



ISSN :2347 4726 (online)

ISSN :2347-4076 (print)



Vichaara

An International Journal of Management

Volume:6

October 2019

Number:1

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GLOBAL TECHNOLOGY IN DISRUPTIVE INNOVATION: SPECIAL REFERENCE TO START-UP ECOSYSTEM

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BUSINESS RESEARCH

Introduction

Global marketers see India as progress in their innovative technology centres, showing progress in the development of products and services that can make inroads into developed and emerging markets. On this scale, India ranks third worldwide for the second year in a row. The first mobile generation in India and its dependence on local business models are helping India to progress. India is home to nine new companies valued at more than \$ 1 billion. More and more start-up companies are heading to the Indian national market as companies move from serving the global markets with outsourcing.

Key Factors to Allow Technological Innovation by Region

The availability of talent, followed closely by the technological infrastructure, was described as high worldwide as essential contributors to drive the innovation of an idea to the global market. Both areas were biased not as strongly as a year ago, followed by the ability to drive the adoption of clients and access to alliances and partnerships. Access to capital also marked

a strong brand, but again, lower than last year. There were few geographical differences marked, either by region or by country, since each one gave high marks to the main areas. Unlike the norm, EMEA granted the second highest rating in capacity to boost customer adoption. Compared to overall results, China rated customer adoption and access to higher alliances and partnerships, while technological infrastructure and financial and government incentives were rated as lower factors.

Focus On Building and Sustaining an Innovative Corporate Culture

Financial incentives, such as a bonus or a salary increase, were selected as the primary motivator at 27 per cent this year, an increase of 22 per cent last year. Professional progression and promotion gained more momentum this year as a primary motivator for employee innovation, with 24 per cent, compared to 15 per cent in 2015. Internal recognition or recognition ranked third as a means to encourage innovation, selected by 14 per cent. More than 10 per cent in the previous survey. China ranked career progression as the primary motivator, with 28 per cent. Canada, Germany and Japan also classified career progression as their primary focus to build and sustain an innovative culture. Incubation of innovation is no longer just in R & D. Asked how innovation is seen and nurtured within your company, the highest percentage (34%) went to strategic planning followed by several other areas, including business units, information technology, think tanks, etc. In global terms, China ranked information technology and research and development at a higher level of 36% and 32% respectively, which makes them China's two primary responses. China also considered a "bottom-up approach" as a more critical area (30 per cent) to detect and foster talent than the global group (20 per cent). The United States rated strategic planning, business units and think tanks as its top three, and to a greater degree than other geographic markets. Those in China scored on innovation committees and in management groups, as well as in lower business units than in other regions.

Table1: Country shows the most promise for disruptive technology breakthroughs that will have a global impact

| | |
|--------|----|
| USA | 26 |
| CHINA | 25 |
| INDIA | 11 |
| UK | 10 |
| OTHERS | 28 |

Source: KPMG Technology Innovation Survey, November 2016

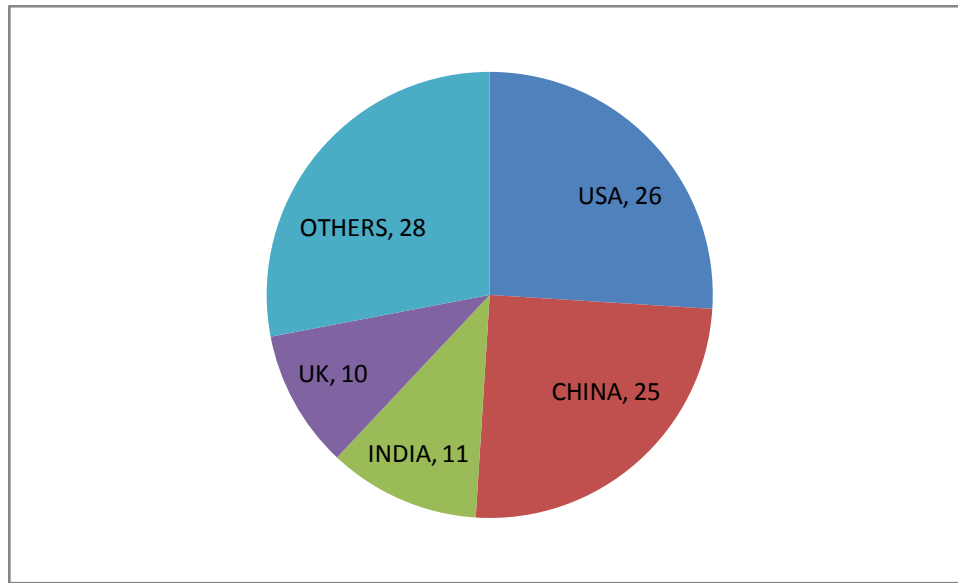


Chart1: Country shows the most promise for disruptive technology breakthroughs that will have a global impact

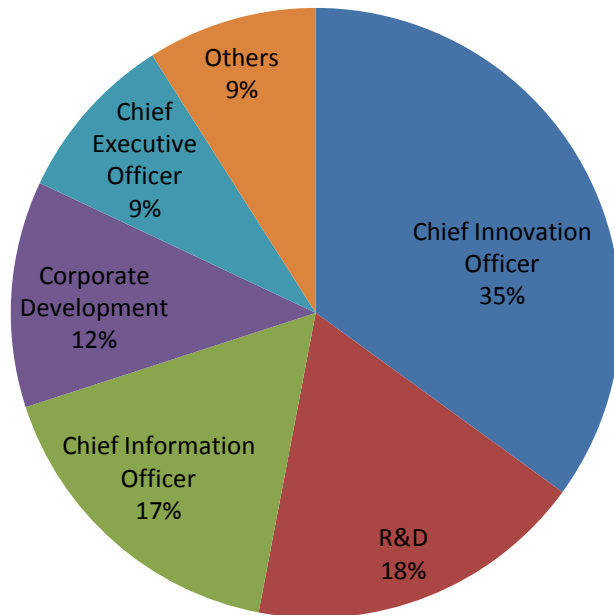
Some of the innovations can stretch the imagination, such as smart glasses based on artificial intelligence (AI) that help the visually impaired navigate independently, search for objects and recognise faces. Alternatively, an intelligent waste management solution based on the Internet of Things (IoT) that allows civic authorities to have data in real time to ensure a faster and more efficient cleaning. Alternatively, a smart helmet that allows two-wheelers with voice-based navigation.

Table2: Function or role has the responsibility to drive innovation in respective companies

| | |
|---------------------------|----|
| Chief Innovation Officer | 35 |
| R&D | 18 |
| Chief Information Officer | 17 |
| Corporate Development | 12 |
| Chief Executive Officer | 9 |
| Others | 9 |

Source: KPMG Technology Innovation Survey, November 2016

Chart2: Function or role has the responsibility to drive innovation in respective companies



These innovations, developed by new companies, involve an incredibly sophisticated and complex systems engineering that combines hardware, software, firmware and application capabilities. With constant efforts to improve their technical competence and their engineering ability to create new concepts and new product developments, entrepreneurs are creating a new identity for India as a centre for product innovation.

Combine this with mature innovation centres or global design houses, and you will get accelerated local technology creation with use cases relevant to local and global adoption. The growing global interest in India's capacity is a testament to the country's unique position as a critical product development destination. While government initiatives such as Make in India, Make in India and the formation of a high-level working group on innovation serve to accelerate the growth of innovation and boost research and development (R & D), it is vital importance that innovation, entrepreneurship and politics should work together. It is incredible to experience the pace and intensity with which innovations are carried out at various levels, from cutting-edge devices and cloud computing to compelling use cases in education, health, entertainment, environment, automotive, agriculture and other sectors.

Table 3: Top metric used in the organization to measure the value of innovation

| | |
|--------------|----|
| PATENT | 35 |
| REVENUE | 34 |
| BRANDING | 33 |
| MARKET SHARE | 32 |
| MARKET VALUE | 31 |
| ROI | 30 |

Source: KPMG Technology Innovation Survey, November 2016

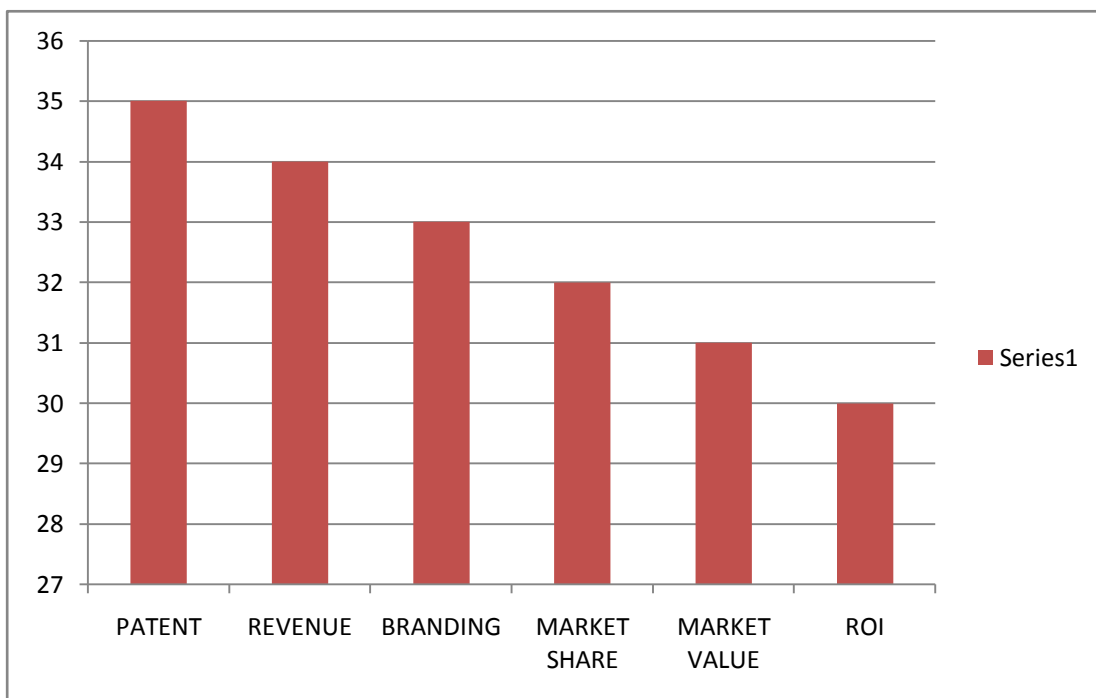


Chart 3: Top metric used in the organization to measure the value of innovation

In this context, technologies such as Artificial Intelligence, Advanced Driver Assistance System (ADAS) and 5G are of great relevance and promise for India. The data is the key driver of these technologies and, therefore, are referred to as the new fuel.

Artificial Intelligence (AI) is future of computing, transforming the way companies operate and how people get involved in all aspects of life. It is based on three essential concepts: data collection and use, data training and "data inferences". Data as the base layer, Artificial Intelligence is an umbrella that

covers many technologies such as machine learning (MLP) and augmented reality with multiple use cases. It can be used for computer vision in the automotive segment, for health analysis and voice recognition in Fintech. Also, with the data comes the need for security, analysis and connectivity. When all this is interconnected, we can produce holistic technological solutions in important segments such as autonomous driving, vision or vision monitoring, e-health and e-homes.

Then there is 5G, which is emerging as a tremendous opportunity. India must be on top of this essential technology through industry associations; Government support concerning policy regulation, the implementation of the testbed and the allocation of spectrum is crucial. The telecommunications department (DoT) plan to establish a 5G development centre in collaboration with IIT Madras is a step in the right direction.

While there is much debate about the start of autonomous driving in India, assisted driving is essential. For a country that loses around 17 lives in an hour due to traffic accidents, better driving emerges as a panacea. The project "Innovation of automotive safety" of the government of Karnataka with the collaboration of the industry is an example of this. The driving of data is one of the critical requirements in the development of safety systems and innovations for automobiles. It involves collecting the informations around the vehicle, including road conditions, obstacles on the road, traffic signals, road signs and other road data that can help understand the current vehicle scenario and make the next decisions. These data are then used to train algorithms and software systems to identify similar scenarios and conditions in real time and help the driver with the required action, which increases the safety of the passengers. Through collaboration between industry and government to make this data available in India, there is an excellent opportunity for us as a technological ecosystem to extract value and develop specific innovations for India.

India Embracing a Digital Future

India has a global engine of innovation led by strong market potential, an essential group of talents and an underlying culture of frugal innovation. Several initiatives launched by the government, such as Skill India, Digital India and Make in India, have provided entrepreneurs with the right platform to develop more solid skills and improve the information infrastructure and mobile connectivity. Among many other initiatives, Startup India is fostering a culture of entrepreneurship and innovation. Today,

Indian consumers are pushing companies to switch from brick and mortar models to online media, and increasingly, to a mobile environment. New companies are advancing innovations to lead to a real digital economy. Innovations in India are paving the way for entrepreneurship with a robust start-up ecosystem and significant innovation in payment systems and mobile wallets.

Start-Up Ecosystem:

In recent years, India has gained recognition for its business activities. In fact, with more than 4,000 new digital companies, India is the third world market for new companies and is expected to take second place in 2017. This current growth in the ecosystem of new companies is mainly due to factors as important as the ability to attract talent, acquisition of capital, the environment of progressive policies and, finally, the reach of growth and innovation.

Innovation in Payment Systems and Mobile Portfolios:

Mobile wallets have seen significant adoption among consumers due to their ease of use and versatility. The rate of adoption of mobile portfolios has been so rapid that the user base has outnumbered debit and credit cardholders in a short period. The reach of mobile wallets is evolving further, is integrated through social transactions as gifts, candidates for digital purchasing processes in the future. Technology interruptions are fueling the digital transformation scene in India. India is become a world power for the development of software and information services. The world is on the verge of a fourth industrial revolution that will impact all economic sectors and change our ways of life. India faces an excellent opportunity to address this change by taking advantage of product engineering, big data analysis, Internet of Things, as well as the cloud and unified communications, which are increasingly becoming significant activities.

Conclusions:

As markets and regions are transformed with emerging technologies, talent and capital, there is a shift from west to east. Most notably, China is increasing, in a position to move forward. India is also rising, while Japan has long been a contender. To counter this trend, the UK is making progress with a technology and start-up agenda, although Brexit is challenging to maintain its status as Europe's leading technology market.

The new locations are being put on the technological map with the United States at the forefront

with numerous cities: New York, Washington DC, Chicago and Boston. Asia's key centres are also reaching the top, including Shanghai, Tokyo, Beijing and Shenzhen. In Europe, London and Berlin are highly regarded as centres of innovation and have ascended in disruptive technological advances. Tel Aviv continues to be the city of the new creation in the nation of **new companies in the world**.

The leadership of the technology industry, from the world of startups to the FORTUNE 500, has spread from west to east, although the United States has a decided advantage with Elon Musk, Larry Page, Tim Cook and Bill Gates. More Asian leaders, in particular, are listed in the rankings, especially Jack Ma from the Alibaba of China.

The company's leadership is spreading from Silicon Valley to new markets, but Google, Apple, Tesla and Facebook, based in Valley, continue to gain prestige. The recent restructuring of Google to drive innovation is paying off, while Tim Cook has kept Apple at the forefront. Facebook is competing to stay ahead of the changing habits of social networks worldwide. Turning eastward, Samsung, of South Korea, is considered a strong leader despite recent setbacks in smartphone products, while China's network and tele-communications company Huawei also gets high marks.

Managing innovation well remains a challenge for small and large companies alike. The role of the director of innovation is gaining importance to establish and implement strategies for the future, and today is considered more crucial than other functions such as R & D and even the role of CEO. In the race for innovation leadership, patents are seen as an increasingly important measure of genuinely new ideas, even more than revenue growth. For employee motivation, the key is cash, and it has replaced career progression as the main incentive.

Keeping abreast of these fast-moving trends in an increasingly global landscape requires flexibility and attention from the C suite to change resources to move forward rather than protecting the status quo and driving the best ideas to reach customers. Whether a company is medium, large or a new company, obtaining the right combination of talent, capital and entrepreneurial style to adopt new technologies is a must for survival.

Now that innovation can come from virtually anywhere in the world and faster than ever, a futuristic perspective is required to stay ahead and dream and successfully market the technologies of tomorrow.

Many countries want to achieve the status of a leading innovation centre and realise the importance of being part of the Silicon Valley ecosystem. It is critical to your country's success in Silicon Valley's opportunities to partner and learn the magic of its leadership.

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A STUDY ON APPROACHABILITY OF GREEN ADVERTISING AMONG UNIVERSITY STUDENTS AT TIRUNELVELI

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ABSTRACT

In current scenario marketing plays a dynamic role in business. Advertisement is a one of vital tool for marketing the product to the potential buyer. Many companies allotting more amount for advertising their product to the people. In this case they use more ways to show their product to the public. In this purpose they could not able to maintain the wastage of printing materials. They supposed to do some activities like printing materials. This might create wastages to the environment. Here environmental friendly advertising helps to maintain the image of the companies those who advertise their product in digital marketing. There were lot of studies about the branches of green marketing like, Environmentally Friendly Products, Buyer Awareness of Green Marketing, Buyer Acceptance of Green Marketing, Eco-Friendly Product, Buyer Behavior relating to Green Marketing, Factors Influencing Buying Green Products. There is only limited study relating on Green Advertising, which reduces wastages and save the society and Environment. Green Advertising is the one that promote a product, service, or company's ability to help or to reduce environmental harm. This study analyzes the relationship between demographic profiles and level of awareness of Green Advertising among university students. The researcher collected 126 samples for this research work and convenience sampling is used for this study. This study used Chi-square analysis to find the results.

Key words

Green Advertising, Environmentally friendly products, Green Marketing, Buyer awareness, Eco-friendly product, Buyer behavior, Decision making.

I. Introduction

Polonsky (1994) defines Green or Environmental Marketing as all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs, with minimal detrimental impact on the natural environment. Iyer and Banerjee (1993) defined green advertising as involving one or more of three themes, planet preservation, animal life preservation, or personal health preservation.

Green Advertising is the recent trend in marketing. It is also called digital advertising. In current scenario people are more knowledgeable. Comparing to the past their literacy level and care about environment are increased. So they definitely give priority of Green Advertising products. Their awareness level also increased about green advertising. Smart phones also help to implement green advertisement. Because maximum number of people having smart phones. This shows lot of further scope available for green advertising. The purpose of this study is to know the responsiveness of the Green Advertising among University students.

In the year (1993) Iyer, Banerjee and Gulas, suggesting that green advertisements should address the relationship between a product and the environment, convey a green lifestyle and show the environmental responsibility of corporations.

II. Review of Literature

Shilpi Pal, M.S.Khan (April, 2015) made a study on “Green Advertising: An Effective Tool for Sustainable Communication”. This study states that Consumers have accepted this trend of advertisement and they are looking for these type of advertisement which will able to connect them with those products and services they wanted to be that is “natural” and “eco-friendly”.

Dr. Harpreet Singh Chahal and Amandeepkaur (October, 2015) done a research on “Appeals in Green Advertising – A Study of Factors Affecting the Persuasiveness of Appeals”, This study says that basic factors that can influence the processing as well as perception of different appeals used in green advertising. By taking into consideration of these factors, advertisers can increase the persuasiveness of green advertisements. They can build competitive edge over other companies by taking insights from this study.

Mohd Helmi Abd Rahim et al, (April 16, 2012), done a study on “Green Advertising and Environmentally Responsible Consumer Behavior: The Level of Awareness and Perception of Malaysian Youth”. The study exhibits youth having strong attachment to the environment’s well-being despite having less knowledge about the environment. It was also found that youth who, in general, have some concern for the environment are more aware of green advertising. Malaysian youth, generally, have some understanding on what the term ‘green living’ denotes. However, those who actually practice ‘green living’ are much lower comparatively. However, they show positive attitude to green advertising/campaigns. Thus, it can be concluded that those who have some knowledge on ‘green living’ exhibit positive attitude towards green advertising advertising/campaigns.

SamaaTaherAttia (2014) made a study on “The Effect of Green Advertising as a Moderator on Green Purchase Attitude – Green Purchase intentions relationship. The case of Young Egyptian

consumers”. Green advertising is crucial and contributes to Green Purchase Intention. In fact, this Study shows how complicated it is when it comes to Green Purchase Intention. Specially, in order to improve encourage Green Purchase Intention; companies should consumers in/directly via green advertising to influence their purchase intentions. Also, Environmentally Conscious Consumer behavior and Green Purchase Attitude have a positive effect on Green Purchase Intention.

III. Objectives

This research is carried out with an objective to know the relationship between demographic profiles and level of awareness of Green Advertising among university students.

IV. Research Methodology

The research is descriptive in nature. This Research used primary data. Primary data was collected through structured, undisguised questionnaire.

The researcher chose Tirunelveli for this research as Tirunelveli has a considerable population and is a southern place in India.

The population of this research is restricted to the students who study in the university departments. Total of 126 samples were approached through Non-probability convenience sampling method as the willingness of the students to respond the questionnaire was very poor. Data were collected by the researcher directly by meeting the sample member and asked them to fill the questionnaire. Percentage analyses and five point scale were used to analyze the data.

V. Discussion

A. Course of Study

The relationship of course of study with seven variables relating to environmental awareness namely, I am aware about Green Marketing, I am aware about Green Advertising, I consider our environment as important, I force family members to take care about environment, I force my friends to take care about environment, Green advertising results in increase of price, I am willing to pay premium price for the products using Green advertisement were tested using Chi-square analyses with the null hypotheses that course of study has no significant relationship with variables relating to environment awareness.

Table 1

| S. No | Variables | Chi-square Value | Degree of Freedom | p Value | Table Value 5% Level | Null Hypothesis Accept / Reject |
|--------------|--|-------------------------|--------------------------|----------------|-----------------------------|--|
| V1 | I am aware about Green Marketing | 4.5177 | 3 | 0.211 | 7.814725 | Accept |
| V2 | I am aware about Green Advertising | 2.833 | 3 | 0.418 | 7.814725 | Accept |
| V3 | I consider our environment as important | 3.491 | 3 | 0.322 | 7.814725 | Accept |
| V4 | I force family members to take care about environment | 5.000 | 4 | 0.287 | 9.487728 | Accept |
| V5 | I force my friends to take care about environment | 7.213 | 4 | 0.125 | 9.487728 | Accept |
| V6 | Green advertising results in increase of price | 4.218 | 4 | 0.377 | 9.487728 | Accept |
| V7 | I am willing to pay premium price for the products using Green advertisement | 2.071 | 3 | 0.558 | 7.814725 | Accept |

The result shows that all the calculated values are lower than the Table value so the hypothesis relating to course of study and environmental reliable variables is accepted at 95% level of significance.

B. Sex of the Respondents

The relationship of sex of the respondents with seven variables relating to environmental awareness namely, I am aware about Green Marketing, I am aware about Green Advertising, I consider our environment as important, I force family members to take care about environment, I force my friends to take care about environment, Green advertising results in increase of price, I am willing to pay premium price for the products using Green advertisement.

Table 2

| S. No | Chi Square analysis with Sex of the respondents | Chi-square Value | Degree of Freedom | p Value | Table Value 5% Level | Null Hypothesis Accept / Reject |
|-------|--|------------------|-------------------|---------|----------------------|---------------------------------|
| V1 | I am aware about Green Marketing | 17.843 | 3 | 0.0 | 7.814725 | Reject |
| V2 | I am aware about Green Advertising | 11.794 | 3 | 0.008 | 7.814725 | Reject |
| V3 | I consider our environment as important | 22.918 | 3 | 0.0 | 7.814725 | Reject |
| V4 | I force family members to take care about environment | 13.034 | 4 | 0.011 | 9.487728 | Reject |
| V5 | I force my friends to take care about environment | 8.917 | 4 | 0.063 | 9.487728 | Accept |
| V6 | Green advertising results in increase of price | 2.373 | 4 | 0.667 | 9.487728 | Accept |
| V7 | I am willing to pay premium price for the products using Green advertisement | 4.374 | 3 | 0.224 | 7.814725 | Accept |

The result shows that the calculated values of V1,V2,V3,V4 variables are higher than the Table value so the hypothesis relating sex of the respondents and environmental reliable variables is rejected at 95% level of significance. And the calculated values of V5,V6,V7 variables are lower than the Table value so the hypothesis relating sex of the respondents and environmental reliable variables is rejected at 95% level of significance.

C. Occupation of the Father of the Respondents

Father Occupation of the respondents with chi square analyzed seven variables namely, I am aware about Green Marketing, I am aware about Green Advertising, I consider our environment as important, I force family members to take care about environment, I force my friends to take care about environment, Green advertising results in increase of price, I am willing to pay premium price for the products using Green advertisement.

Table 3

| S. No | Chi Square analysis with Father Occupation | Chi-square Value | Degree of Freedom | p Value | Table Value | Null Hypothesis Accept / Reject |
|--------------|--|-------------------------|--------------------------|----------------|--------------------|--|
| V1 | I am aware about Green Marketing | 13.844 | 9 | 0.128 | 16.918960 | Accept |
| V2 | I am aware about Green Advertising | 10.680 | 9 | 0.298 | 16.918960 | Accept |
| V3 | I consider our environment as important | 8.229 | 9 | 0.511 | 16.918960 | Accept |
| V4 | I force family members to take care about environment | 8.903 | 12 | 0.711 | 21.026055 | Accept |
| V5 | I force my friends to take care about environment | 4.859 | 12 | 0.963 | 21.026055 | Accept |
| V6 | Green advertising results in increase of price | 6.288 | 12 | 0.901 | 21.026055 | Accept |
| V7 | I am willing to pay premium price for the products using Green advertisement | 3.476 | 9 | 0.942 | 16.918960 | Accept |

The result shows that all the calculated values are lower than the Table value so the hypothesis relating to Father Occupation and environmental reliable variables is accepted at 95% level of significance.

D. Family Income of the Respondents

Family Income of the respondents with chi square analyzed seven variables namely, I am aware about Green Marketing, I am aware about Green Advertising, I consider our environment as important, I force family members to take care about environment, I force my friends to take care about environment, Green advertising results in increase of price, I am willing to pay premium price for the products using Green advertisement.

Table 4

| S. No | Chi Square analysis with Family Income | Chi-square Value | Degree of Freedom | p Value | Table Value | Null Hypothesis Accept / Reject |
|-------|--|------------------|-------------------|---------|-------------|---------------------------------|
| V1 | I am aware about Green Marketing | 7.818 | 9 | 0.553 | 16.918960 | Accept |
| V2 | I am aware about Green Advertising | 4.163 | 9 | 0.900 | 16.918960 | Accept |
| V3 | I consider our environment as important | 2.734 | 9 | 0.974 | 16.918960 | Accept |
| V4 | I force family members to take care about environment | 16.048 | 12 | 0.189 | 21.026055 | Accept |
| V5 | I force my friends to take care about environment | 8.200 | 12 | 0.769 | 21.026055 | Accept |
| V6 | Green advertising results in increase of price | 15.480 | 12 | 0.216 | 21.026055 | Accept |
| V7 | I am willing to pay premium price for the products using Green advertisement | 4.114 | 9 | 0.904 | 16.918960 | Accept |

The result shows that all the calculated values are lower than the Table value so the hypothesis relating to Family Income and environmental reliable variables is accepted at 95% level of significance.

VI. Conclusion

Results of this research shows that except female are more aware on changed from other hypothesis, the Course of study, Family Income, Father's Occupation do not have any significant relationship on environmental awareness.

VII. Suggestion

The result of this study suggests that, Digital advertisers may create more awareness about Green Advertising among the people and companies. And also Government gives subsidy to the Green Advertisers. That makes give discounts to the companies those giving advertisements.

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DISCLOSURE OF SUSTAINABILITY REPORTS BY COMPANIES – ITS FRAME WORK AND IMPLEMENTATION

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Abstract:

Sustainability reporting has emerged as a common practice of 21st century in the corporate world. Most of the companies are trying to adopt voluntarily reporting to show more transparency in societal and environmental issues. The popularity of such report is made through the development of Global Reporting Initiative framework. The paper attempts to bring out the issues of GRI framework, guidelines, standards and also the ratings. This can serve as a useful reference for the enhancement of ideas in sustainability reporting. In addition to this, the standards are considered to become more rigorous and mandatory in future years. Thus the companies should adopt sustainability reporting as early as possible to avoid regulatory actions in future.

Key words: *sustainability reporting, Global Reporting Initiative, standards, disclosures, obstacles.*

1. Introduction

The success of business through its accountability has broadened in recent years, as the firms are called to achieve environmental, economic and social goals in a triple line approach (Elington, 1997). The stakeholders of various companies request for their voluntary disclosure on social and environmental issues before taking any decisions. (Kavitha, 2011) in her study she points out that the level of CSR activities of the companies is informed only through voluntary disclosures and also the the disclosure of non financial information is one of the most critical activity reports (Leblanc, 2012). Any company which discloses its social activities presumes that the stakeholders evaluation of the report will have greater benefit than the cost of collection, compilation and dissemination of information (Ullman, 1985).

Sustainability report

According to GRI a sustainability report is a report published by the company about the economic, environmental and social impacts caused by its everyday activities. The report also presents the organisation's values and governance model demonstrating the link between its strategy and its commitment to sustainable global economy. This report is the key platform for communicating the various parameters of sustainability performance.

2. Determinants of Non financial disclosure

The various literature indicates many dimensions for preparing sustainability report. These dimensions are generally classified into internal and external and it is also suggested that combination of both will provide a fruitful insights in adopting the standard management tools (Perego and Kolk, 2012). Ullman (1985) also indicates the firm size, industry, company visibility, external pressures and executive values as the determinants of social disclosures Clarkson, Li, Richardson, & Vasvari (2007) has identified that others factors like stakeholders' pressures, mandatory requirements, industrial peers' strategies, media coverage, image and reputation. (Kolk & Pinske, 2010) observes that the firms spend lot of efforts towards the internal determinant of corporate social disclosure and corporate governance.

Most of the recent literatures are trying to reduce the misunderstanding on the theory aspects of reporting. (Pattern & Robert, 2006) has expressed that quality of the report is very important while disclosing the environmental performance. While (Richardson & Vasvari, 2007) points out that socio political theories are also very powerful in forecasting the reactions of stakeholders. (Clarkson Li, Richardson & Vasvari, 2007) identifies the hard disclosures in the report which can not be copied by poor performers and as a result these firms will make the reports called soft disclosure which is unverifiable and immeasurable. Dawkins and Fraas (2010) has observed that there is a a non-linear relationship between environmental disclosure and environmental performance. And also (Fombrun, Gardberg, & Barnet, 2000) in their study concludes that it is due to firms' different strategic approaches to corporate sustainability performance. (Dawkins & Fraas, 2010) also observes that the highly rated for its environmental performances will utilize their environmental disclosure as an opportunity platform, while those companies who discloses their environmental weaknesses use disclosure as a safety against the threats.

With the help of reviews on various literatures, it can be concluded that the companies who report both poor and high performers for the disclosure, the main difference lies with the quality of performance, hard or soft disclosures that are highlighted in their non-financial reports.

3. Disclosure and economic performance

In most cases, the decision to issue a non-financial report is motivated through economic thinking: social and environmental reporting deliver benefits to a range of stakeholders while serving to enhance shareholder value (Spence & Gray, 2007). In his early research studies regarding the relationship

between social and environmental disclosure and economic performance (Ullman, 1985) has examined that the company given the ambiguous results, there is no clear tendency which these factors can be recognised". Burnett, Skousen, & Wright (2011) finds that the company's disclosure on non-financial report has a positive effect on firms' market value for the long term. (Xu, Zeng, & Tam, 2011) observes that there is a stock market's reaction to disclosure of environmental violations for Chinese listed companies and also finds that the average reduction in market value is estimated to be much lower than the estimated changes in market value for similar events in other countries (Zeng, Xu, & Tam, 2011). (Michelon & Parbonetti, 2010). Explains that the stakeholders judge the performance of the company through the eyes of management towards their strategic decisions and also the risks associates with it.

With the help of various literature reviews it can be concluded that the disclosure of financial, social and environmental information is an important communication between a company and its stakeholders. This report will provide to a greater extent the information on a company's activities that will educate, inform and change the perceptions of the stakeholders.

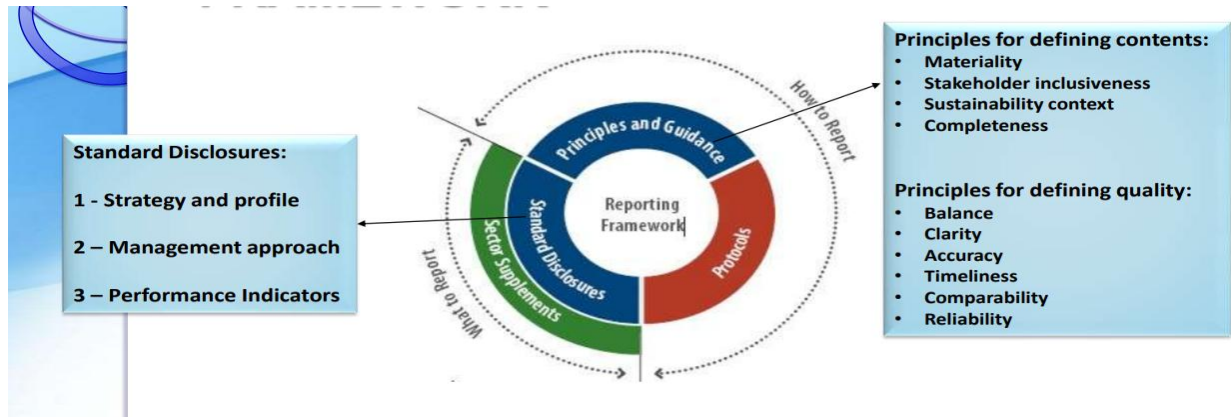
Reporting standards

Due to unclear and in substantial disclosure of sustainability related issues, there has been a wide spread push by the number of players in the financial markets to standardize the quality of sustainability reporting. There are various initiatives taken by many organizations in order to shape the frame work of sustainability reporting

4.1 The Global Reporting Initiative

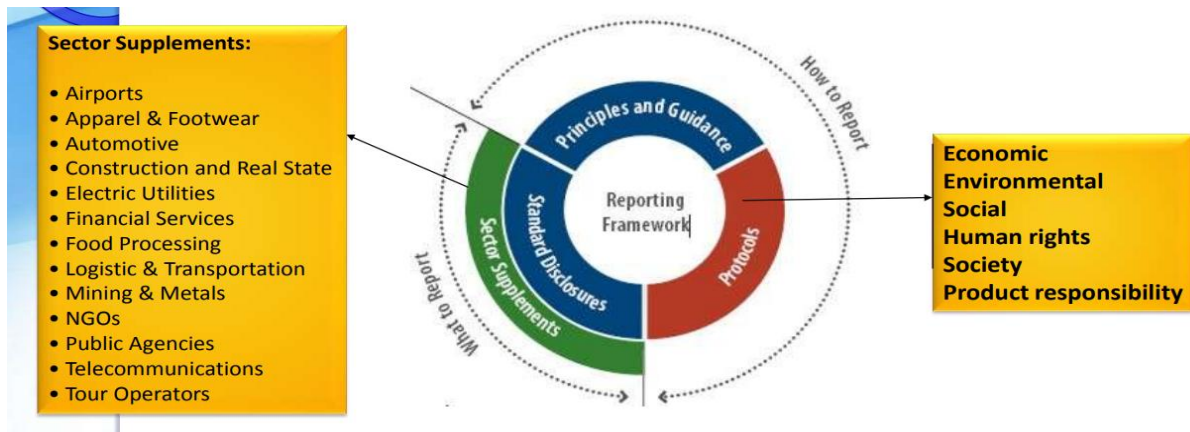
The Global Reporting Initiative (GRI) is the very popular framework of sustainability-reporting, The GRI framework helps the companies to measure their current non financial performances and report their economic, environmental, social and governance performance. Companies must periodically establish and monitor their on going sustainability performance reports . It also provide the senior management with information to help in shaping the company strategies and policies to improve their non financial performance. Since its formation, the GRI has released several publications of its reporting guidelines and also with the latest version, of G4 Guidelines having an increased focus on reporting on sustainability issues that are materialistic to a company's business activities.

Figure 1 Sustainability reporting framework



Source : GRI data

Figure 2 Sustainability reporting framework



Source : GRI data

As per the GRI recent data more than 40,000 reports are registered under the GRI sustainability database. 74% of the largest 250 countries in the world use GRI sustainability reporting framework. 315 of Europe 500 companies use GRI to report and 522 organizations from 67 countries are active in the GRI gold community.

4.2 International integrated Reporting Council

Over the last several years, integrated reporting has gained increased popularity, with companies reporting their social and environmental impacts as a part of their annual report. According to the GRI framework, sustainability reporting by the companies aims to help the investors and the management to understand the gaps between a company's financial performance and its sustainability initiatives by

presenting a comprehensive overview of the company's strategy, governance, performance and prospects. An integrated report measures financial and nonfinancial performance as well as the relationships between them. The International Integrated Reporting Council (IIRC) was formed in 2010 by HRH The Prince of Wales and several international partners, and released its framework for integrated reporting on December 9th, 2013, which is designed to work with existing reporting standards, such as the GRI's guidelines.

4.3 The sustainability Accounting Standards Board

The Sustainability Accounting Standards Board (SASB) is a nonprofit organisation established in July 2011 for the purpose of establishing industry-based sustainability standards for the recognition and disclosure of material environmental, social and governance impacts by companies traded on U.S. exchanges. SASB has worked with investors, companies and industry associations to determine which metrics are material and develop accounting and auditing protocols to establish consistent, industry-specific disclosures. In order to ensure on the disclosure of sustainability reports are tailored to the company making the disclosure, and therefore material to its operations, SASB has developed sectorwise indicators for preparing the non financial reports and these indicators are developed in collaboration with stakeholders and also subjected to a 90-day public comment period In September 2013, SASB has conducted a pilot study of 10 companies for three year process period in which it has worked on Form 10-K preparation, business process reengineering, data management and verification and investor relations.

5. Mandatory v/s Voluntary Environmental Disclosures

So far there are only few companies which has come forward in preparing the voluntary disclosure of non financial reports on social and environmental performances of the companies business activities. But there is a need for not only non-financial reports at large scale and but also from medium or small scale organization must also prepare such reports. This cannot simply be the result of regulatory pressure, but different forms of regulation – including self-regulation – can play an important role in advancing the comparability, credibility and relevance of information disclosed. Stocken [2000] argues that in absence of a mechanism to enforce verifiability, voluntary disclosures are not credible and therefore are ignored by the market. However, accounting reports that verify information in company voluntary disclosures make these disclosures credible and thus informative in equilibrium. Lundholm [2003] also argues that even though the mandatory report is backward looking and therefore has no informational content and thus it improves the credibility of voluntary disclosure. Ball [2006] also supporting to the other researchers that when managers believe accounting numbers are more likely to

be reported accurately and independently (mandatory reporting), they are less likely to disclose misleading information about their expectations (voluntary disclosure). Mandatory reports on environmental disclosures awards various advantages such as the creation of standardized and comparable measures that will enable the benchmarking practices (Hess 2008). (Wiseman, 1982) also argues that Voluntary disclosures by the companies are also found to be incomplete and are not related to the firms' actual environmental performances.

6. Obstacles to sustainability reporting

Sustainability reporting is a very complex process which poses many challenges for assessing the non financial indicators of performance. Unlike financial reporting, absence of regulations for preparing the reports can be often subjective in nature. . In fact, many companies find data-related issues, such as availability, accuracy and completeness of data, as the main challenges in the process of preparation of reports.

Attributing to the various challenges in identifying and collecting the sustainability-related data for the publication of a sustainability report, it is unsurprising that a number of companies have determined to not disclose extensive sustainability-related information. Additionally, companies may face internal conflicts about production of a sustainability report, as corporate lawyers may be concerned about disclosure of sensitive information. Also, many companies are facing so many disparate requests for disclosure of various sustainability-related issues from different shareholder groups, they could be experiencing disclosure overload.

A significant problem with disclosure is mentioned in the research of 2012 Deloitte research report, is that "there is often a disconnect between the information companies disclose to their stakeholders and the data that actually drives management and investment decisions." The report also argues that the disclosure of Environmental, corporate and Governance can be as crucial and informative as disclosure of financial data and that companies should focus on a small set of *material* performance indicators while leveraging input from all key stakeholders in order to move forward on valuing and reporting ESG data in a pragmatic and cost-effective manner. However, there remain certain barriers to sustainability reporting.

- a. Unclear / rapidly evolving reporting standards and frameworks
- b. Breadth of topics under sustainability can be overwhelming Resources: cost, time, expertise
- c. New processes may feel uncomfortable, especially stakeholder engagement
- d. Lack of management support or understanding
- e. Fear of risking credibility and reputation, risking misinterpretation
- f. Senior-level ownership is important
- g. Training and education of management and employees responsible for report
- h. Mandating sustainability reporting places companies and stock exchanges at a competitive disadvantage
- i. Companies risk credibility or misinterpretation
- j. Stock exchanges risk discouraging new IPOs
- k. Perception that stakeholders and investors do not read sustainability reports produced

No clear financial return on investment

Source: Deloitte Research 2012

7. Challenges of Sustainability Reporting

India has seen a lot of economic growth in recent years which results into the growth of demand for natural resources and also affected the environment as well. There are certain challenges of reporting within an organization as it demands a lot of organizational efforts to compile and monitor data. This can lead to time-consuming and costly exercise for the companies. Another challenge is the need for independent verification and assurance of reports to provide comfort to stakeholders, management and the board in reducing the risks posed by sustainability issues. Only a fraction of reports are independently assured, however, just like reporting itself, the trend is positive and gives rise to optimism.

According to British Telecommunications findings, although Indian companies are proactive towards sustainable issues, there are still many issues like inclusive employment, education, employment creation, health, corporate/government collaboration, land and displacement, natural resource management, climate change, corporate governance, solid waste and water needs to be addressed by them. In fact, Indian companies are failing to come out with innovative approaches for addressing

sustainable issues. Many organizations do not prioritize sustainability reporting, and some parties are opposed to regulation.

The requirement for companies to disclose sustainability information is seen by some business associations as an increase in red tape, administrative burdens, and increased direct costs. Yet many companies will find the expenditure on their sustainability report to be far less significant than their expenditure on financial reporting, advertising or PR. The costs of issuing a sustainability report vary. Many elements of the reporting process can contribute to its cost, including:

- Time for senior management and other staff to discuss report contents
- Developing and implementing data gathering systems
- Time for gathering and inputting data
- Implementing new processes, including staff training on data collection Time for checking information
- Preparing the report itself, involving internal resources (time, capacity building, etc.), and potentially external resources (consultancy, writing/editing, layout, printing, etc.)
- External verification or auditing, if applicable.

Demand for more reliable data on specific issues will continue to increase. Yet the issue of whether policy makers will continue to take a longer term view is further complicated by the tension between the lack of trust in governments' regulatory force on the one hand, and the increasing public demand for transparency and regulation on the other. It remains to be seen which force will win.

Conclusion

Sustainability reporting is clearly a growing trend in India and across the globe. As such, we believe that companies should ensure that they are clearly recognizing and communicating the risks and opportunities associated with sustainability-related issues in a way that mitigates risk to shareholders. While we recognize that there is still no definitive empirical evidence regarding the impact of voluntary sustainability reporting, we believe that production of a sustainability report can be an important signal for a company's commitment and willingness to ensuring that its operations are managed responsibly from a social, environmental, governance and financial perspective. We expect that, as the trend toward more and better sustainability reporting increases, companies will increasingly face investor pressure with investors' growing expectations for more comprehensive and transparent disclosure. We believe

that investors should monitor companies to ensure that they are adequately addressing sustainability-related risks, as often these risks can have very real financial implications for companies.

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AFFECTIVE REACTIONS TO CROSS-FUNCTIONAL TEAMS

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Abstract:

This study examined the extent to which the formation of a common in-group identity mitigated the adverse effects of functional heterogeneity and group size, and relative group performance influenced the formation of a common in-group identity once cross-functional teams are formed. Results of the study bring out student groups indicate that relative group performance did influence the formation of a common in-group identity and that the in-group identity served to improve affective reactions (i.e., satisfaction and preference to work with the group). Findings are discussed regarding the impact on cross-functional teams.

Keywords: Cross-functional teams, In-group, Performance, Human capital

Introduction:

The functional team diversity is a double-edged sword, in that such teams can have both meaningful positive and negative outcomes. The key, then, is to mitigate the adverse effects of such heterogeneity. To examine strategy re-categorization that could be used to reduce the negative impacts of functional diversity. Re-categorization is the process whereby members of separate groups come to conceive of themselves as belonging to a single, super ordinate group (Gaertner & Dovidio, 2000). Precisely, The researcher expected that the formation of a common in-group identity would result in more positive attitudes (i.e., satisfaction and preference to work with the group). Also examined factors that would influence the re-categorization process: group size and group performance. That is when cross-functional groups are formed, how do the size and performance of the merging groups impact attitudes toward the group? This study takes steps in addressing these issues.

Group size:

Previous research indicated that people in small groups have group identities that are less secure and more salient than their counterparts in larger groups; therefore, people in small groups have a greater motivation to achieve their positive group identity through intergroup bias (Sachdev and Bourhis, 1991). On the contrary, persons in relatively larger groups are more secure in their group identity; hence, these persons are likely less motivated to possess intergroup bias than their counterparts in smaller groups (Mullen et al., 1992). Empirical research has supported these tenets (Jackson, 1999;

Mullen et al., 1992). In addition, the case studies of organizational mergers support these claims, since it has been found that smaller groups are more resistant to mergers than their larger counterparts (McCann and Gilkey, 1988, Schweiger and Walsh, 1990).

These findings are directly related to our discussion of multifunctional groups. That is, if the members of two functional areas merge to form a single multifunctional group, the perceptions of the group should vary according to the size of the group.

However, if the cross-functional team consists of equal numbers of persons from both functional areas, then The researcher would expect the formation of common in-group identity to be more readily achieved (see Jackson, 1999). Therefore, The researcher hypothesized the following:

- *Hypothesis 1a: When mergers take place between groups of unequal size, persons in the smaller group will perceive the aggregate to represent two separate groups.*
- *Hypothesis 1b: When mergers take place between groups of equal size, persons will perceive the aggregate to represent a single, collective group.*

Group performance:

The performance of one's group, especially about other groups, is often seen as a source of power or status, especially in field settings (Hewstone, Rubin, & Willis, 2002). Thus, it is possible to derive predictions concerning the relative performance of the groups by drawing from the literature related to group status. Research has indicated that, in general, members of high-status groups demonstrate more intergroup bias than do persons in low-status groups (Brewer & Brown, 1998; Mullen et al., 1992). This intergroup bias is even more salient when considering status-relevant dimensions that favour their group, such as performance on a task (Terry & O'Brien, 2001).when the cross-functional team is formed, The researcher would expect members of the high-performing group (i.e., persons from operations), in an effort to maintain group saliency, to show intergroup bias and perceive the aggregate to represent two separate groups. On the other hand, within the same situation, The researcher would expect members from the group that performed less well (i.e., persons from operations), to increase their social identity and become members of a high-performing group, to perceive the aggregate to represent a single, collective group.

- *Hypothesis 2a: When performance differences exist between the groups merging, members of the high-performing group will perceive the aggregate to represent two, separate groups.*
- *Hypothesis 2b: When performance differences exist between the groups merging, members of the group that performs less well will perceive the aggregate to represent a single, collective group.*

Outcomes of Cross-Functional Teams:

Much of the research devoted to cross-functional teams has focused on group processes and outcomes, such as stress, conflict, communication, quality of products, and overall performance (Ancona & Caldwell, 1992; Hambrick et al., 1996; Keck & Tushman, 1993; Keller, 2001; Pelled et al., 1999). In this study, The researcher extended this research by examining two affective outcomes satisfaction with decision making and preference to work with the group. These outcomes were chosen for several reasons. It is possible the functional heterogeneity could impact these effective outcomes as well. Finally, research has indicated that both individual and team-level affective responses impact performance (both of the individual and the organisation; Lee, Carswell, & Allen, 2000; Ostroff, 1992). Therefore, understanding factors that influence useful reactions can influence the firm's overall performance. By our previous hypotheses, The researcher would expect group size and relative group performance to be associated with the formation of a common in-group identity, which, in turn, is expected to be associated with affective reactions. More formally, The researcher hypothesised the following:

- *Hypothesis 3a: Perceptions of the aggregate as one group will mediate the relationship between group size and (a) satisfaction and (b) preference to work with the merged group.*
- *Hypothesis 3b: Perceptions of the aggregate as one group will mediate the relationship between relative group performance and (a) satisfaction and (b) preference to work with the merged group.*

To summarise thus far, this study focused on the formation of cross-functional groups. Precisely, The researcher expected the relative size and performance of the groups merging to form the cross-functional team to impact perceptions of a common in-group identity. Also, relative size and performance were expected to hold significant associations with both satisfaction with decision making and preference to work with the group.

Research Sample:

Participants in the experiment were conducted with 237 students respondents enrolled in various classes at Coimbatore Institute of Engineering and Technology, Coimbatore. The participants provided with informed written consent with a well-structured questionnaire.

Descriptive Statistics:

The Descriptive Statistics like Means, standard deviations, and correlations are presented in Table 1. The researcher also sees that perceptions of the aggregate as one group were significantly positively related to both satisfaction ($r = .45, p = .01$) and preference to work with the group ($r = .50, p = .01$)—large associations according to Cohen, Cohen, West, and Aiken's (2003) standards. Further, The researcher see a high correlation between satisfaction and preference to work with the group ($r = .71, p = .01$). However, the CFA demonstrated the discriminant validity of these two measures. Thus, although the association is high, there is evidence that the two outcomes are indeed distinct variables.

Table 1: Means, Standard Deviations, and Correlations

| Variable | <i>M</i> | <i>SD</i> | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|--------------------------------------|----------|-----------|-----|--------|------|--------|--------|--------|---|
| 1. Group size | 0.5 | 0.5 | — | | | | | | |
| 2. Group performance | 0.5 | 0.5 | 0 | — | | | | | |
| 3. Rating of own group performance | 4.3 | 1.2 | 0.2 | 0.11 | — | | | | |
| 4. Rating of other group performance | 4.6 | 1.7 | 0 | .84*** | .27* | — | | | |
| 5. One group | 4.5 | 1.2 | 0 | 0.08 | 0 | .27** | — | | |
| 6. Satisfaction | 4.9 | 0.9 | 0.2 | .45*** | .24* | .53*** | .45*** | — | |
| 7. Preference | 4.6 | 0.8 | 0.2 | | 0.1 | .58*** | .50*** | .71*** | — |

* $p < .05$. ** $p < .01$. *** $p < .001$.

Hypothesis Testing:

Hypothesis 1a predicted that when mergers between groups of unequal size took place, persons in the smaller group would be more likely to perceive the aggregate to represent two separate groups. Likewise, Hypothesis 1b predicted that when mergers took place between groups of equal size, persons would perceive the aggregate to represent a single, collective group. To test these hypotheses, The researcher ran an ANOVA with the size of the group. (three or six people) Serving as the independent

variable and ratings of the aggregate as one group serving as the dependent variables. Results indicated that perceptions of the aggregate as one group did not differ between groups who were going to merge with a six-person group (M 4.53, SD 1.26) and those who were going to merge with a three-person group (M 4.51, SD 1.22), $F(1, 77) 0.01, p .92$. Thus, Hypotheses 1a and 1b were not supported.

Hypothesis 2a predicted that when groups of differing performance were merged to form a single team, persons from relatively high performing groups would perceive the aggregate to represent two separate groups. Likewise, Hypothesis 2b predicted that, given the same merger situation, persons in groups that performed less well would perceive the aggregate to represent a single, collective group. To test these hypotheses, The researcher conducted a moderated regression, with the perceptions of one's own group performance and perceptions of the group's performance entered in the first step, as it is inappropriate to examine the interactive effects without first considering the main effects of the independent variables (Cohen et al., 2003). The interaction term between the two variables was then entered in the second step. In computing the interaction term, The researcher used deviation scores (i.e., distance from the mean), thereby reducing the threat of multicollinearity (Cohen et al., 2003). The researcher used the participant's rating of the video group's performance because, according to theory, persons should make evaluations of their group and other, similar groups to form expectations about the merger (Gaertner & Dovidio, 2000). Therefore, as opposed to the absolute performance of the group. (i.e., high versus low performance), the participants' evaluations of that performance should provide more explanatory power. When perceptions of the aggregate served as the dependent variable, the first-order effects were significant ($R^2 .08, p .05$), with the ratings of the video group's performance holding a significant beta-weight ($.29, p .05$). The interactive term was also significant and accounted for 15% unique variance ($R^2 .15, .41, p .01$). Because the interaction is significant, that term is interpreted. Ratings of the aggregate as one group were lowest when one's group performance was high while the performance of the group was low. Also, perceptions of the aggregate as one group were highest when the performance of both groups was high. Thus, Hypotheses 2a and 2b were supported.

Hypothesis 3a predicted that perceptions of the aggregate as one group would mediate the relationship between group size and the two work outcomes (i.e., satisfaction with decision making and preference to work with the group), whereas Hypothesis 3b predicted a mediated relationship between relative group performance and the work outcomes. Recall that group size did not impact the formation of a common in-group identity. Similar results were found for the merger outcomes. Results of the

multivariate analysis of variance indicated that the size of the group with which the three-person group would merge did not impact satisfaction or preference to work with the group, Wilks's η^2 , $F(2, 76) = 1.52, p = .23$. Thus, group size did not impact the formation of common in-group identity or subsequent merger outcomes. Therefore, Hypothesis 3a was not supported.

Discussion:

Contemporary organisations are increasingly looking to cross-functional teams to accomplish work (Lawler, 1996), and research has indicated that such teams can produce quality outputs (see Brown & Eisenhardt, 1995; Keller, 2001). Despite these advantages, cross-functional teams are also marked by poor work processes and low employee morale (Jassawalla & Sashittal, 1999; Keller, 2001). In recognition of the possible adverse outcomes associated with cross-functional teams, this research examined the extent to which recategorization (i.e., the formation of a common in-group identity) could be used to mitigate the adverse affective reactions. Also, The researcher examined factors that were thought to contribute to the formation of common in-group identity—namely, relative group size and performance. Results indicate that although relative group size did not impact affective reactions or the formation of a common in-group identity, relative group performance did. The remaining discussion focuses on these findings, limitations, and future directions. Also, results indicate that perceptions of the newly formed team as a single, common group mediated the relationship between relative group performance and affective reactions.

Further, the associations between a common in-group identity and both satisfaction and preference to work with the group were significant according to Cohen et al.'s (2003) standards, thereby demonstrating the relative importance of the recategorization process. Although these findings are consistent with Gaertner and Dovidio's (2000) model, it is worth noting that few studies (Mottola, Bachman, Gaertner, & Dovidio, 1997; Terry & Callan, 1998; Terry & O'Brien, 2001) have examined the effects of recategorization in the business context. Further, these studies examined the process from a macro level (i.e., at the organisation level). This study examining the influence of relative group size and group performance but also by demonstrating the efficacy of recategorization in the group setting. Given the predominance of groups in modern organisations (Cohen & Bailey, 1997), such research was needed.

This study is limited in several areas. The results might be limited because of the nature of the experiment (Kerlinger & Lee, 2000). That is, The researcher cannot be sure that findings in a relatively

short laboratory experiment would be similar to those found in the field setting. However, greater confidence in the generalizability of our results is gleaned from the fact that many of the findings are consistent with other examinations in the field settings concerning mergers between organisations (see Terry & Callan, 1998; Terry & O'Brien, 2001). Further, Campbell (1986) argued that data do not support that findings in the laboratory setting are different from those in the field, leading him to conclude that "perhaps college students are real people" (p. 276). A related limitation is that participants did not work with the persons in the video. Thus, The researcher only measured anticipated satisfaction and anticipated preference to work with the group. Again, our results are consistent with theory, and therefore The researcher has some confidence in their generalizability. However, future research is needed to examine the extent to which bias is related to affective reactions to the organisation among employees who are involved in the creation of a cross-functional team.

Notwithstanding these possible limitations, there are several avenues for future inquiry. First, researchers should seek to duplicate and expand upon this study in a field setting. Such an inquiry would improve the generalizability of the results. Also, there is need for work concerning the impact of recategorization on the actual performance of the group. There is literature to suggest that useful reactions do impact the performance of individuals and organizations (Lee et al., 2000; Ostroff, 1992); thus, The researcher might conclude, on the basis of this literature, that if affective reactions were improved, so too would the performance of the cross-functional team and its members. Also, both satisfaction and forms of attachment are negatively associated with employee turnover and citizenship behaviours (Griffeth, Hom, & Gaertner, 2000; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002)—behaviours that impact both process and monetary losses. Thus, The researcher sees evidence that affective reactions likely have a mediating effect on the group and organisational effectiveness. Notwithstanding this evidence, it is also essential to determine whether the formation of a common in-group identity affects actual group performance. Researchers would do well to examine this issue in the future.

In summary, the purpose of this study was to examine the extent to which re-categorization mitigated the adverse effects of diversity. Results indicate that, indeed, the formation of a common in-group identity can improve affective reactions. Further, results demonstrate that relative group performance impacts the formation of a common in-group identity. Despite these contributions, future research is needed in the field setting to improve the generalizability of the findings.

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