participated in the survey, out of which 57 responses were taken for analysis. The study used non-parametric tests like Kruskal - Wallis test, Wilcoxon Signed Ranks Test and Mann-Whitney U test for evaluating the hypothesis. The finding shows that there is no significant difference in recall of advertisement on the basis of celebrity gender and celebrity popularity. But when it comes to recall of female celebrity and product combination, female respondents tend to have more recall than male respondents.

Keywords: *Unaided Recall, Celebrity Endorsement, Celebrity Gender, Celebrity Popularity.*

1. Introduction

In today's cluttered media world viewers are bombarded with a large number of advertisements. This makes large corporations invest in advertising, which creates higher recall among the target audience. Celebrity endorsement is one of the most highly used advertising strategies to attain this goal. Celebrity has become a common medium used by corporations for creating higher recall and brand preference (Dhotre & Bhola, 2010).Celebrity endorser possesses some symbolic meaning (Choi & Rifon, 2007; McCraken, 1989) and the endorsement help to transfer this meaning to the product (McCraken, 1989).

According to McCraken, (1989) 'the effectiveness of the endorser depends on upon the meanings he or she brings to the endorsement processes.' According to him, celebrity draws powerful meanings from the roles they assume in their television, movie, military, athletic, and other careers. In addition to this meanings, the demographic factors (Dhotre & Bhola, 2010) and popularity factors (Toncar, Reid, & Anderson, 2007) of the celebrity plays an important role in advertisement effectiveness. This study aims at evaluating the effect of celebrity gender and popularity on endorsement recall.

McCraken, 1989suggested that the effectiveness of celebrity endorsement depends on product class endorsed. In India, celebrities are used widely as a marketing

strategy for attracting customers, by almost every product and service. A report by the Federation of Indian Chambers of Commerce and Industry (FICCI) stated that 60 per cent of the Indian brand's used celebrities in some form in 2008 as compared to 25 percent in 2001 (Quoted from Jain, Roy, Daswani, & Sudha, 2010). Considering the vast usage of celebrity endorsement strategy among Indian companies,it was decided to consider only one product.Friedman & Friedman, (1979) suggested that celebrity endorsement is most effective for jewelleryendorsing, so the study evaluated the effectiveness of celebrity endorser on jewellery advertisements recall. According to Geevarathna, (2013)celebrity influence is so strong among jewellers that every brand has its own ambassador to communicate their unique sales proposition.

2. Literature review

Recall of advertisement or brand can be of two types aided recall and unaided recall. In aided recall, the respondents will be provided with some cues and will be asked to name the brand, for example, the name of the celebrity will be provided and will be asked to write the name of the brand the celebrity represent. In an unaided brand recall situation, the respondents will be asked to recollect brands of a particular product category("Brand awareness," 2015) for example the recall of brands in the jewellery industry.

Many researchers have evaluated recall as an important measure of advertisement effectiveness (Gnanapragash & Sekar, 2013; Hastak & Mitra, 1996).The academic literature evaluating practitioners perceptive on celebrity endorsement has also found that most of the practitionersbelieve that celebrity will create increased brand recognition among the consumers (Charbonneau & Garland, 2005; Erdogan, Tagg, & Baker, 2001). In the study by Gnanapragash & Sekar, 2013 it was found that celebrities increase the recall of brand when the respondents are cued with a celebrity name. This study evaluated the top of the mind recall of brand when respondents are provided with celebrity name and celebrity when respondents are provided with a brand name. The study found that higher recalling can be achieved when there is a fit between the brand and the celebrity persona available in the consumers' memory.

Dhotre & Bhola, (2010) posit that respondent generally recalls the advertisements of a celebrity of an opposite gender but failed to prove it empirically. Freiden, (1984) evaluated the effect of spokesperson gender on advertising effectiveness. The study found that gender of endorser had no significant effect on advertising effectiveness. Both these studies have failed to prove the effect of gender on advertising effectiveness statistically. But in an earlier study (Miller, 1970) on the impact of physical attractiveness on communicator's perceived traits found that female respondents rated female communicator's higher in some traits.

In the study by Kahle & Homer, (1985)a gender and recall main effect was found i.e. female respondents had higher recall than male respondents. But Kinney, Stephen, & Degaris, (2008) found that the male respondents had more recall than the female respondents. In Kahle's study, the product used as stimuli was a razor

and toothpaste whereas for Kinney's study the recall was related to brand names of sponsors of 'NASCAR' teams. Fromthis, it can be found that the effect of recall is basically because of the nature of the product i.e. females are more concerned with a product like a razor and toothpaste. According to Petty, Cacioppo, & Schumann, 1983 the women are concerned with more social harmony than men, so they give more rate to endorser and their arguments. According to Friedman & Friedman, (1979) jewellery is a product high in psychological and social risks. So it can be concluded that women who live with more social harmony (Petty et al., 1983)should be more concerned with jewellery product, so women will recall jewellery advertisement more than men. In India, female are mostly homemakers who spend most of their time taking care of their children and family. Most of these women get engaged in TV program during their leisure time and are more likely to see this advertisement more often. According to Elm predictions when the respondents are more involved then they will remember advertisement more. This is also applicable to recall based on celebrity gender. Females who are considered more social will be more involved in the purchase of jewellery which is a social risk product. Moreover, in Kerala, females are more interested in jewellery purchase than their male counterparts (Asha, K., 2011). The recall literaturehas found that when there is higher fit between the product and the celebrity the recall for the product will be higher. So the female celebrity will be more related endorser than male celebrity creating more recall of female celebrity and product combination.

The effectiveness celebrity endorsement largely depends on the popularity of celebrity. Toncar, Reid, & Anderson, (2007) studied the effectiveness of local celebrity, national celebrity and victim in raising fund for a social cause. They defined national celebrities as widely recognisable wherever they go, and local celebrities, as recognisable in a comparatively small geographic area. The study found that local celebrity has more credibility and believability than national celebrity. The study also concluded that local celebrity is more effective than national celebrity. But Keat, (2011)in his case study on Beckham and Fandi, representing foreign and national celebrity respectively, found that national celebrity is less effective than international celebrity and the difference was more significant among male respondents. Keat (2011) differentiated the celebrity as foreign and national based on nationality.

The effect of celebrity familiarity on recall has not been investigated in any of the earlier literature. But in some studies, the effect of brand familiarity on brand recall is evaluated. For instance Campbell & Keller, (2003) in their study on brand familiarity and advertising repetition effect on recall has found that brand familiarity will impact unaided brand recall such that familiar brands were better recalled than were unfamiliar brands. In the study by Kent & Kellaris, (2010)it is found that the brands which are familiar to the respondent will be recalled more. They also suggest that new attributes are linked more strongly to the nodes of highly familiar brands, which could ease the retrieval of advertisement claims. In the study by Gupta, Aggarwal & Dang, (2009) this main effect of familiarity and recall was found. All this literature suggests that the familiarity will increase the

recall. Kelman, (1958) suggested the identification theory as an important process underlining social influence. The latter study by Kamins, Brand, Hoeke, & Moe, (1989)found this process as an explanation for the effect of celebrity persuasion. Kamins explained how a celebrity creates behavioural compliance among the receivers of the message. This was later extended to recall by Appiah, (2002). According to Kelman, the identification process happens when an individual tries to conform to the communicator. In identification process, an individual accepts influence because he wants to establish or maintain a satisfying self-defining relationship to another person or a group. According to Appiah, (2002) identification occurs when the individual infer that their tastes and preferences are similar to those of the source. Accordingly, viewers are more likely to identify with celebrities of the same gender and will pay more attention to them and recall them more. Likewise, local celebrities, who are more attached to the respondents with regards to the language of film industry they support, will be more familiar to the respondents. This familiarity will induce more recall among the respondents. In the case of regional celebrities, the familiarity will be less because their area of performance is not well known among the respondents, so the recall will be very less for this category. In the case of international celebrities they are well known all over the world for their performance that is they will be well known amongst respondents, so this category will also have a good recall among the respondents.

From review of literature following hypothesis were set for the study

H1:- Recall rate among respondents will be higher for (a) local celebrities followed by (b) international celebrities than regional celebrity.

H2:- Gender of the celebrity will have an effect on endorsement Recall.

H3:- Female celebrity recall rate will be higher for female respondents than male respondents.

H4:- Male celebrity recall rate will be higher for male respondents than female respondents.

H5:- Overall Recall rate will be higher for female respondents than male respondents.

3. Research Methodology – An Overview

A survey of respondents was carried out using online survey method. The study measured the top of the mind recall of celebrityjeweller combination. The respondents were asked to provide the names of celebrity and jewellery that come into their mind. After collecting the respondent's recall, the study categorised recall based on the celebrities mentioned. In this study, the celebrities are classified on the basis of gender and popularity. The popularity of the celebrity actors is ascertained based on the language of film industry the actor represents and athletic celebrities is ascertained based on the maximum level at which athlete's played. On the basis of popularity the celebrities are classified as international celebrity, regional celebrity, and local celebrity.

Local celebrity: - Malayalam is the official language of Kerala, which is our area of study, so personalities representing Malayalam movie industry is considered as local celebrity.

Regional celebrity: - India is a federal nation, it has got 29 states. Each state has their own language and culture. The celebrities representing regional language film industry other than Malayalam is considered as regional celebrities.

International celebrity: - The national language of India is Hindi, so celebrities who are well-known personalities of Hindi films industry are considered as an international celebrity as they represent Indian film industry throughout the world and celebrities who represent India as well as other nations in international sporting events are also considered here.

4. Subject and time frame of the study

Since the study measures the recall of respondents, it was decided to make a time bound survey. The time period of the study was arbitrarily fixed by the researcher considering cost and time availability. The survey was conducted for a period of 10 days from 10/05/2015 morning to 20/05/2015 morning. Respondents were contacted using Gmail and Facebook. Gmail and Facebook account details were collected from a list of 100 students enrolled for MBA course in MG University from 2009-2011. The survey got 61 responses aged between 23-37 years, of which 4 responses were not taken for analysis because of their incomplete response.

5. Questionnaire

The questionnaire contained two parts, the first part deals with demographical characteristics of the respondents and the second part deals with their call of celebrity jeweller combination, it has two open-ended questions. The first part measured gender and age of respondents.

6. Tools used for Analysis

The analysis was carried out using Excel and SPSS. Since the data does not satisfy normality condition, non-parametric tests were used for testing hypothesis.

7. Analysis and findings

The age of respondents was ranged from 23-37 years, and there were almost equal responses from both male (30) and female (27) gender. Every response was having minimum one combination and maximum 8 combinations. This shows that the respondents were well aware of the celebrity endorsement and were able to relate jeweller with the celebrity. The respondents mentioned around 35 different combinations which were processed for analysis.

8. Hypothesis testing

The celebrities were classified into Local, regional and international celebrities for analysis. As it can be seen from the table 1, respondents recalled 14 combinations involving local celebrities and 13 combination involving international celebrities. For regional celebrities, only 8 combinations were recalled. The frequency of recall

was highest for local celebrities (109) followed by international celebrities (81) and regional celebrities (37). The mean score of recall for each combination of a local celebrity is 7.7 i.e. on an average 7 respondents recalled one local celebrity and jewellery combination. Similarly, mean recall of regional and international celebrities is 4 and 6 respectively. For the further test of H_1, Kruskal- Wallis test was carried out.

Table 1:- ***Recall of local, regional and international celebrities***

	Frequency	Frequency of combination	Mean recall rate
Local celebrity	109	14	7.7857
Regional celebrity	37	8	4.6250
International celebrity	81	13	6.2308
Total	227	35	6.486
Kruskal-Wallis Test Statistics X^2			.244
df			2
Asymp. Sig.			.885

Source: *Primary Survey*

Hypothesis one predicts that the recall rate among respondents will be higher for local celebrities followed by international than regional celebrity. Specifically, it shows that respondents will recall local celebrity more than international and regional celebrities, and international celebrities will be recalled more than regional celebrities. The frequency analysis was in line with this hypothesis. For further analysis, Kruskal-Wallis Test was carried out. As it can see in table 1, the difference of recall rate among the categories of celebrity is not statistically significant, ($X^2(2)= .244$, $p>.05$). This finding indicates that, even though there is a difference between local, international, and regional celebrities in the data, the differences are not significant. Hence H1a and H1b were not supported.

Hypothesis two predicts the main effect of celebrity gender on recall. For testing this hypothesis the respondents recall of celebrity product combination pertaining to each gender was categorised. Number of celebrity-jeweller combination mentioned in each category was found out. The recall score of each respondent was divided into male and female celebrity recall score. As shown in the table-2, the female celebrity recall had an average of 2.04 whereas male celebrity had an average recall of 1.93. For testing the hypothesis two female celebrity recalls was paired with male celebrity recall and Wilcoxon signed rank test was performed.

Table 2:- ***Table showing Female celebrity recall and male celebrity recall***

	Mean	N	Std. Deviation	Std. Error Mean
Female celebrity recall	2.04	57	.844	.112
Male celebrity recall	1.93	57	.863	.114
Wilcoxon Signed Ranks Test Z				-.793[b]
Asymp. Sig. (2-tailed)				.428

Source: *Primary Survey* ***b.*** *based on negative ranks*

As we can see in table 2, the main effect of celebrity gender on recall was not significant Z = -.793 p>.05. This finding indicates that the respondents recalled almost equal number of male and female celebrity endorsers. This is against our hypothesis that female celebrities will be recalled higher than male celebrities. The finding was in line with the earlier finding of Freiden, (1984). This indicates that the explanation of Petty et al., (1983) about women been more social will be highly influenced by celebrity endorser is not supported here with regards to recall. Hence this hypothesis was not supported.

Hypothesis three and four predicts the effect of respondent's gender on celebrity combination based on celebrity gender. Specifically, H3 predicted that male respondents will recall male celebrities higher than female respondent and H4 anticipated that female respondents will recall female celebrities more than the male respondents. The study used Mann-Whitney U test for analysing the statistics. The mean score of Male celebrity recall for male respondents is 1.90 and for female respondents is 1.96. As it can seen in table 4, Mann-Whitney U test (U= 376.000, p>.05) indicates that the gender of the respondents does not affect the recall rate of male celebrities. This means that there is no significant difference in recall of male celebrities across the gender of respondents. In the case of female celebrity recall and gender of respondents, the female mean score is 2.30 and the male mean score is 1.80. As it is seen in table 4, the main effect of gender on female celebrity recall was significant with U= 285.000, p<.05. For further analysis, the mean rank score for Mann-Whitney U test was evaluated. As it can be seen from table 5, the female respondents (33.44) had higher mean rank score than male respondents. Hence, H4 prediction was validated i.e. female respondents had recalled female celebrities more than the male respondents this was against the explanation of (Dhotre & Bhola, 2010) that 'respondent generally recalls/prefers the ads of a celebrity of an opposite gender'. This finding was inline with our hypotheses based on identification theory.

Hypothesis five posits that female respondents will have higher recall rate than male respondents. The study used Mann-Whitney U test for testing the hypothesis. The mean score indicated that female respondents (4.2593) have more recall than male respondents (3.7000). As it can be seen in table 4, the recall rate of celebrity

jeweller combination is same across the gender of respondents (U =312.000 p>0.05).

Table 3: ***Mean and Standard Deviation***

	N	Overall celebrity recall		Male celebrity recall		Female celebrity recall	
		Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
male	30	3.7000	1.41787	1.90	.803	1.80	.847
female	27	4.2593	1.45688	1.96	.940	2.30	.775
Total	57	3.9649	1.45117	1.93	.863	2.04	.844

Source: *Primary Survey*

Table 4: ***Table showing Mann-Whitney U test***

	Male celebrity recall	Female celebrity recall	Overall recall
Mann-Whitney U	376.000	285.000	312.000
Wilcoxon W	841.000	750.000	777.000
Z	-.537	-2.196	-1.579
Asymp. Sig. (2-tailed)	.591	.028	.114

Source*: Primary Survey*

Table 5: ***Table showing mean rank for female celebrity recall for Mann-Whitney U test***

	Gender	N	Mean Rank	Sum of Ranks
Female celebrity recall	male	30	25.00	750.00
	female	27	33.44	903.00
	Total	57		

Source*: Primary Survey*

From the overall analysis found that the recall rate is same across gender of respondents and gender of celebrity. The female respondents indicated more recall of female celebrity which was in accordance with our hypothesis based on identification theory.

9. Discussion

The present study evaluated the effect of celebrity gender, and popularity on recall of celebrity jeweller combination. Specifically, the study proposes that the recall of celebrity and jewellery combination will depend on the gender of celebrity, and celebrity popularity. Based on popularity the celebrities were classified as local, regional and international celebrity. The hypothesis was tested using non-parametric tests. The test results indicated that recall rate is same across the categories of celebrity popularity and celebrity gender. In the case of celebrity gender, it was found that female celebrity was more recalled by female respondents than male respondents. This indicates that the use of female celebrity in jewellery advertisement will have greater recall among females than males.

The study has shown no significant difference in recall of local celebrity, regional celebrity and international celebrities. It was assumed that local celebrity will have more recall because of the higher familiarity of a local celebrity among the respondents. This assumption does not receive any statistical significance. Even though the mean value showed the difference the test statistics do not show any such differences. This result does not support earlier study by Toncar et al., (2007)which found local celebrities more effective than national and international celebrities. In that study, the perception of respondents was analysed, but the present study analyses the recall of celebrity product combination. This finding is significant for international jewellers who are interested in using celebrity endorsement marketing strategy. They don't have to use a local celebrity who may not be well popular in other states. They can use an international celebrity who is popular in all parts and can gain good recall among the respondents.

The study also found that the gender of celebrity has no impact on recall. It was posit in the study that gender of the celebrity will impact the recall. But the study failed to significantly support the hypothesis indicating an equal distribution of recall rate across the celebrity gender. The study hypothesised that female celebrity will have higher recall than male celebrity because females are considered as more related to jewellery product. This result is in accordance with the earlier study by Freiden, (1984)which found no impact of endorser gender on spokesperson effectiveness. The present study indicates that the jewellery advertiser does not have to look for the specific gender of celebrity for getting a higher recall. The further analysis of respondents' gender and gender of celebrity, there was no significant effect on recall of male celebrities, but in the case of female celebrities, the effect was significant. It was found that female respondents have greater recall of female celebrities. The result is against Dhotre & Bhola, (2010) assumption of 'respondents generally recall/prefers the advertisement of opposite gender'. Specifically,female celebrities will be more recalled by male respondent. Contradicting this assumption the result showed gender stereotypes for female celebrity i.e female celebrities was recalled by female respondents more than male respondents. This is in accordance with identification theory of social influence process. According to Kamins, Brand, Hoeke, & Moe (1989), identification is said to occur when an individual adopts the behaviour of another person because

the individual aspires to be like that person or group. In this case, the individual recall the advertisement which depicts a similar celebrity of his or her gender. According to Hoffner & Buchanan, (2009) the gender similarity increases identification process. This explains how the female respondents had more recall of female celebrity advertisement. But this explanation of identification is not reflected in the case of local, regional, and international celebrities.

Identification theory as an explanation of the effect of celebrity characteristic on celebrity brand recall was not fully supported. The evaluation of celebrity based on popularity shows that there is no significant effect on recall, which is against the identification theory. According to this theory, the local celebrity who is more familiar to the respondents should evoke more recall than international and regional celebrities. Even though the frequency analysis showed there is the difference in the recall of celebrity based on the popularity, the value was not significant. The identification theory explanation for recall was found highly significant only for female celebrity recall.

10. Implications of the research

The finding of the study had a greater implication to marketers using celebrity endorsement strategy. The study shows that there is no significant difference among the respondent on the recall of celebrity advertisement based on celebrity popularity. This supports the view that celebrity's effect is not bound by the geographical boundaries. So the marketers can use any celebrities without looking at their geographical popularity. The study also finds that recall of female celebrities is more among female respondents than male respondents. This shows that if they are using a female celebrity the chance of getting more recall among the female respondents is high.

Another important implication of the study is that the explanation of identification theory does not fully explain the underlining principles of recall. This is the important implication for academicians in marketing research.

11. Limitations of the study

The study used online survey tool for conducting the research so the population which do not have assess to the internet is excluded from the study. This reduces the generality of the study to the non-internet population. Future research can replicate the study among the non-internet users. The study considers only the respondents who give minimum one combination i.e. study failed to accommodate the respondents who do not recall any combination. The time of subject's viewing the advertisement was not considered in the study so the impact of time interval might affect the recall. Specifically, the respondents who have seen the advertisement very recently will recall it easily than those who have seen it long ago. The study does not check whether the respondents have come across all the advertisement in their past. The study was carried out with minimum manipulation of independent variables. The researcher has not controlled the respondent's prior knowledge of combinations or time interval of viewing the advertisement. The future research can use experimental manipulations to check this finding by taking

into consideration these variables. The study only checks the recall of combination, not the whole advertisements. The respondents were asked to recall celebrity-jeweller combination, not the advertisements. Specifically, the recall of claims made in the advertisement is not considered in the study. The study asked the respondents to recall celebrity endorser and jeweller so other product categories are not considered in the study.

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FINANCIAL INCLUSION IN INDIA: MAJOR INITIATIVES

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Abstract

The recent developments in banking technology have transformed banking from the traditional brick-and-mortar infrastructure like staffed branches to a system supplemented by other channels like automated teller machines (ATM), credit/debit cards, online money transaction, internet banking, etc. Such channels are available only to certain segments of the society. Large numbers of people are deprived of the basic financial services. In order to make these services available to those who cannot access mainstream financial products and services, the Government of India launched the policies of 'financial inclusion'. It is one of the most important aspects in the present scenario for inclusive growth and development of economies. The article tries to provide an understanding about the inclusive financing in India and the important steps taken by the government in this regard.

Keywords: *Financial Exclusion, Financial Inclusion, Reserve Bank of India, Pradhan Mantri Jan - Dhan Yojana.*

1. Introduction

Many research reports and surveys clearly shows that majority of the people does not have an access to basic banking and financial services not only in India but also the whole world. These people, particularly, those living in low incomes, cannot access mainstream financial services and products such as bank accounts which are used for making payments and keeping money, remittances, affordable credit, insurance and other financial services, etc. Literature has long established the positive impact of an efficient and extended financial sector on economic growth and development. Building a financially inclusive system that promotes economic growth is therefore both a priority and a challenge for developing countries. All stake-holders have a role to play in the construction of an efficient framework serving all segments of the population, especially the lower-income section. Even after 60 years of independence in India, large sections of the population still remain unbanked. This malaise has led generation of financial instability among the lower income group who do not have access to financial products and services. However, in the recent years the government and Reserve Bank of India has been pushing the concept and idea of financial inclusion. The RBI Governor Raghuram Rajan outlined that financial inclusion should be simple and reliable in India. It may not be an ultimate solution to all the problems of the poor but it will liberate them from the clutches of

informal money lenders and greedy politicians. He further stated that the financial products should address the needs of the poor — a safe place to save, a reliable way to send and receive money, a quick way to borrow in times of need, easy to understand life and health insurance and an avenue to engage in savings for the old age. Before going into the details of financial inclusion, one must understand the term financial exclusion which is explained below.

2. Concept of Financial Exclusion

The word financial exclusion was first used in 1993 by Leyshon and thrift who were concerned about limited access on banking services. In 1999, Kempson and Whyley defined financial exclusion in border sense which refers to those people who have excluded access to mainstream financial services and products. According to the European Commission, "Financial exclusion is a process whereby people encounter difficulties accessing or using financial services and products in the mainstream market that are appropriate to their needs and enable them to lead a normal social life in the society in which they belong."In India, The Report of the financial inclusion in January 2008 by C Rangarajan, Financial exclusion is defined as restricted access to financial services to certain segments of the society. Generally, this large section of the population comprises individuals or family falling into low income groups, which are not able to access even the most basic banking services like bank accounts, credit, insurance, financial advisory services and payment services. So basically, financial exclusion is the situation where certain group of people is excluded or unable to access low cost and appropriate mainstream financial products and services.

3. Financial Inclusion

3.1 Concept and Definition of Financial Inclusion

Financial inclusion can be described as the provision of affordable financial services, such as savings, credit, insurance services, access to payments and remittance facilities by the formal financial systems to those who are excluded. It not only includes banking products but also other financial services such as loan, equity and insurance products. The concept is not a new one in Indian economy. Bank Nationalisation in 1969, establishment of RRBs and introduction of SHG- bank linkage programs were initiatives taken by RBI to provide financial accessibility to the unbanked groups. According to committee on Financial inclusion headed by Dr. C. Rangarajan financial inclusion is "The process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost."It means the delivery of financial services and products at affordable costs for excluded sections of population and low income groups. It plays a crucial role to remove the poverty from the country. Financial inclusion is to provide equal opportunities to vast sections of population to access mainstream financial services for better life, living and better income. It provides a path for inclusive growth.

4. Background

The Reserve Bank of India (RBI) set up the Khan Commission in 2004 to look into financial inclusion. In the report RBI exhorted the banks to achieve greater financial inclusion with basic "no-frills" banking account. In India, financial inclusion first featured in 2005, when it was introduced by K.C. Chakraborthy, the chairman of Indian Bank. Mangalam became the first village in India where all households were provided banking facilities. In January 2006, the Reserve Bank permitted commercial banks to make use of the services of non-governmental organizations (NGOs/SHGs), micro-finance institutions, and other civil society organizations as intermediaries for providing financial and banking services. Reserve Bank of India's vision for 2020 is to open nearly 600 million new customers' accounts and service them through a variety of channels by leveraging on Information Technology.

5. Steps taken by RBI in India

RBI has initiated several measures to achieve greater financial inclusion. They are as follows:

1. Opening of no-frills accounts: no- frills account are those accounts with nil or very low minimum balance
2. Relaxation on Know-Your-Customer (KYC) norms: KYC requirements for opening bank accounts were relaxed for small accounts in August 2005. A person needs to provide only the details of name, address and Aadhaar number for opening accounts.
3. Engaging business correspondents (BCs): In January 2006, RBI permitted banks to engage BCs as intermediaries for providing financial and banking services. It allows banks to provide doorstep delivery of services, especially cash in-cash out transactions.
4. Use of technology: In order to make effective use of information and communications technology (ICT), and to provide doorstep banking services through the BC model.
5. Opening of branches in unbanked rural centre's: To initiate the opening of branches in rural areas so as to improve banking penetration and financial inclusion rapidly. In order to ensure fair practices in banking services, the RBI has issued instructions to banks making it obligatory for them to display and continue to keep updated, in their offices/branches as also in their websites, the details of various services charges.
6. Financial Inclusion Index: On June 25, 2013, CRISIL, India's leading credit rating and research company launched an index to measure the status of financial inclusion in India. The index- 'Inclusix' - along with a report, was released by the Finance Minister of India, P. Chidambaram at a widely covered program at New Delhi. It measures on a scale of 0 to 100, and combines three critical parameters of basic banking services such as Branch penetration, Deposit penetration, and Credit penetration.

6. The Evolution of the Financial Inclusion Movement in India: Swabimaan program (2010-2013) and Pradhan Mantri Jan-Dhan Yojana (PMJDY)

Credit and savings tools had long existed in India, created and run by the poor for the poor, like the chit fund mechanism, before financial inclusion became a political priority. Early initiatives were launched in the mid-70s by NABARD with the creation of Regional Rural Banks. Nowadays the main actors of the financial inclusion policy are the Government of India (GoI) and the Reserve Bank of India (RBI). The initial efforts were focused on making cheap credit products available to poor households for asset creation, with the formal banking system as a close partner and channel of distribution. In the 1990s the micro finance revolution took place in the country and helped open the credit market to remote areas and show that it was possible for micro finance institutions (MFI) to serve the poor. Earlier it was recognized by the Indian authorities that financial inclusion alone will not be enough for development, to fight against poverty and vulnerability and to support economic security and visible livelihoods. Several committees were called and reports issued to define financial inclusion and the goals for India in this matter, and both evolved over time. In 2008 the Rangarajan Committee stated that the essence of financial inclusion is in trying to ensure that a range of appropriate financial services is available to every individual and enabling them to understand and access those services. In 2014 the RBI Governor Raghuram Rajan declared that financial inclusion was about (i) The broadening of financial services to those who do not have access to financial services, (ii) The deepening of financial services for people who have minimal financial services and (iii) greater financial literacy and consumer protection. Following the evolution of the financial inclusion concept and understanding, the Indian strategy has similarly evolved. From 2010 to 2013 the Government of India had initiated the Swabimaan program. In 2014 a new scheme, called Pradhan Mantri Jan-Dhan Yojana has been launched by the new administration in place.

Table 1: ***Pradhan Mantri Jan - Dhan Yojana (Accounts opened as on 01.07.2015, Figures in millions)***

	Number Of Accounts			No Of Rupay Debit Cards	% of Zero Balance Accounts
	Rural	Urban	Total		
Public Sector Bank	70.7	58.7	129.4	120.4	51.7
Rural Regional Bank	25.1	4.4	29.5	21.2	51.53
Private Banks	4	2.8	6.8	6.1	48.53
Total	99.8	65.8	165.7	147.7	51.48

Source: *Government of India PMJDY Progress Report*

The Priority Sector Lending Initiative: It was established by RBI to ensure that those sectors of the economy, which may not get timely and adequate credit in the

absence of this special dispensation, have access to credit tools from Indian banks. The list of sectors has been revised in April 2015 and includes agriculture, micro and small enterprises, education, housing, export credit, etc. New sectors like renewable energy and social infrastructure have been added too and the new norms require banks to ensure that 8% of their loans go to small and marginal farmers.RBI has relaxed a number of norms and requested the people to open a bank account who plan to keep a balance lower than Rs 50,000 and whose total credit in all the accounts together will not exceed Rs 1, 00,000 in a year (simplified KYC form, June 2014). RBI also asked banks to provide all the material related to opening accounts, disclosures, etc. in the regional languages. Banks were permitted in 2006 to partner with other rural organizations, like NGOs, SHGs, MFIs, etc., while RBI reinforced self-regulation in the microfinance sector, appointing Sa-dhan and MFIN as self-regulation organization.

Financial literacy approach: RBI is also in harmony with the Government of India when it comes to put forward the importance of financial literacy for the success of all other financial inclusion initiatives. For instance in 2012, RBI issued guidelines for the Financial Literacy Centres initiative, based on the recommendations from the Working Group to Examine the Procedures and Processes of Agricultural Loans, appointed by the Reserve Bank. In its report (April 2007) the Group recommended that banks should actively consider opening counselling centres, either individually or with pooled resources, for credit and technological counselling. The broad objective is to provide free financial literacy/education and credit counselling, with a special focus on the rural areas, but should not, however, act as investment advice centres.

7. Conclusion

In India there is a consensus on the importance of financial inclusion. The Indian authorities, no matter their political orientation, have been putting an emphasis on financial inclusion for several years, with an acceleration of their efforts over the last 5 years. Many initiatives and schemes have been conceived and implemented by different public stakeholders. The Government of India and all the actors of the financial sector need to take into account all aspects of financial inclusion. The increase of the number of accounts is not sufficient as a worrying proportion of them are dormant. Coordination should be improved among public and private actors, the latter being fully integrated in national schemes and policies. The depth of the financial sector should also be a matter of attention, as well as the sustainability of the financial inclusion results obtained so far. It is important to know if they rely only on the special schemes and measures implemented or if they will remain at this level overtime, or even progress further. Innovative products, out of the box service models, effective regulatory norms and leveraging technology together could change the landscape of the current progress of the much needed and wanted, Financial Inclusion Program.

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