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Articles

Impact of Online Shopping on Consumer Satisfaction

Bharati Motwani*
Sharda Haryani*

Online shopping has been growing because of technological advancement, convenience of use, better purchasing capacity, the availability of different search engines and easier payment modes. The global and convenient nature of the internet makes online shops perfect marketplaces for users. The growth of e-shopping has reshaped consumers' shopping behaviour. Online shops make comparison and research of products and prices possible. Online stores also give you the ability to share information and reviews with other shoppers who have actual experience of a product or retailer. e-Shopping refers to the business-to-consumer (B2C) segment of e-commerce (Mokhtarian, 2004), i.e. product information search (online searching) and product transactions (online buying/purchasing) via the Internet, unless otherwise indicated. Recently, e-shopping has become a centre-piece of ICTs (Information and Communication Technologies) because of its unprecedented proliferation. More than 85% of the world's online population has ordered goods over the internet during the last year. e-Stores, both compete with and complement retail stores.

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Retailers, real estate developers, and urban planners are interested in the geographic distribution of online buyers and the impacts of online buying on land use development. This knowledge is critical because the proliferation of e-shopping may change the operation of retail businesses and land use patterns over time, thereby changing shopping behaviour in the long run (Anderson *et al.*, 2003; Dixon and Marston, 2002; Gould, 1998; Marker and Goulias, 2000; Weltevreden *et al.*, 2008).

Online buying could be a substitute for traditional shopping outlets, and may well dominate the exchange of certain products (e.g., digital assets) in the future (Cao and Mokhtarian, 2005). Online shopping has become a significant part of our life as a result of the growing internet and our busy schedule. This adds up to faster, easier, safer, and less costly shopping. Online shopping has a great advantage for us as it is time saving, and also allows for selection from a wide range of products at the best rates. A survey conducted by MasterCard worldwide (2008), on 5037 respondents across 10 markets: Australia, China, Hong Kong, India, Japan, Singapore, South Korea, Thailand, UAE, and South Africa, revealed that Online shopping in the Asia-Pacific region is accelerating -, with the region's new markets such as China and India fuelling this growth. Due to the rapid rise and spread of the World Wide Web, researchers have focused on online shopping (Chiang and Dholakia, 2003; Childers et al., 2001; Joines et al., 2003; Wolfinbarger and Gilly, 2001).

Jarvenpaa and Todd (1997) introduced the technology-centered view and the consumer oriented view for adoption of online shopping. The technology-centered view involves the technical specifications of an online store that influence consumers' awareness of using that technology (Chen *et al.* 2002). On the other hand, the consumer-oriented view involves customers' understanding of, or views about online shopping. Though online shopping is very common outside India, its growth in the Indian Market, which is a large and strategic consumer market, is still perceived as not being in line with the global market, by many.

The potential growth of on-line shopping has triggered the idea of conducting a study on online shopping in India.

LITERATURE REVIEW

Chang *et al.* (2005) classified the determinants of e-shopping behaviour into three categories: perceived characteristics of the web as a sales channel, online consumer characteristics, and vendor and product characteristics. From a consumer perspective, Farag (2006) addressed the impacts of geography on e-shopping and the interactions between

shopping and traditional shopping. There are a lot of researches about online shopping. Most studies intended to investigate factors affecting consumers' purchasing behaviour on the Web. Swaminathan et al. (1999) preferred vendor characteristics, security of transactions, content for privacy, and customer characteristics as factors influencing electronic exchange. Wolfinbarger and Gilly (2001) suggested that consumers purchase and shop online for both reasons: goal-oriented and experience-oriented.

According to Miyazaki and Fernandez (2001), perceived risk affected consumer online purchasing behaviour negatively. They also found that internet experience is negatively related to the existence of concerns regarding the privacy and security of online purchase and the perceived risks of conducting online purchases. Donthu and Garcia (1999) proposed that risk aversion, innovativeness, brand consciousness, price consciousness, importance of convenience, variety-seeking propensity, impulsiveness, attitude toward adverting, attitude toward shopping, and attitude toward direct marketing would influence online shopping behaviour and found that among them, age, income, importance of convenience, innovativeness, risk aversion, impulsiveness, variety-seeking propensity, attitude toward direct marketing, and attitude toward advertising were factors influencing online shopping behaviour. Li, Kuo, and Russell (1999) found that consumers who make online purchase perceive the web to have higher utilities in communication, distribution, and accessibility than those who do not make online purchases; frequent online purchasers perceive higher utility than occasional online purchasers, and consumers who make online purchases consider themselves more knowledgeable about the web as a channel than those who do not make online purchases; frequent online buyers consider themselves more knowledgeable than occasional online buyers. According to Jarvenpaa, Tractinsky, and Vitale (1999), perceived size, perceived reputation, trust in store, attitude, and risk perception would be factors affecting online purchasing behaviour.

Smith and Rupp (2003) have examined and identified the factors in their work that affect the behaviour of consumers. These issues have been identified for the marketing effort, socio-cultural influence, emotional factor, psychological factors and privacy factors, to the experience, the purchase, and the post-purchase decisions. Jiradilok *et al.* (2014) utilized a quantitative method to test the conceptual framework of customer satisfaction that leads to online purchase intentions for all online users: experienced online purchasers, and inexperienced online purchasers. Ranganthan and Ganapathy (2002) found four key dimensions of online shopping, namely web sites; information content, design, security, and privacy. According to Kargaonkar and Wolin (1999), factors contributing to online shopping include social escapism, transaction-based security and privacy concerns, information-

seeking interactive control, socialization, non-transactional privacy concerns, and economic concern. Zhou et al. (2007) expressed that shopping motivation, innovativeness, perceived outcome, shopping orientation, and normative beliefs are the factors contributing to online shopping. Monsuwe et al. (2004) created a framework to understand consumers' attitudes towards online shopping. The attitudes and beliefs are separated from the consumers' psychological characteristics and mainly determined by their learning and previous experiences.

RESEARCH METHODOLOGY

A self-structured questionnaire was used to collect relevant data from different individuals. The questionnaire included 26 questions for collecting the information describing the different characteristics of the online shopping. All items were measured by responses on a Likert scale, ranging from 1= Strongly Disagree, to 5= Strongly Agree. The data was collected from 248 respondents of different demographics.

The Cronbach's alpha of a test is deemed acceptable when its reliability coefficients exceed the 0.8 level (Sengupta and Zviran, 1997). Our instrument had a reliability of 0.886, hence our questionnaire was considered appropriate

On the basis of the pilot study, seven contributing factors to online shopping emerged, namely, Product Constituent (% of var =11.974), Financial Instrument (% of var =10.190), Risk Association (% of var = 9.480), Wide Accessibility (% of var = 9.369), User Friendly Interface (% of var = 6.729) , Convenience (% of var = 6.595) and Physical Touch Absence (% of var = 6.241). The total percentage of variance for dimensions was 57.604% and the Eigen value for each dimension was more than one. The details of these factors tabularized with their item loads, Eigen values and percentage of variances are shown in Table 2.

On the basis of these factors, 7 hypotheses were framed and PLS-Graph was used to test the hypothesized relationships among the study variables. The choice was motivated by several considerations. PLS is a non-parametric estimation procedure (Wold, 1982). Its conceptual core is an iterative combination of principal components analysis, relating measures to constructs, and path analysis, capturing the structural model of constructs. The structural model represents the direct and indirect causal relationships among constructs. It can be used to estimate models that use both reflective and formative indicators, is more appropriate for analysing moderating effects because traditional techniques cannot account for measurement errors in exogenous constructs (Fornell and Bookstein, 1982), it allows for

modelling latent constructs under conditions of non-normality, and it is appropriate for small to medium sample sizes (Chin, 1998a, 1998b; Chin and Newsted, 1999).

CONSTRUCT DEVELOPMENT AND FRAMING OF HYPOTHESES

The Product Constituent factor was composed of the following items: Online shopping offers products with better quality; Online shopping has a larger variety of products to offer than traditional shopping; Information regarding expected delivery of product is an add-on in online shopping; Online shopping does not offer trial-ability; The guarantees and warrantees offered are authentic; The extra visibility features to showcase the products is an add- on to online shopping; Description of goods shown online are accurate.

Information technology provides online consumers with tremendous access to information regarding products and services from anywhere in the world, and from different sources other than solely from the product seller. Numerous researchers have linked between customer satisfaction and product dimension (Dillon and Reif, 2004; Arnold *et al.*, 1996; Baker *et al.*, 1992). Product quality, which comprises of variety and price, is counted as the first priority in stimulating online purchase in Thai people (Dillon and Reif, 2004). According to Nazir*et al.* (2012), the image of the product has the highest mark for this, which is to attract the customer to visit the web site. According to Zhou *et al.* (2007), it's the customer's perception that online shopping would increase his/her efficiency and this positively affects the entire purchase process. Reibstein (2002) found that customers tend to shop at other sites unless vendors provide them good customer service and on-time delivery. Bhattacherjee (2001) says that customers prefer to acquire a product when such usage is perceived to be useful. Yang *et al.* (2004) identified two positive factors of online shopping, namely: access to products free of time and space constraints, and ability to make effective transactions. Therefore, it is reasonable to assume that there is a relation between Product Constituent and Satisfaction related to online shopping which leads to the following hypothesis:

H_{01}: Product Constituent factor of online shopping does have an association with satisfaction related to online shopping.

Financial Instrument factor was composed of the following items: Online shopping is economic; The delivery charges charged by many sites is a criterion for comparison in shopping online; Discounts and other offers affect your purchase; The delivery charges charged are economic; The online payment system is safe and secure, and The cost

mentioned at the time of purchase is different from the cost of product at the time of delivery.

Price which is a part of the marketing mix is a factor used to stimulate the consumer; it is also a communicator to negotiate, and a competitive weapon. The consumer can use price as a means to compare products, judge the relative value for money, and judge the quality of products. According to Brassington and Pettitt (2000), financial factor has a considerable influence on the consumers during their online shopping. Reibstein (2002) has studied factors for attracting customers to the site and factors for being able to retain customers by mainly considering the role of price. Suri and Monroe (2003) found that higher the time pressure and higher the price of the product, the more likely consumers are to favourably evaluate the deal on the product. However, for a low priced product under higher time pressure, the opposite reaction takes place. It is a general perception that elder customers claim the deal to be valuable if there is a high plausible discount. However, Drozdenko and Jensen (2005) found that 87.4% of the respondents rejected the low discount levels, and hence marketers should be careful when setting high discount levels since they might reduce their profit margins and turn away potential customers. Xia and Monroe (2004) stated that consumers will save monetarily, when there are price promotions on specific products. Their study revealed that consumers with a shopping goal are more responsive towards promotional messages such as 'pay less' and 'discount', while consumers without shopping goals are responsive towards promotional messages such as 'save more' and 'free gift'. Therefore, we can predict that there is a relation between Financial Factor and online shopping which leads to the following hypothesis:

H_{02}: Financial Instrument factor of online shopping does have an association with satisfaction related to online shopping.

Risk Association comprised of the following items: Paying for the product in advance and not getting it delivered is a risk involved with online shopping; Online shopping involves the risk of receiving the wrong product; The 'return policy' scheme of getting back the money for a wrong product adopted by many sites affects my shopping decisions. Bhatnagar *et al.* (2000) identified two predominant types of risk: product category risk and financial risk. Product category risk focuses on the product itself and is allied with the customers' belief as to whether the product functions according to their expectations. Financial risk corresponds to the internet as a safe purchasing medium for customers. Financial risk is considered in context of making a transaction (whether there might be a risk of losing money via credit card fraud). Many consumers are still reluctant to buy products online due to various

reasons: insecurity of credit or debit cards, passwords, threat of hacking information, less time to devote, lack of reliability and trustworthiness, breach of privacy, and other social risks. Slyke, Shim, Johnson and Jiang (2006) cited concern for information privacy as an impediment to consumer acceptance of online shopping. According to Milne and Culnan (2004), consumers seek information to reduce the risk of consuming a particular product or service where risk reflects perceptions of the uncertainty and the adverse consequences of consuming a product or service.

There are interconnections between privacy and security issues in online shopping. It is a general observation that those who tend to shop online will think twice before they buy anything, to reconsider the privacy and security issues related to the transaction. Shergill and Chen (2005) found that consumers were least satisfied with website security and privacy. It is also obvious that security of the credit card number prevents consumers from shopping online, and according to Celent Communications, online payment fraud is 30 times higher than payment fraud in the physical world. Berendt *et al.* (2005) investigated drivers and impediments of online interaction in general and stated that privacy concerns were suspected to be one major impediment of truthful and deep online interaction. However, their results contradicted findings from Slyke*et al.* (2006) and Milne and Culman (2004) in the area of information privacy. Their results showed that respondents would divulge personal information whenever they perceive that online exchange is entertaining and the received benefits are believed to be adequate. Thus, we can propose that the risk factor has a relationship with satisfaction related to online shopping. Hence the hypotheses:

H_{03}: Risk Association factor of online shopping does have an association with satisfaction related to online shopping.

Wide Accessibility comprised of the following items: Online shopping is easily accessible; Masses and classes can be reached easily through the internet, and online shopping is not restricted to any age group. User Friendly Interface comprised of the following items: the screens of many shopping sites are interactive and user friendly, and the shopping sites are informative about their products and prices. As web based technologies are increasing, the structures of websites are becoming more complex. If the e-shopping website is convenient to use, then customers will interact more with the site (Barkhi and Wallace, 2007). Monsuwe *et al.* (2004) made a comparison of the traditional way of shopping, and online shopping. The comparison has shown that shopping online is more convenient compared to traditional shopping. However, Baty and Lee (1995) have suggested that web stores have to design an

efficient system to enable consumers to easily find what they need, learn more about it, and quickly make a purchase.

Shergill and Chen (2005), Kin and Lee (2002), and Than and Grandons (2002), identified website design characteristics as the dominant factor which influences consumer perceptions of online purchasing. Eyong and Sean (2002) in the paper titled 'Designing effective cyber store user interface', found the following factors:

i. Convenient and dependable shopping — Convenience, Guaranteed delivery, Secure transaction mechanism;

ii. Retailer Reliability — Dependable product, Competitive price, Store Policy;

iii. Additional Information availability — Information of the online store, Production, Promotion, Other customers' testimonials, Frequently Asked Questions (FAQs) section; and

iv. Tangibility and variety of merchandise — Proper size of picture of merchandise, Good quality pictures of merchandise, a 'What's New' section, Broad product variety.

Menon and Kahn, (2002); Childers *et al.*, (2001); Mathwick *et al.*(2002) concluded that if consumers enjoy their online shopping experience, they have a more positive attitude towards online shopping, and are more likely to adopt the internet as a shopping medium. Hsuehen (2006) has also explained about the relationships among Website Quality, Customer Value, and Customer. The survey results revealed that both, website quality and customer value have positive effects on customer satisfaction. Therefore, the hypotheses formulated are:

H_{o4}: Wide Accessibility factor of online shopping does have an association with satisfaction related to online shopping.

H_{o5}: Convenience factor of online shopping does have an association with satisfaction related to online shopping.

H_{o6}: User Friendly Interface factor of online shopping does have an association with satisfaction related to online shopping.

Physical Absence was constituted of the following item: Online shopping is affected since we are not able to touch the products. Yang *et al.* (2004) expressed that one of the negative factors related to online shopping is inability to touch the product. Therefore, it is reasonable to assume that there is a relation between the Physical Absence Factor and Satisfaction related to online shopping which leads to the following hypothesis:

H_{07}: Physical Touch Absence factor of online shopping does have an association with satisfaction related to online shopping.

RESULTS

The model was designed to study the effect of different factors of online shopping on the satisfaction related to online shopping. To assess the psychometric properties of the measurement model, individual item loadings, internal consistency, convergent validity, and discriminant validity were examined of the reflective first-order factors (product constituent, risk association, user friendly interface, convenience, financial instrument, physical touch absence, and wide accessibility).

The loadings of the measurement items on their respective factors were examined. Finally, the model included the items whose loading was above the threshold value of 0.70 on their respective factors, and was statistically significant at the 0.001 level, which provides support for convergent validity.

Some items whose factor loads were less than 0.7 were removed and re-executed. It was found that the final model had 5 items removed from the original model. The items deleted include one item from the Convenience Factor (Online shopping can overshadow traditional shopping since it is easy to do), one item from the User Friendly Interface Factor (The shopping sites are informative about their products and prices), one item from the Financial Instrument factor (The cost mentioned at the time of purchase is different from the cost of product at the time of delivery), and two items from the Product Constituent factor (Online shopping does not offer trial-ability, and The guarantees and warrantees offered are authentic).

The study assessed convergent validity by examining composite reliability and average variance extracted from the measures. Although many studies have used 0.5 as the threshold reliability of the measures, 0.7 is a recommended value for a reliable construct (Chin, 1998a, 1998b). For the reflective measures, rather than using Cronbach's alpha, which represents a

lower bound estimate of internal consistency due to its assumption of equal weightings of items, a better estimate can be gained by using the composite reliability measure (Chin and Gopal, 1995). As shown in Table 1, the internal consistency of all reflective constructs clearly exceeded 0.7, suggesting strong reliability. For the average variance extracted by a measure, a score of 0.5 indicates acceptability (Fornell and Larcker, 1981). From Table 1, it is clear that average variance extracted (AVE) by all reflective measures is greater than 0.5, which is above the acceptability value.

Table 1: Verification of Convergent Validity

	AVE	Composite Reliability	R Square	Cronbach's Alpha	Communality	Redundancy
Convenience	0.544269	0.781665		0.581193	0.544269	
Financial Instrument	0.516896	0.842294		0.767726	0.516896	
Physical Touch Absence	1.000000	1.000000		1.000000	1.000000	
Product Constituent	0.525747	0.846073		0.804351	0.525747	
Risk Association	0.675998	0.862168		0.763740	0.675998	
User Friendly Interface	1.000000	1.000000		1.000000	1.000000	
Wide Accessibility	0.642941	0.842743		0.722489	0.642941	
Satisfaction	1.000000	1.000000	0.713455	1.000000	1.000000	0.024754

Finally, the study verified the discriminant validity of the instrument by comparing the average variance extracted (AVE) (Fornell and Larcker, 1981). It is clear from Table 2 that the square root of the average variance extracted for each construct is greater than the levels of correlations with other constructs. The results of the inter-construct correlations also show that each construct shares larger variance with its own measures than with other measures.

Table 2: Verification of Discriminant Validity

	Convenience	Financial Instrument	Physical Touch Absence	Product Constituent	Risk Association	User Friendly Interface	Wide Accessibility
Convenience	1						
Financial Instrument	0.512	1					
Physical Touch Absence	0.403	0.449	1				
Product Constituent	0.560	0.504	0.379	1			
Risk Association	0.330	0.201	0.173	0.435	1		
User Friendly Interface	0.361	0.448	0.232	0.304	0.206	1	
Wide Accessibility	0.510	0.420	0.303	0.441	0.252	0.385	1

Discriminant validity is also confirmed, when items related to a particular factor have the highest load on that factor and is higher than a difference of 0.2 on the other factor in the cross loadings table. These conditions also hold good for our data.

The PLS modelling approach involved two steps — validating the measurement model and then fitting the structural model. The former is accomplished primarily by reliability and validity tests of the measurement model, followed by a test of the explanatory power of the overall model by assessing its explained variance, and the testing of the individual hypotheses (structural model). The model shows that the explanatory power for the internal process is 71.34 % which is considered adequate for studies of this nature. For testing the individual hypotheses, a bootstrap re-sampling procedure was conducted and coefficients were estimated.

Path Coefficients (Mean, STDEV, T-Values)

Table 3: Correlation between Factors of Online Shopping and User Satisfaction related to Online Shopping

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)
Convenience -> Satisfaction	0.028244	0.009216	0.085630	0.085630	0.329833
Financial Instrument -> Satisfaction	-0.184847	-0.140127	0.090882	0.090882	2.033923
Physical Touch Absence -> Satisfaction	0.057038	0.052413	0.070744	0.070744	0.806257
Product Constituent -> Satisfaction	0.879737	0.878806	0.070705	0.070705	12.442414
Risk Association -> Satisfaction	0.029731	0.036737	0.078045	0.078045	0.380943
User Friendly Interface -> Satisfaction	0.008560	-0.004365	0.078139	0.078139	0.109543
Wide Accessibility -> Satisfaction	-0.019725	-0.013864	0.068756	0.068756	0.286878

From Table 3, the results revealed that hypotheses $H_{01}$and H_{02} stand accepted at 10% level of significance because the calculated value of t is less than the tabulated value (1.258). Thus, Risk Association, Convenience, Wide Accessibility, Physical Touch Absence, and User Friendly Interface factors are not associated with the Satisfaction related to Online Shopping while Financial Instrument and Product Constituent factor are the main factors that are

associated with Online Shopping. In contradiction with the results of our study, Vijay and Balaji (2009) suggested that convenience and saving of time drive consumers to shop online; while security and privacy concerns dissuade them from doing so.

CONCLUSION, LIMITATIONS, AND SUGGESTIONS

The study showed that financial instrument and product constituent factor are mainly associated with online shopping. Hence, companies should rejuvenate the legacy systems they use and upgrade their systems from time to time as the development of information technology accelerates constantly. Our study provided managers a clear view of the relative impact of each factor of online shopping, which can be used to identify needed improvements and taken advantage of, accordingly. Organisations that have future designs will form a clear understanding of business requirements, gain more vision, and acquire the ability to expand knowledge and skills to better assimilate and utilize online systems, thereby minimizing the risks associated with this particular investment. A consumer's trust in an internet store can be thought of as the consumer's trust directly in the store. Effectiveness of third-party trust, certification bodies, and the public key encryption infrastructure for ensuring financial security, are the central success factors for building consumer trust in internet shopping.

Online sales will carry on rising. Every webpage designed to sell a product or market a service should understand the future of online shopping. It is a general perception that modern and more affluent shoppers are driving a wave of online sales. Many of these people have some web awareness and disposable income. They have learned to shop online for price comparisons and other proportional data. If shoppers find an advanced situation, particularly concerning the above important variables, they will frequently become online buyers.

Since the research was conducted in India, the results might not hold true in other geographical areas. Hence, the result cannot be generalized, and therefore variation in the users' perceptions can be checked by conducting the same research at different locations. Also, longitudinal data gathered after a satisfactory time frame by surveying the same respondents, will reveal whether satisfaction level has changed, and which factors, if any, contributed to this change. Furthermore, through an empirical research, it would be interesting to explore possible differences in the perception of respondents. The study has laid emphasis on the perception of online shoppers. While the technology comfort length, level of experience, amount of usage, and frequency of assessing online shopping could be considered in order to segregate the shopper into early adopter, late adopter, or laggard

categories. Hence, it opens a scope for further research in the special context of online shoppers. As this study was based on a self-administered exploratory survey, where only close ended questions were used in the response sheet, the ability of researcher to ask open-ended questions was restricted. Had this restriction not been there, the study could have offered a better understanding of satisfaction related to online shopping.

Similar studies can also be carried out across cross cultural domains to explore cultural dissimilarities, and to explore whether satisfaction related to online shopping is consistent across cultures or not. By conducting studies in these areas, one can compare the results and close the gap in order to further investigate online shopping. However, results of this study provide a foundation for future studies related to online shopping.

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Branding and Firm's Financial Performance - Insights from the Consumer Goods Industry in India

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Existing literature documents that there are broadly two sets of strategies available to any business enterprise, viz., the quality leadership strategy, and the cost leadership strategy. The quality leadership strategy is concerned with creating competitive advantage for the firm in the market place, and manifests in premium pricing as a result of product differentiation attained through branding and advertising. On the other hand, the cost leadership strategy aims at benefiting from penetration pricing focusing on process differentiation leading to a low cost production system. However, against these blatant differences on the marketing front, economics postulates that, at the economic front, both the strategies would end up giving the same financial performance under perfect market conditions. Then, the question arises as to what actually is expected to happen in the perfect market condition that may nullify what otherwise could be a distinct strategic advantage under a given strategy. The answer lies in what is known as the Du Pont Framework in finance literature. It breaks down Return on Assets (ROA), which is the ultimate parameter of financial

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performance at the firm level into two components of Profit Margin (PM) and Asset Turnover Ratio (ATOR), and states that the ROA would be the same in the long run irrespective of the strategy used because the two components, PM and ATOR, would play against each other. To elaborate, the product differentiation strategy would have an advantage in margins (i.e. PM) but will be a loser in turnover (i.e. ATOR), and vice-a-versa for the process differentiation strategy. So, if this market based economic reasoning holds, there would hardly be any sense in going for the product differentiation strategy. However, in reality, leading marketers are found to be pursuing the product differentiation strategy. To understand and resolve this dichotomy, in this study we try to test this economic postulation in the context of the consumer goods industry in India.

Branding helps in differentiating the products and services of a firm from those of its competitors. The advertising expenditure depends on the branding strategy (Aaker, 1991) and has a long-term effect on brand equity (Rao, Agrawal & Dahlhoff, 2004). Brands possess financial value as they enhance future cash flows (Aaker & Jacobson, 1994) based on customer loyalty and high margins (Keller, Parameswaran & Jacob, 2011). The stock markets consider brand and brand equity in stock valuation (Rao *et al.*, 2004), and stock returns are found to be positively associated with perceived brand quality (Aaker & Jacobson, 1994). In the light of this, using the DuPont framework, this paper tries to find out whether higher ad intensity results in higher ROA.

How do brands contribute to the ROA? There have been interesting studies on this issue. The resource based view holds that strategic assets (both tangible and intangible) confer competitive advantage on firms and result in better financial performance owing to a positive relation between resources and firm performance (Wernerfelt, 1984; Canibano, Gracia-Ayuso & Sanchez, 2000). Intangible capital, also known as Intellectual Capital, plays an important role in the value creation process (CIMA, n.d.). IFAC (1998) classifies intellectual capital into three categories namely, human capital (employees, know-how, education, innovativeness, etc.), relational or customer capital (brand, customers, customer loyalty, distribution channels, etc.), and organizational or structural capital (patent, copyrights, trademarks, organizational procedures, culture, systems etc.) Customer capital is one of the most important components of intellectual capital. Riahi-Belkaoui (2003) defines it as "the firm's value of its franchise, its ongoing relationships with the people or organizations to which it sells, like market share, customer retention and defection rates, and per customer profitability." As a matter of fact, all the marketing activities are channelized to enhance customer capital, branding being one of them.

REVIEW OF LITERATURE

The literature relevant to this study has three dimensions. The first is the marketing dimension, focusing on branding and its importance. The second dimension is the interface between finance and marketing, which deals with the relationship between branding (advertising) and a firm's financial performance. The third dimension pertains to research methodology which focuses on the methodology used to study the relationship between branding/advertising and a firm's financial performance.

Branding and its importance: Low cost (cost leadership strategy) and perceived uniqueness (quality leadership strategy) are the bases for strategic advantage (Porter, 1998). The cost leadership strategy aims at exploiting the advantage of possessing the lowest cost. However, every customer may not be convinced by a low cost offering. Some may look for functional performance, prestige, and higher perceived quality, which demands additional costs on the part of the company. Thus, an alternative to create customer value is through differentiation and distinctiveness (Pitt & Koufopoulos, 2012). Product differentiation is established by the brand as customers identify distinctive products/services by their brand names. A brand is further strengthened by suitable communication and advertising strategies (Aaker, 1991). According to the American Marketing Association (AMA, n.d.) a brand is "a name, term, sign, symbol or design or a combination of them intended to identify the goods and services of one seller or a group of sellers and to differentiate them from those of the competitors." A powerful brand is instrumental in realizing various benefits such as 'improved perceptions on product performance; greater customer loyalty; less vulnerability to competitive marketing actions and marketing crises; larger margins; more elastic customer response to price decreases and inelastic customer response to price increases; greater trade or intermediary cooperation and support; increased marketing communication effectiveness; additional licensing, and brand extension opportunities' (Keller, 2009). Thus, the capability of marketing activities lies in product differentiation and building strong brands (Kotabe, Srinivasan & Aulakh, 2002). Consequently, firms expend on advertising and promoting their products. Advertising, thus, represents investment in brand and goodwill (Bharadwaj, Bharadwaj & Konsynski, 1999). Moreover, advertising is considered both a symptom (indicates that product is differentiable) and a source (determinant of level of differentiation realized by established firms vs. new and potential entrants) of differentiation (Comanor & Wilson, 1967). Thus, product differentiation, branding, and advertising are related to each other.

Relationship between branding (advertising) and firm's financial performance: One of the most important determinants of a firm's profitability is the effective spending on intangibles. (Cheng & Chen, 1997). Expenditure on advertising and R&D is considered an investment in intangible assets, which is reflected in enhanced future cash flows. The information about advertising and R&D expenditures assists investors in predicting the size and variability of future cash flows (Chauvin & Hirschey, 1993). Thus, information about brand and advertising expenditures is considered value relevant (Chauvin & Hirschey, 1993; Aaker & Jacobson, 1994; Cheng & Chen, 1997) and are associated with market value proxies like Tobin's q or stock returns (Han & Manry, 2004). The extant literature has documented positive association between advertising expenditure and a firm's Tobin's q (proxy for the firm's financial performance). Morck & Yeung (1991), Chauvin & Hirschey (1993), Lu & Beamish (2004), Kotabe *et al.* (2002) and Hermalin & Weisbach (1991) find a positive association between advertising expenditure and a firm's financial performance. Lev & Sougiannis (1996) report that the coefficients of advertisement intensity range between 0.906 in the transportation vehicles, industry to 1.639 in the scientific instruments industry. Thus, a one-dollar advertising expenditure is associated with an operating income (before advertising) increase of roughly 1 to 1.6 dollars. Thus, the relevant literature consistently sets out that advertising expenditure has a positive impact on a firm's financial performance.

Research methodology for studying the relationship between branding (advertising) and a firm's financial performance: The research methodology applied in examining the relationship between advertising and a firm's financial performance has extensively used multivariate regression (Comanor & Wilson, 1967; Bharadwaj, Bharadwaj & Konsynski, 1999; Chauvin & Hirschey, 1993), panel regression (Kotabe, Srinivasan & Aulakh, 2002), regression models based on the earnings-valuation model, different scalars like sales, total book value, and lagged price (Cheng & Chen, 1997), and another regression based model called Ohlson Equity Valuation Framework (Han & Manry, 2004). There are only two notable papers wherein the DuPont Framework has been used (Little, Little & Coffee, 2009; Little, Mortimer, Keene & Henderson, 2011). The DuPont Framework decomposes financial performance of a firm measured as its ROA into two components of PM and ATOR. Such decomposition provides a great insight into the drivers of ROA. PM shows the operating efficiency and ATOR shows the asset use efficiency. As per the theoretical proposition, firms with high relative PM and low relative ATOR are assumed to be pursuing a differentiation strategy and those with high relative ATOR and low relative PM are assumed to be pursuing a cost leadership strategy. Little *et al.* (2009) examined this issue for retail firms using the DuPont Model (with some modification). Their results did not confirm the perfect market

axiom of no difference in ROA between the two categories of the firms. They found that retail firms pursuing a differentiation strategy were more likely to achieve a higher PM than those firms pursuing a cost leadership strategy. Little *et al.* (2011) did a similar study, but with a difference in terms of comparing the financial performance of the two categories of the firms under a non-recession period and a recession period. There again, the result for the non-recession period was the same as that derived by Little *et al.* (2009); however, for the recession period, they observed that the retail firms pursuing a differentiation strategy were not more likely to achieve a higher return on net operating assets than those firms pursuing a cost leadership strategy.

Research Gap and Research Problem: As a matter of fact, studies conducted on the relationship between branding/advertising and a firm's financial performance have clearly shown that branding results in better performance, at least during normal market conditions. However, since all those studies were conducted in advanced economies, there is a possibility of an inherent favourability towards quality products as affluent societies may not mind giving away a more than justified premium price for good quality. The Indian market may be a different ballgame altogether, where Nirma Detergent Powder can beat Surf! It is possible that the price may be a more influential factor over quality in countries like India. Since there have not been any studies in India in our knowledge that examine the financial performance of the two opposite strategic orientations, we have made an attempt to bridge that void. We prefer to use the DuPont Framework as it can address (i) whether the two strategic orientations result in the same financial performance more or less, and (ii) what happens to margins (i.e. PM) and volumes (i.e. ATOR). We preferred to examine these research issues in the context of the consumer goods industry because, obviously, it is supposed to be the most reflective on these issues.

RESEARCH DESIGN

1.1 The Sample

Besides the reason given above for selecting the consumer goods industry, there is another merit in it, too. Branding and advertising are more prominent in case of the consumer goods industries, so data availability gets assured. Since it is a very big industry encompassing a broad range of products in India, we have chosen to focus on the subset — consumer foods and household products. The data is sourced from AceEquity Database. It contains 166 listed companies in the consumer foods industry and 34 listed companies in the household products industry.

Criteria for Selecting Companies

- The advertisement expenditure data is available for at least 8 years during the period of 2000–01 to 2015–16.
- The data on other counts like sales, PM, ATOR, ROA and Market Value to Book Value Ratio (MV/BV Ratio) is available for the respective years.

Table–1 gives a description of the sample, along with the reasons for eliminating certain companies from the sample.

Table–1

Table 1: Description of Sample		
Reason for Elimination	**No. of Companies**	
	Consumer Foods	**Household Products**
Total no. of companies available in the database	166	34
Less: No data available on advertisement	56	5
Less: Data on advertisement available for less than 8 years	37	6
Less: Data not available on other parameters	34	2
Final Sample	**39**	**21**

1.2 Time Frame and Data Collection

The study is based on secondary data that has been sourced from the AceEquity database as shown above. Since the database captures the data from published financial statements of the companies without regrouping the data, there is no fear of any distortions in it. The time frame of the study is a period of 16 years from 2000–01 to 2015–16.

1.3 Research Approach/ Data Analysis Method

Branding is considered to be a differentiator between successful firms and unsuccessful firms from a marketing perspective (Comanor & Wilson, 1967; Kotabe, Srinivasan & Aulakh, 2002). However, there can be issues at a larger level, whether branding contributes effectively to the overriding financial goal of the enterprise or not. Towards that, we want to understand two things: (i) whether higher ad intensity results in higher ROA or not, and (ii)

if higher ad intensity results in higher ROA, then we would like to understand the chemistry of ROA by using the DuPont framework.

The DuPont framework is presented below:

Return on Assets (ROA) = Profit Margin (PM) * Asset Turnover Ratio (ATOR)

It was pioneered by the DuPont Company, a US based corporation. It has received widespread recognition and acceptance for the purpose of financial analysis. It is based on important interrelationships between operating efficiency (PM) and asset use efficiency (ATOR), and explains how ROA is influenced by PM and ATOR. The classical view believes that a firm cannot excel at both the components of return over a long period of time. It believes that firms focusing on product differentiation will have higher PM, but lower ATOR, whereas the firms that focus on process differentiation would have higher ATOR but lower PM. So, taking ad intensity as a measure of the level of product differentiation, we want to examine whether or not the classical view under the DuPont Framework holds in the contemporary period in case of the consumer goods industry in India. Towards that, first of all, we present the definitions of variables used in our research.

1.4 Definitions

1. **Ad Intensity:** Advertising intensity is defined as advertising expenditure in terms of percentage of sales. It is the measure of advertising assets such as brand names and goodwill (Lu & Beamish, 2004).

2. **Return on Assets (ROA):** ROA is calculated as net income divided by total assets. It is a measure of profit for every 100 rupees of assets.

3. **Profit Margin (PM):** PM is calculated as net income divided by sales. It is a measure of profit for every 100 rupees of sales.

4. **Asset Turnover Ratio (ATOR):** ATOR is calculated as sales divided by total assets. It indicates the sales generated for every rupee invested in assets.

5. **Market Value to Book Value Ratio (MV/BV Ratio):** It is an adapted form of Tobin's q. It is worked out as the market value of a company's equity divided by the book value of the shareholders' net worth. It is a measure of value creation for shareholders. Value creation being the prime goal of any enterprise, higher the ratio (over unity value), the better it is.

We categorize all the companies in both industries into two categories. The basis for categorization is median Ad Intensity. Thus, there are two categories of companies: one, having ad intensity above median, and the other, having ad intensity below median. The companies falling in the 'above median' category are believed to follow a quality leadership strategy (product differentiation). The companies falling in the below median category are believed to follow a cost leadership strategy, assuming that some ad expense will have to be made even if the company is not being promoted as a brand. Table–2 gives an idea of the companies covered in the study, and Table–3 compiles the summary statistics.

Table–2

Table 2: Categorization of Sample		
Category	**Consumer Foods**	**Household Products**
Median Value of Ad Intensity	0.1698	2.8990
Above Median Category	11	10
Below Median Category	28	11
Total	**39**	**21**

Table–3

Table 3: Descriptive Statistics/ Summary Measures						
Variables	**Consumer Foods**			**Household Products**		
	Mean	**Median**	**SD**	**Mean**	**Median**	**SD**
Sales	670.4150	142.89	1972.0148	1685.3725	162.0212	5050.7566
Ad Intensity	1.4524	0.1697	2.5321	5.6590	2.8990	5.6199
PM	2.4813	1.5112	4.9598	5.2172	4.8693	6.3910
ATOR	1.9415	1.9136	1.2177	1.3959	1.1262	0.5926
ROA	4.8269	4.0290	4.5235	8.9295	6.89	9.6576
MV/BV Ratio	1.8823	0.8461	2.4210	5.8358	1.4868	8.7306

1.5 Hypotheses

To make it a systematic inquiry, first we examine whether some essential conditions are met, or not, before inquiring into the research problem. Since we are using the DuPont Framework as the basis of investigation, we examine for the pooled data for each of the two industries whether the ROA is explained by PM and ATOR as envisaged or not (Ho_1). Then, as ad intensity is supposed to be a differentiator between the two categories of the companies in each industry, we examine whether it commands significantly different values for the two categories of companies or not (Ho_2), if they are discriminated on the median value of ad intensity. With that, we turn to examining our research problems. Towards that, first we would like to see whether the two categories of the companies end up with more or less the same ROA or not (Ho_3). Then the two drivers of ROA are examined with the next two hypotheses (H04 & H05). Subsequently, we look at another measure of financial performance to substantiate our observations on the parameters used in the DuPont Framework (Ho_6). The null hypotheses are spelt out below.

Ho_1: ROA is not explained by PM and ATOR.

Ho_2: There is no significant difference in the ad intensity between the two categories of companies.

Ho_3: There is no significant difference in the ROA between the two categories of companies.

Ho_4: There is no significant difference in the PM between the two categories of companies.

Ho_5: There is no significant difference in the ATOR between the two categories of companies.

Ho_6: There is no significant difference in the MV/BV ratio between the two categories of companies.

1.6 Techniques of Analysis

Regression Analysis: In order to know the impact of PM and ATOR on ROA, regression analysis is conducted. The regression model has ROA as a dependent variable and PM and ATOR as independent variables.

t-Test: We conduct an independent two sample t-Test assuming unequal variances for examining whether there are significant differences among the two classes of companies (i.e.

those that are into differentiation, and those that are not into differentiation), on parameters of interest such as ROA, PM, ATOR, Ad Intensity, and MV/BV ratio.

ANALYSIS AND FINDINGS

Hypothesis–1: For a business enterprise, return is measured as return generated on the investment made in assets. As per the DuPont Framework, the return on assets is decomposed into two major ratios, namely, PM and ATOR. So the relationship of ROA with PM and ATOR is examined by first conducting regression analysis separately for each of the two industries. The results depicted in Table–4 uphold the contention of the DuPont Framework. Moreover, both the ratios, PM and ATOR are statistically significant. Thus, the use of the DuPont Framework for further investigation is justified.

Table–4

Table 4: Regression Results				
	Consumer Foods		**Household Products**	
DV	**IV1**	**IV2**	**IV1**	**IV2**
ROA	**PM**	**ATOR**	**PM**	**ATOR**
Beta Coefficient	0.6709	0.9679	1.1926	4.2540
t-Statistic	6.8592	2.3625	7.4883	2.4768
p-value	5.02645E-08	0.0236	6.1997E-07	0.0234
F-statistic	24.2846		40.8530	
p-value	2.1068E-07		2.03685E-07	
R squared	0.5743		0.8194	
Adjusted R Squared	0.5506		0.7994	

Hypothesis–2: It aims at examining the difference in the ad intensity between two categories of companies in each of the two industries. The two categories of 'above median' and 'below median' are formed using the median of ad intensity as a differentiator. In both the

industries there is a significant difference between the 'above median' and 'below median' categories of companies as shown in Table–5. Thus, the categorization based on median ad intensity is justified.

Table–5

Table 5: t-Test for Ad Intensity [Independent Samples Assuming Unequal Variances]				
	Consumer Foods		**Household Products**	
	Above Median Category	**Below Median Category**	**Above Median Category**	**Below Median Category**
Observations	11	28	10	11
Mean	4.8047	0.1355	10.6148	1.1536
Variance	7.7453	0.0162	20.4244	1.0550
t-statistic	5.5620		6.4700	
t-critical value	1.8124		1.8124	
p-value	0.0001		3.58157E-05	

Hypothesis–3: It examines the difference in ROA between the two categories of companies in each of the two industries. As shown in Table–6, for both the industries there is a significant difference between ROA of the two categories of companies viz., those that are into product differentiation vs. those that are not into product differentiation. The firms that are into differentiation have a higher ROA than firms that are not into differentiation. This indicates that branding has a favourable impact on the financial performance of a firm. Thus, the DuPont contention that there would not be any difference in the returns of the firms under the quality leadership strategy and the cost leadership strategy does not hold.

Table–6

Table 6: t-Test for Return on Assets (ROA) [Independent Samples Assuming Unequal Variances]				
	Consumer Foods		**Household Products**	
	Above Median Category	**Below Median Category**	**Above Median Category**	**Below Median Category**
Observations	11	28	10	11
Mean	7.4598	3.7925	15.5654	2.8969
Variance	39.6244	10.9467	106.7060	15.7640
t-statistic	1.8352		3.6414	
t-critical value	1.7822		1.7958	
p-value	0.0456		0.0019	

Hypothesis–4: It focuses on PM which is one of the drivers of ROA, and examines whether there is any significant difference in PM between the 'above median' and 'below median' categories of the companies in both the industries. In both the industries there is a significant difference between the PM as shown in Table–7. The firms that are into differentiation have a higher PM than the firms that are not into differentiation. This indicates that branding has a favourable impact on profit margins of the firm. Thus, the DuPont contention that a quality leadership strategy earns higher margins than a cost leadership strategy does hold for PM as a driver of profitability.

Table–7

Table 7: t-Test for Profit Margin (PM) [Independent Samples Assuming Unequal Variances]				
	Consumer Foods		**Household Products**	
	Above Median Category	**Below Median Category**	**Above Median Category**	**Below Median Category**
Observations	11	28	10	11
Mean	5.6589	0.8924	9.4220	1.3946
Variance	35.8727	13.6406	27.4980	27.2725
t-statistic	2.4194		3.5104	
t-critical value	1.7613		1.7291	
p-value	0.0148		0.0011	

Hypothesis–5: It focuses on another driver of ROA, viz., the ATOR, and examines whether there is any significant difference between the 'above median' and 'below median' categories of the companies in both the industries. In both the industries, the mean values of ATOR are higher for the 'above median' category; however, the difference between the two categories is not significant as found in Table–8. This negates the DuPont contention that a quality leadership strategy suffers on the count of ATOR.

Table–8

Table 8: t-Test for Asset Turnover Ratio (ATOR) [Independent Samples Assuming Unequal Variances]				
	Consumer Foods		**Household Products**	
	Above Median Category	**Below Median Category**	**Above Median Category**	**Below Median Category**
Observations	11	28	10	11
Mean	2.0008	1.9182	1.5536	1.2526
Variance	1.3278	1.6482	0.2939	0.4256
t-statistic	0.1949		1.1532	
t-critical value	1.7247		1.7291	
p-value	0.4237		0.1315	

Hypothesis–6: Going a step forward, we want to bring in another parameter of financial performance, namely the MV/BV ratio that captures the response of the capital market, and so, is hailed as the ultimate test of value creation for shareholders. Accordingly, here we examine whether there is any significant difference in MV/BV ratios between the 'above median' and 'below median' categories of the companies in both the industries. The results are captured in Table–9. The firms that are into differentiation have a higher MV/BV ratio than the firms that are not into differentiation. This indicates that shareholders' response to branding and promoting is also favourable.

Table–9

Table 9: t-Test for Market Value to Book Value Ratio (MV/BV Ratio) [Independent Samples Assuming Unequal Variances]				
	Consumer Foods		**Household Products**	
	Above Median Category	**Below Median Category**	**Above Median Category**	**Below Median Category**
Observations	11	28	10	11
Mean	3.9587	0.8441	11.1016	1.0488
Variance	11.1743	0.5021	117.4008	1.4741
t-statistic	3.0560		2.9173	
t-critical value	1.8124		1.8331	
p-value	0.0060		0.0085	

CONCLUSION AND DISCUSSION

Marketing professionals tend to prefer differentiation over 'me too' (Smith, 1956). To them, branding and promotion are the success mantras for customer value creation. However, all that is done by all concerned in a business enterprise has to ultimately contribute to shareholder value. It is in this context that we have tried to study the association between customer value creation and shareholder value creation. Prima facie, the two may look like two sides of the same coin; however, the economic theory of 'perfect market' does not approve of it. So, we have investigated with empirical evidences whether the differentiation strategy results into a better performance over the 'me too' in pursuing the ultimate goal of shareholder value creation of a business enterprise, or not.

Taking the median value of 'ad intensity' as a discriminating score, we divide the companies into two categories of 'above median' and 'below median'. The former is supposed to be following a product differentiation strategy, and the latter, manifesting absence of product differentiation (i.e. process differentiation). Our results clearly show that firms which are into product differentiation through branding and advertising report better financial results than the firms into 'me too'. We have examined the financial results from both the angles; ROA representing the internal (organizational) perspective, and MV/BV Ratio capturing the

external (capital market's) outlook. On both of these parameters, the companies with 'above median' ad intensity outsmarted the 'below median' group. Thus, the economic postulation of no difference in profits of the two opposite strategic orientations does not hold. In fact, the economic logic is based on quite a convincing argument that ROA, which is the firm level measure of financial performance is a function of two opposingly behaving performance drivers of PM and ATOR. If one is higher, the other would be lower. The DuPont Framework hypothesizes that product differentiation would result in higher PM but lower ATOR, whereas process differentiation would result in higher ATOR but lower PM. However, our study reveals that firms which are into branding and differentiation do have an advantage in PM, but do not have any disadvantage in ATOR. In other words, they do exhibit higher operational efficiency, but do not suffer on the front of asset use efficiency. Thus, branding and advertising not only result in higher customer value creation, but also result in higher shareholder value. Put in another way, investment in brand building resulting into creation of brand equity earns relatively higher returns than the investment in tangible assets. This result is consistent with our finding in another study, which brought out that the creation of intangible assets in terms of R&D investments by pharma companies resulted in higher profitability (Danak & Rajpurohit, 2017).

Prima facie, one may be tempted to interpret these results as being against the economic theory of 'perfect market'. However, it is not so. One basic requirement of a perfect market is that it must be a free market; however, a free market may not necessarily be a perfect market. Though the markets in which the consumer foods industry, household products industry, pharma industry, etc. operate are practically categorised as free markets, they are not perfect markets. Innovative approaches to target marketing inhibit a free market from translating into a perfect market. In fact, in modern times, governments try to make any market as perfect as possible, but marketers are likely to always try to make it as imperfect as possible through product differentiation. As a matter of fact, the economic postulation that in a perfect market all firms would tend to earn only a normal profit in the long-run is not wrong; rather, the firms with innovations do not allow any market to become perfect, and thereby enjoy super normal profits.

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The Role of Social Media in Influencing Governing Bodies and Citizen Participation in Society

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On February 2, 2011, Adbusters, a Canadian media organization posted a blog titled 'A Million Man March on Wall Street', inspired by the Egyptian protests against Hosni Mubarak, the former dictator of the country. Unsatisfied with the way the government of the U.S. dealt with the big corporate houses during the 2008 global crisis, which led to the triggering of the worst recession in the American history since 1929 (Amadeo, 2017), and the resulting high rate of unemployment, the blog encouraged its readers to hold a peaceful protest against the top layer[1] in the Wall Street to show the seriousness of increasing disparity in distribution of wealth. This later led to the famous September 2017 'Occupy Wall Street' protests.

The above mentioned incident shows us how it took just one blog to inspire millions of people to raise their voices in matters of similar interests. People managed to arrange a massive movement to show their displeasure to their government and made sure that their voices were being heard. This also shows us how much power social media has in reaching out to the people.

[1]The corporate world and the wealthy, often also known as the '1% that control one-third of America's total wealth'

The number of people connected to the internet has grown from millions to billions ever since the internet was introduced in the early 1990s (Internet World Stats). During the same period, social media has become a part and parcel of our day to day lives, and involves every type of individual — the general public, celebrities, various types of organizations, and governments. This, however, raises an important question for the governments of various countries: How does the massive usage of social media affect their country's interests, and how should they respond to it?

As the internet becomes wider and denser, more people are participating in it, which leads to an availability of opportunities for them to speak their mind on public platforms and take collective action. As we saw from the Wall Street example, social media has increased the freedom of expression to a large extent and helped connect a simple idea with a large number of people with similar thoughts.

THE RISE OF 'SOCIAL MEDIA'

'Social media', in general terms, can be referred to as "web-based tools and services that allow users to create, share, rate, and search for content and information without having to log in to any specific portal site or portal destination. These tools become 'social' in the sense that they are created in ways that enable users to share and communicate with one another." (Bohler-Muller & van der Merwe, 2011). Social media, though initially invented for casual socializing between people, now serves as an important platform for the government in order to know what their people want from them.

If we have to simply define social media, it is a service that has an ability to 'bring people together'. However, this definition is too broad and can also include outdated services like the telegram. The terminology is not that clear as some describe social networks as social media (Bohler-Muller & van der Merwe, 2011).

However, in modern terms, social media is something that has the following characteristics, which was uncommon in previous services (Obar & Wildman, 2015):

- **Social Media Platforms are Web 2.0 Internet-based applications.** Web 2.0 is the current state of online technology and is greatly used for interactive activities as compared to its older version, the World Wide Web (www).
- **User-generated content is what keeps social media running.** The video one uploads on YouTube, the tweets one posts on Twitter, the photos one uploads on Instagram, etc. are examples of user-generated content.

- **Users create service-specific profiles for the platform that are designed and maintained by respective social media organizations.** The user profile of a person is one of the most important things in social media, without which one can't generate content or connect with other users. Wikipedia, however, is an exception to this rule as it allows basic editing to listed articles, even if a person is not registered with the website.

Social Media facilitates the development of online social networks by connecting a user's profile with those of other individuals or groups. However, one can argue that this facility was available even in technologies like telephones that allowed the user to develop and maintain connections. Hence, this aspect remains controversial, suggesting that there is still some level of indistinctness in the definition of social media. On the other hand, this also gives us a chance to expand our definitions from time to time as new sets of technologies enter the market.

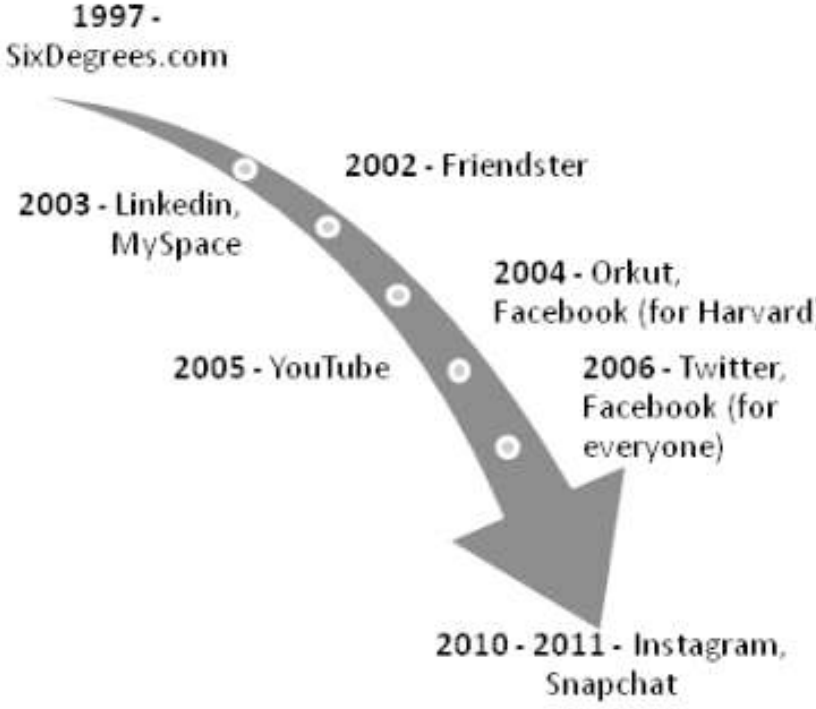

Figure 1: Launch dates of major social network sites

(Source: Boyd & Ellison, 2007; Sandbox Networks, Inc., publishing as Infoplease, 2017)

The history of social media can be traced back to 1994, when the concept of 'chat rooms' was born in the form of 'The Palace'. The website allowed users to chat on various graphical chat servers, which they termed as 'palaces'. Each user had a virtual avatar that denoted his or her presence in the server. Modern examples of this can be seen in the form of 'virtual worlds' like IMVU and Second Life.

However, the first trace of social media, in its modern definition, was found in the form of a website named SixDegrees.com in 1997 (Hendricks, 2013) that allowed users to create their profiles and send messages to their added contacts. Although SixDegrees managed to attract millions of people to join, the aura didn't last long, and in 2001, they finally had to shut their business down. SixDegrees was clearly way ahead of its time and thus struggled to remain in the market. However, SixDegrees' concept was carried forward by Friendster, which was launched in 2002. It was created to compete with Match.com, a leading online dating website of that time. Friendster, however, mainly focused on connecting mutual friends, or friends-of-friends, based on the assumption that they would make better romantic partners than strangers. (Boyd & Ellison, 2007). Friendster didn't last long in the market either, despite its popularity, due to its inefficiency in handling high amounts of traffic, and increasing numbers of fake profiles. Around the same time, Myspace was getting more and more popular, especially among the youth (History Coorperative). This website was especially popular with independent rock bands, which were earlier ineligible for Friendster as they didn't qualify for their profiles (1webdesigner , 2016). This also led to a massive infusion of young users who wanted to connect with their favourite bands. The number of teenagers using MySpace increased so much that they changed their user policy to allow minors to create profiles, too. However, this also gave rise to safety issues like possibilities of having sexual predators on their website, who actively prey on minors. This led to its decline, along with the growing popularity of Facebook, which was launched in 2004. Initially, it was restricted to only the Harvard campus. Facebook later went on to support other schools, too, but the users had to have university email IDs in order to register on it. However, as its popularity grew, signing up became open for all, and today it has the largest user database in the world (Boyd & Ellison, 2007). Around this time, Orkut was also started by Google and became one of the most visited websites in Brazil and India in 2008 (Boyd & Ellison, 2007). However, due to controversies and problems involving fake profiles and hate groups against minorities, Orkut failed to become as popular as Facebook. In fact, issues in some countries were so severe that it led to State censorship of the website. For example, Orkut was very popular in Iran. However, it is now a banned site thanks to the website breaching the issues of Islamic ethics on dating and match-making (Ireland, 2013).

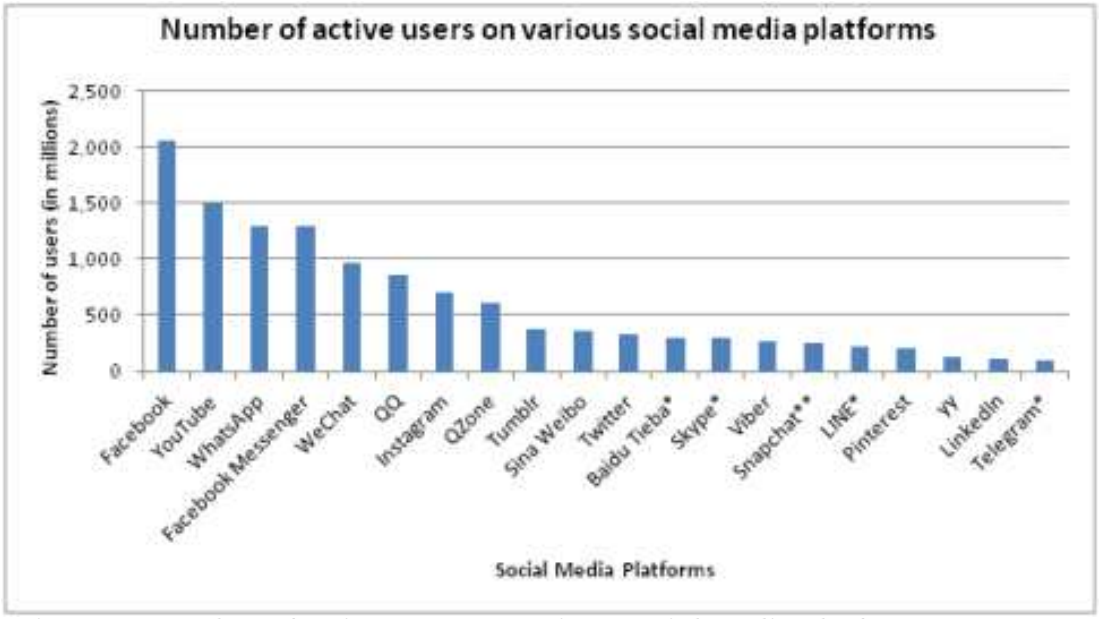

Figure 2: Number of active users on various social media platforms, as on 21st September, 2017 (Source: Statista.com)

* Platforms have not published updated user figures in the past 12 months; figures may be out of date and less reliable. **Snapchat does not publish monthly active user data, the figure used here was reported by Business Insider in June 2016, based on daily active users. (Statista.com)

SOCIAL MEDIA AS A TOOL FOR MASS COMMUNICATION

Before we analyse how social media affects the governance of a society, it is important to know how social media has become an effective tool for mass communication over the years. Any information now is easily accessible to people through this medium, thanks to the busier schedules of people today and their demand for shorter sized information. However, what is worth noticing is the speed at which any information is available to people. A classic example of this can be found in the 2013 article on CNN[2] titled 'The Power of One Wrong Tweet'. According to the article, a false tweet claimed that there had been certain explosions at the White House and the President was critically injured. Within few minutes, it had almost 3000 retweets (Fifty Acres, 2015). Although this shows how, sometimes, short news can be unreliable as it has not been thoroughly researched, what is more important to see is how fast the news can spread among people.

2 The power of one wrong tweet by Heather Kelly, April 24, 2013. (https://edition.cnn.com/2013/04/23/tech/social-media/tweet-ripple-effect/index.html)

Figure 3: The graph above shows how the trend for 'Je Suis Charlie' in various other countries. A figure of '100' shows maximum popularity of the topic, whereas a '0' would mean that the topic was less than 1% as popular as the peak. (Source: Google Trends, 16th November, 2017) Another important factor that comes into the picture is the 24x7 availability of social media. This has enabled everyone to express their opinion publically. Compared to the past, when expressing an opinion was a privilege due to a lack of desirable platforms, social media has turned that privilege into a right. Moreover, with the number of participants growing day by day, it has become easier to have an effective conversation at a global level. What happens in the USA is available to a person residing in India within a few seconds, and vice versa. For example, take the case of the Charlie Hebdo shootings in France. Charlie Hebdo is a satirical weekly newspaper and is completely secular and left-wing in nature. It also publishes articles and cartoons that mock religions across the world. The shootings took place in 2015 due to two terrorists, reported to be from the Yemen branch of the infamous Al Qaeda, who later stated that they were avenging the mockery made out of Prophet Mohammed in one of Charlie's cartoons (BBC News, 2015).

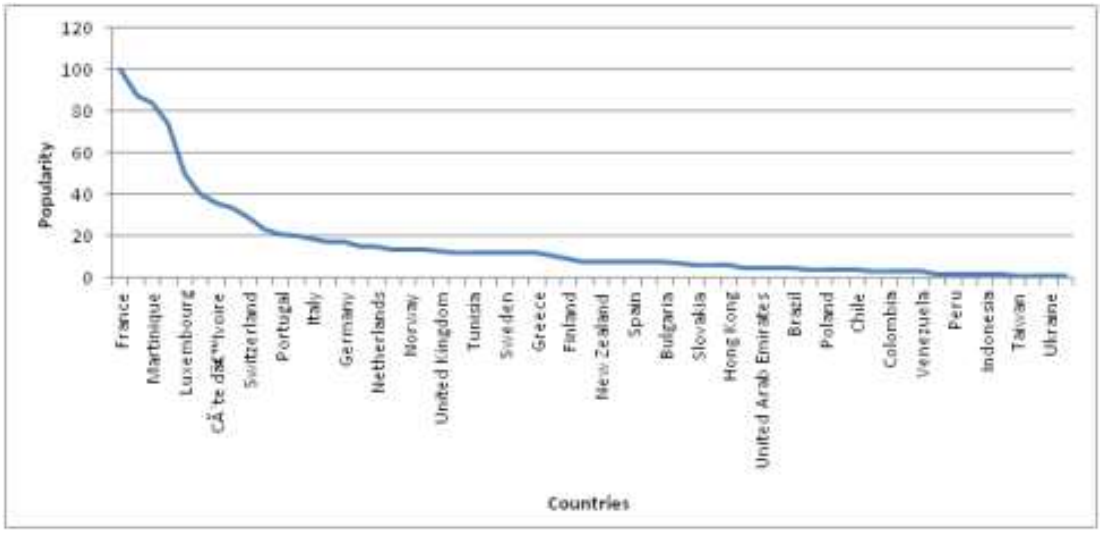

Figure 3: The graph above shows how the trend for 'Je Suis Charlie' in various other countries. A figure of '100' shows maximum popularity of the topic, whereas a '0' would mean that the topic was less than 1% as popular as the peak. (Source: Google Trends, 16th November, 2017)

Within minutes of the incident, #jesuischarlie ('I am Charlie' in French) started trending on various social media platforms like Twitter, Facebook, and even Instagram. Given here is the chart of the countries that have searched for the hashtag or used it, and notice how it is not just limited to France, or Europe as a whole. Seeing this kind of global support, the world leaders of many countries met in France to perform a march to show their support for the victims. They were joined by 3.7 million people in paying the tribute. This incident is one of the numerous cases that show us the power of social media in not only spreading news at a much faster rate than before, but also giving a voice to the people who earlier struggled to find such platforms.

SOCIAL MEDIA AND ITS ROLE IN GOVERNANCE OF THE SOCIETY

Users of social media have grown massively since 2010. Around 86% of 18–29 year olds use social media every day, and 72% of adults and 87% of teens use text messaging regularly (Bertot, Jaeger, & Hansen, 2012). This increase in social media usage has led to the expansion of its usability towards addressing national priorities; not just using them for entertainment or corporate purposes (Bertot, Jaeger, & Hansen, 2012).

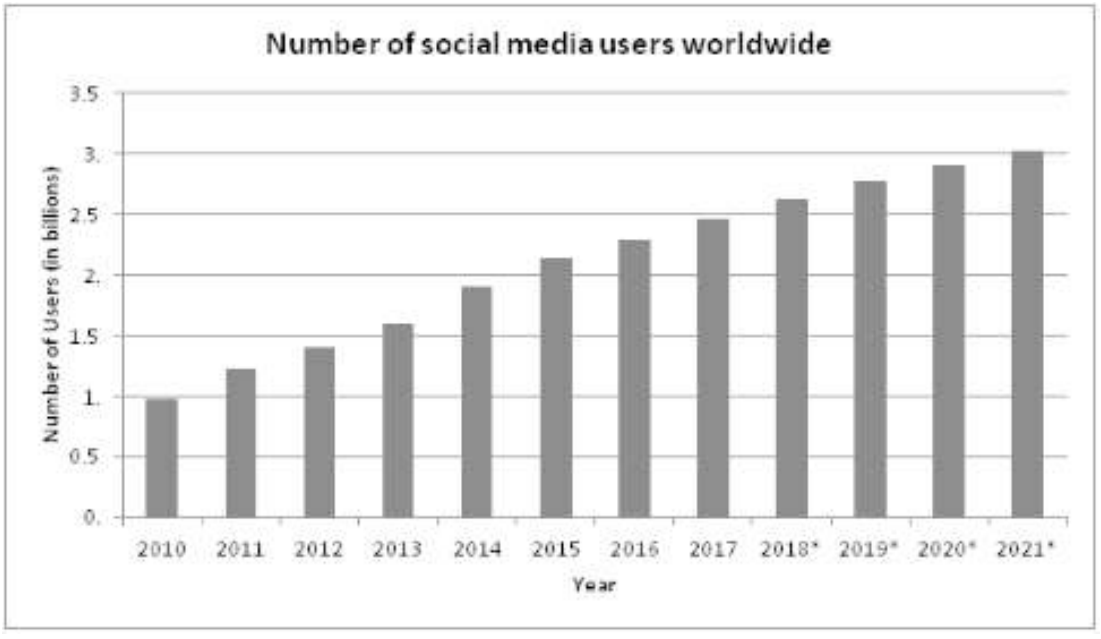

Figure 3: Number of social media users worldwide (Source: Statista.com) (Statista.com)

*Forecast Internet users who use a social networking site via any device at least once per month.

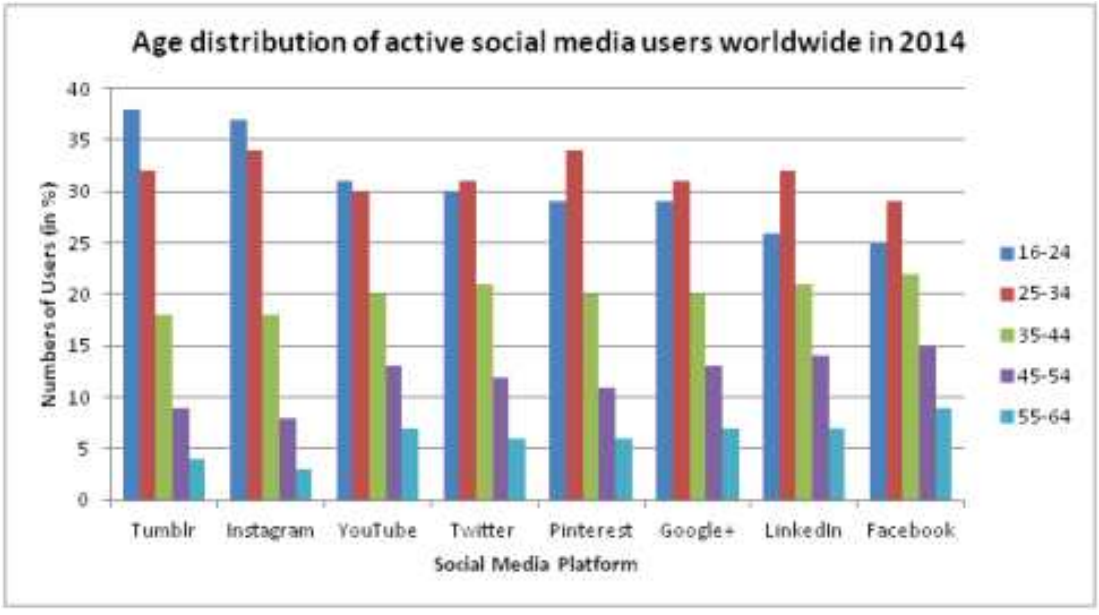

Figure 4: Age distribution of active social media users worldwide in 2014, by platform (Source: Statista.com). All figures are in percentage. (Statista.com)

In fact, using social media not only provides the government greater exposure to the society, it can also help in involving people in various decision making processes. Some opportunities that social media can provide the government are as follows (Bertot, Jaeger, & Hansen, 2012):

- Democratic participation and engagement. Using social media technologies to engage the public with the government, fostering participatory dialogues, and providing a voice in discussions of policy development and implementation can be effective in various ways.

- Co-production. Governments and the public can develop, design, and deliver government services to improve service quality, delivery, and responsiveness.

- Crowdsourcing solutions and innovations. Seeking innovation through public knowledge and talent to develop innovative solutions into large-scale societal issues is something that the government and public services should look into.

Former President of the United States, Barack Obama, was known for his active usage of social media during his presidential campaign. Closer home, the current Prime Minister, Narendra Modi, is popular for not only effectively using social media but also promoting his campaigns for social benefits via such channels. Even the Minister of External Affairs,

Sushma Swaraj, is well known for helping distressed Indians abroad though Twitter. Same can be said for the Twitter handle of the Ministry of Railways that have effectively eradicated (Sinha, 2017) a lot of issues of their passengers through tweets. In fact it is possible to find active participation of almost all the world leaders on social media today, simply because of the influence social media has in the general public lives, and its characteristic of connecting numerous people at once.

To further understand how social media can affect and benefit both, the governing bodies and the citizens, three cases have been discussed, and each one of them display totally different ways of using social media.

CASE DISCUSSIONS

METHODS AND DATA

The main aim of the following case studies is to provide a deep understanding of how social media is being used by governance bodies and the general public, and how successful they have been in bringing a change in the society. The studies have mostly been done empirically. The following research techniques have been used to carry out the analysis of the case studies:

Research Techniques	Data
Analysis of relevant documents and websites	- Newspaper and magazine reports - Court documents (wherever relevant) - Social media handles and pages - Other papers or documents previously written on the same case studies.
Secondary analysis	- Quantitative or qualitative studies of the impact social media had on the mentioned cases.

Please note that there have been limitations in acquiring data for cases that took place before the emergence of popular social networking sites, mainly Facebook and Twitter. Hence, graphical data for the same could not be provided. However, a thorough analysis based on the available text documents and other reports has been carried out and discussed.

MAIN RESEARCH QUESTIONS

The main questions that have been answered via the case studies have been mentioned in the following table. This is done in order to set thematic guidelines for each of the cases and hence is not an inclusive checklist.

Research Dimension	Questions
Description of the incident	- What was the background of the incident or the persons related to it? - How did the incident occur?
Catalyst in the incident	- How did social media get involved in these incidents and how did it affect them?
Evaluation	- What changes did the usage of social media for such purposes bring in the society? - How different was the usage of social media from one case study to another?

THE TWITTER ACCOUNT OF THE MUMBAI POLICE

On January 27th, 2016, Mumbai Police posted a tweet (see figure 5) that garnered around 2100 retweets, along with hundreds of memes and jokes (Mengle, 2016). As a part of the police's drug awareness campaign, this struck a chord with many people as not only did it have people chuckling, but it also carried the message in a short yet efficient way.

People often associate the police force with strictness and a certain level of ruthlessness. Hence, when the Mumbai Police started tweeting witty one-liners, it was the last thing that was expected out of them, even though the Bangalore Police has participated in the same game before. This definitely helped in enhancing their popularity not only across the city, but throughout the country, too.

Since its Twitter debut in 2015, the Mumbai Police has managed to gather numerous followers, with a current count of 3.95 million (as on 19th November, 2017). Also, around the same time as the 2016 post mentioned earlier, the Mumbai Police's social media team launched the 'Chat with CP' initiative, which was the first of its kind in the country. Their presence on Twitter is not only limited to posting witty puns and humorous posts.

Figure 5: Tweet by the CP of Mumbai Police for drug awareness (Source: Twitter.com, 2016) (Twitter.com, 2016)

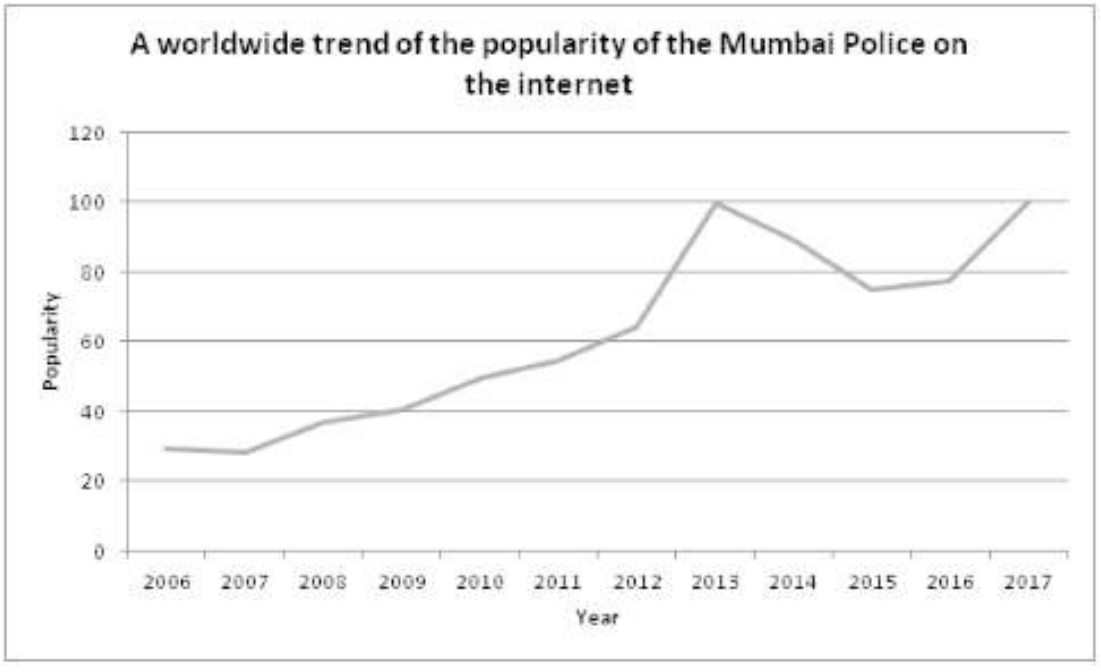

Figure 6: A worldwide trend of the popularity of the Mumbai Police on the internet. Notice how the trend line has been going upwards since 2015, the year in which the Mumbai Police started its Twitter account. The only time it reached a high of popularity before this was in 2013, when Mumbai was hit by one of the worst rains in more than 10 years and the police force won accolades for their quick reactions. A figure of '100' shows maximum popularity of the topic, whereas a '0' would mean that the topic was less than 1% as popular as at the peak (Source: Google Trends, 19th November, 2017). (Google Trends)

The team also has a serious job of keeping tracks of complaints that are filed via Twitter, and posting prompt replies to them. This pressure is immense as Twitter is a real-time application. The team is usually instructed to not reply to the complaint until the action has been taken. Also, there is now a possibility of a tweet to help complaints in getting converted into FIRs (Times News Network, 2016).

Another recent example that can be cited is that of Maharashtra *Bandh*[3] that took place on 3rd January, 2018. The protestors belonging to the Dalit caste alleged that the state government failed to stop clashes between the right wing group and the Dalits, who had been commemorating the 200th anniversary of the Bhima Koregaon battle in Pune.

The Bhima Koregaon battle plays an important role in the Dalit history as it marked the triumph of the Dalits (then part of the British army) against the Peshwa of the Maratha Kingdom, under whose rule the former suffered great discrimination (Gopinath, 2018). The bandh came as a big surprise for the Police. They, however, tactfully handled the entire case, and that, too, without any violence. Around eight constables were assigned to manage the twitter account, under the supervision of a sub-inspector; the Police was able to circulate information about road blockages and other information related to the protests, easily among Mumbai residents. What was more fascinating was the fact that this communication went both ways, with the residents also providing information on the areas where protests had gotten more violent. This enabled the Police to send their men and vehicles immediately to those areas and bring the situation under control. With such prompt measures taken, the Mumbai Police officers were lauded for handling such a crisis efficiently, unlike in other areas of the State where the police had to resort to violent methods of controlling the protestors (Bhatt, 2018).

How did going online turn out for the Mumbai Police? Not only did they gain immense popularity among the public in general, they also managed to bring in a certain level of transparency in the entire report filing system due to the real-time nature of Twitter. Also, its popularity inspired other police departments from Delhi and Kolkata to follow suit.

THE IMPEACHMENT TRIAL OF JOSEPH ESTRADA

This case takes a divergence from the definition of social media as we know it today, and gives us a glimpse of one of the earliest forms digital communication — text messages, or the SMS, as it is popularly known.

[3] *A Hindi term for a protest that is usually political in nature*

Figure 7: Few tweets from the Mumbai Police's twitter account. The usage of puns related to newly released movies like 'Secret Superstar' and 'Befikre', and internationally acclaimed TV show 'Stranger Things' managed to gain a lot of attention among youth. (Source: Twitter.com) (Twitter.com)

Joseph Estrada was the President of the Philippines from 1998 to 2001. Usually, presidents in the Philippines serve a term of 6 years. However, in October 2000, Estrada faced corruption charges from his colleagues. This led to the House of Representatives[4] filing an impeachment case against him in November of the same year, and the trial finally took place in January 2001. Even though there were some hard facts and key evidences that were enough to prove him guilty, the loyalists of Estrada in the Congress voted to not open the envelope that allegedly contained the evidence documents simply because it was not a part of the impeachment complaint.

This was the first time that the Filipino public witnessed an elected president facing an impeachment with full media coverage. This meant that the public were also aware of the Congress setting aside the key evidences against Estrada. Hence, in less than 2 hours after the decision was announced, angry Filipinos gathered at Epifanio de los Santos Avenue (ESDA), a popular place in Manila, to protest the possibility of their corrupt president not facing charges for his wrongdoings. The protests were mainly arranged by forwarding text messages that read "Go 2 EDSA. Wear blk" (Shirky, 2011). The crowd of protestors quickly grew ten-fold within the next few days and formed a group of millions of people that eventually caused a blockage in the city of Manila (Shirky, 2011).

The ability of the people to create such a widespread protest, that too with the help of a text message, alarmed the legislators so much that they stepped back on their decision and allowed the evidence to be presented. By January 20th, 2001, Estrada was removed from his post. This event, also, was marked as a first in the Filipino history, where social media helped force out a President.

Unlike the previous one, this case shows the power of social media as a tool to raise a political revolution. Due to increased transparency of flow of information and widespread connectivity between individuals though social media, politics today is no longer the way it used to be. Social media has led to more and more involvement of people from various strata of the society, who not only have differences in their social environment, but also different mentalities. However, when it comes to corrupt activities being blatantly committed by the rich and the powerful, these people feel helpless. Social media, in a way, is a boon for them as now they can publicly raise their voices and inspire others to join them, too. Another example along the same lines is that of the 'Jasmine Revolution' that shook the political stability of the entire Northern African region, because people decided they no longer wanted

[4] *Lower house of the Congress of the Philippines*

to be ruled by corrupt dictators and used social media platforms like Facebook and Twitter to spread their message. However, unlike the case of the Philippines, the Arab Spring led to further instability in the region and the rise of terror groups like ISIS. This, however, was mainly due to the non-availability of a replacement for their now removed dictators, and the public mistrusting the ISIS to bring them freedom (Brown, Guskin, & Mitchell, 2012).

PEOPLE OF THE STATE OF CALIFORNIA V. BROCK ALLEN TURNER, 2015

Brock Turner was a student at Stanford University who was convicted for three sexual assaults, the most notable of them being the rape of a 23 year old intoxicated woman behind a dumpster. The victim and the assaulter were found by two other Stanford students, who were riding their bikes along the same route where the incident was taking place on 18th January, 2016. One of the students managed to identify Turner as he ran away from the scene.

The incident first came into the knowledge of the public when a letter, written by the victim to Turner was posted by a popular news site Buzzfeed on 3rd June, 2016. At that time, Turner, who should have faced 14 years of rigorous imprisonment in the state prison, was given just a six-month sentence. The judge justified his decision by stating that Turner was a star athlete of the university's swimming team, and any harsher punishment would have had a severe impact on his future career. Around the same time, Turner's father also wrote a letter to the judge, stating how Turner's future should not be ruined by "20 minutes of action"

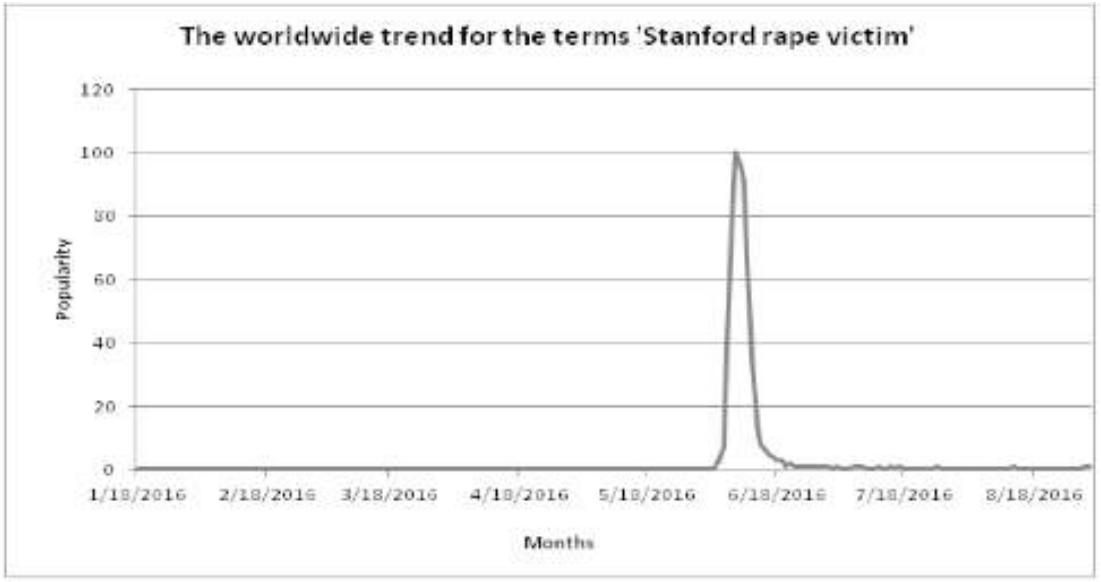

Figure 8: The worldwide trend for the terms 'Stanford rape victim', given in a month-wise format. Notice how there was absolutely no knowledge among the public regarding the incident before the victim's letter surfaced on the internet on 3rd June, 2016. A figure of '100' shows maximum popularity of the topic, whereas a '0' would mean that the topic was less than 1% as popular as it was at the peak (Source: Google Trends, 20th November, 2017). (Google Trends)

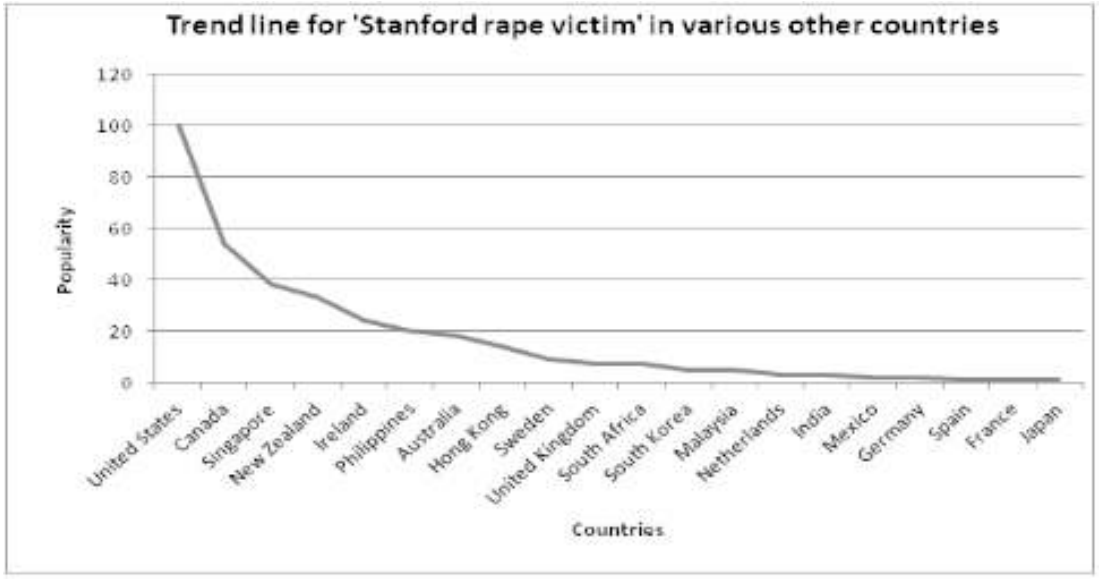

Figure 9: The graph above shows the trend line for the terms 'Stanford rape victim' in various other countries. This trend is very much in tune with the hashtags that were used by internet users to show their support for the victim, and it wasn't limited to just the United States (Source: Google Trends, 20th November, 2017)). (Google Trends)

This resulted in an eruption of massive fury among internet users, who clearly sympathized with the victim. The people not only shared the letter written by her; online campaigns were launched that asked the judge to reconsider his decision. This petition acquired over 500,000 signatures (Li, 2016). Media houses like CNN, and even satire news sites like the Onion joined forces with the angry protestors and produced content to help the woman get justice. This content was shared massively on social media, leading to heavy discussions on Facebook and Twitter. Hashtags like #BrockTurner and #Stanfordrapevictim became worldwide phenomena.

Although Turner was released before he could finish his 6-month sentence, the public outrage prompted the California State Legislature to pass two bills that would change the state law on sexual assault. Both bills were approved by the legislature and finally, on 30th September, 2016, they became law. The imprisonment for assaulters, who commit a crime against those who are unable to defend themselves due to intoxication, was decided to be "three, six or eight years" (Justia).[5]

As of December 2017, Turner had filed an appeal for a retrial on the grounds of unfair trial and untrue statements made during his previous trial. Even though he served only 3 months out of the original 6-month sentence (he was given an early release due to his 'good behaviour' during the imprisonment), he is now a registered sex offender in the state of Ohio, his native place.

This case shows us how powerful social media is. Not only did it bring such a heinous act into the public domain, it also managed to bring a change in the law structure, which would definitely urge any future assaulters to think twice before committing a crime. Also, it gives the public a hope that the government is listening to them and will take all the necessary measures that it can in order to provide them with a safe environment. But, most of all, it gave a voice to the victim to tell her story to the world. Survivors of sexual crimes usually do not come forward to report their cases, mostly due to the so-called 'shame' connected to it, or the fear of the fact that no one might believe them, which is again connected to victim shaming (Weiss, 2010). Social media not only gives them a chance to tell their stories, but also provides anonymity if the victim demands so. Even in this case, the victim was called 'Emily Doe' throughout the time this case was in the limelight and till date no one knows her real identity.

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[5] *2015 California Code, Penal Code, PART 1 - Of Crimes and Punishments, Title 9 - Of Crimes Against the Person Involving Sexual Assault, And Crimes Against Public Decency And Good Morals, Chapter 5 - Bigamy, Incest, and the Crime Against Nature, Section 289 (e)*

CONCLUSION

Through a thorough analysis of the cases, we can see that social media is no longer a tool for mere socializing. It is indeed a good thing that the public bodies are now realizing how powerful social media can be in spreading messages to a large number of people at the same time, in an effective manner. Hence, it can be concluded that social media does play a vital role not only in boosting public participation, but also in serving as a caution to the governing bodies to govern their people in a just and effective manner. Social media has played a major role in keeping people aware of what is happening around them constantly, and hence, it has enabled people to become watchdogs for the government. As for the governments, they now have a chance to understand their people better, due to the transparency social media provides. This can help them in framing better policies for their people and, in turn, in making the society more peaceful.

Through the cases, one can see how much social media affects the lives of general people. The case of the Mumbai Police shows how willing people are to participate and help governing institutions in maintaining peace in the society if given a platform to do so. Social media has made it easier to connect citizens and governing bodies. Also, through the Joseph Estrada case and the Brock Turner case, it can be seen that people are now more empowered than before when it comes to keeping their government in check. Through these cases, it can be seen how the involvement of the people can bring favourable changes in maintaining law and order in the society and, in severe cases, topple the government that made the people lose confidence in it. Social media facilitates people to be helping hands and watchdogs for the government. Hence, it is important for governments and public bodies to be active on social media platforms as this is currently the fastest and the most efficient way to reach out to people. More and more public bodies should take up social media usage and try and understand its possibilities, for the ways in which social media can be used by them are limitless. Moreover, the opportunity provided by social media is just too valuable to be missed by anyone, let alone the government and public bodies.

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Dynamic relationships between Unemployment, Income and Entrepreneurhsip in post apartheid South Africa : Is there a puzzle?

Darma Mahadea*

Entrepreneurship is presently a point of considerable interest among academics, researchers, and policy-makers in both, developed and developing economies. In South Africa, the realities of low economic growth, increasing public debt, rising unemployment, and inequality act against public sector and public works programs, which cannot absorb the rising number of job-seekers that enter the labour market each year. Job opportunities come with economic growth expansions. Consequently, it is realized that vigorous entrepreneurship with inclusive economic growth and enterprise development are critical for job creation and boosting income (Luiz & Mariotti, 2011; Parsons, 2014; Herrington, Kew & Kew, 2015; Pauw, 2017).

Labour and capital on their own cannot generate high levels of output expansion, unless these inputs are harnessed together through the agency of entrepreneurship, in a suitable environment. Post-apartheid South Africa has experienced economic expansion since 1994, registering an average growth rate of 3.3 % between 1999 and 2003, 5% during the five years preceding 2008, and 2% between 2010 and 2016. Accompanying this growth, employment has

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increased by over 3.5m in the past two decades, output per person has risen by more than a quarter, and GDP per capita income has increased by about 30% over the same period (The Economist, 2017; SARB, 2017).

Unemployment in South Africa has also increased from 16% in 1994, to 27% in 2017 (SARB, 2017). If one takes the 'discouraged worker' effect (those who have looked for employment, been unable to find any, and given up hope), then unemployment was at an alarming 36%, and youth unemployment was even more worrisome at 54% in 2017 (SARB, 2017). According to Stats SA's latest report (2017), employment decreased by 48,000 in Q1 of 2017 from 9.692m (in the previous quarter) to 9.644m, resulting in more people being on state welfare (over 17m) than on the work payroll (SARB, 2017). South Africa does not have a thriving informal economy where the unemployed and jobless can take refuge. According to the OECD estimates, employment in the informal economy in South Africa is at 15% of the total, compared to about 50% in Brazil and India (The Economist, 2010). The focus is thus on social upliftment through state welfare redistributions to reduce poverty, and on stimulating entrepreneurship in both, the formal and informal sectors, in order to enhance income, output, and job creation.

According to South Africa's National Development Plan (NDP), for unemployment to fall to 14% by 2020, and 6% by 2030, the country needs an average annual GDP growth of 5.4%, and an expansion in small firm entrepreneurship. However, the economic growth rates registered during the Zuma Presidency years were below the NDP target. Economic growth slumped from an average of about 5% in the five year pre-Zuma period, to 1.5% during his term, barely keeping up with population growth (The Economist, 2018). This paper seeks to investigate whether there is an association between entrepreneurship, real per capita income growth, and unemployment. It examines whether there is a connecting or missing link in this three-variable puzzle in post-apartheid South Africa. The study covers the 1994–2014 period, and uses correlation, DOLS regression analysis, and Johansen co-integration tests. Entrepreneurship is proxied by total early stage entrepreneurial activity rate (TEA), and income is proxied by real GDP per capita.

This paper consists of four main parts. The next section briefly examines the literature and theoretical framework that links unemployment, income, and entrepreneurship in South Africa. The third section covers the methodology used in this study, and the fourth one presents a discussion of the results, followed by some entrepreneurship constraints and policy recommendations.

UNEMPLOYMENT, INCOME, AND ENTREPRENEURSHIP IN SOUTH AFRICA

South Africa has registered positive economic growth over the past twenty years since democracy in 1994. With the increase in economic growth, the level of income has consistently increased. As a result, real GDP per head has increased from R42,839 in 1994 to R56,469 in 2014 and R55,827 in 2016 (SARB, 2017). However, employment has lagged behind economic growth during the same period. In effect, the unemployment rate increased from 20% in 1994 to 25% in 2014, and to 27% in 2017, despite numerous strategies and policy interventions to curb the trend, including a youth wage subsidy and the establishment of a new ministry for small businesses.

As in many other countries, SMMEs are an important source of income and employment in South Africa. They constitute more than 40% of the country's overall GDP, employ 50% of all the labour, and are critical to poverty and unemployment reductions in the region (Parsons, 2014; Johnson, 2015; Kantor, 2017). Although South Africa is an efficiency-driven economy, similar to countries like Russia, Brazil, Mexico, and Thailand, it has a low level of TEA. This is the percentage of adult population between the ages of 18 and 64 who are in the process of starting a new business, or have already started a new business that has been operational for up to 3.5 years. South Africa's TEA grew from 9.4% in 2001 to 10.6% in 2013, but the figure dropped to 6.97% in 2014 (Herrington, Kew & Kew, 2015). This paints a rather dim picture of early stage entrepreneurship strength in South Africa, as the economy seems to have underperformed in recent years (Johnson, 2015; The Economist, 2017).

ENTREPRENEURSHIP, INCOME, AND ECONOMIC GROWTH: A THEORETICAL FRAMEWORK

It is an undisputed fact that entrepreneurship is critical in advancing innovation, economic growth, and development of nations (Parker, 2009; Shane, 2003). An entrepreneur scans the environment, identifies market gaps, initiates a new business, or expands an existing one, and in the process hires factors of production and other resources to produce goods and services (Chen & Thompson, 2016). The Schumpeterian entrepreneur is distinguished by his role as an innovator (Naude, 2008). Through a process of creative destruction, growth and development occurs, with new wealth created alongside the destruction of inefficient firms (Luiz, 2008; Mahadea and Younglesson, 2013).

The neoclassical growth theory of Solow (1956) stresses the contribution of capital and labour to long run economic growth. All other factors affecting growth, like

entrepreneurship, government policies, and institutions are lumped into a constant called the *Solow residual,* usually captured in a growth accounting equation, as presented below:

$$\%\Delta Y_t = \%\Delta A_t + \alpha\%\Delta K_t + (1-\alpha)\Delta L_t \qquad (1)$$

Here output (Y_t) is a function of technical progress A_t, or as indicated above, also known as the *Solow residual*, while K_t and L_t represent physical capital and labour, respectively. The marginal productivity of capital and labour are denoted by α and $1-\alpha$, respectively. Constant returns to scale is assumed, hence $0 \leq \alpha \leq 1$ Equation 1 is derived from the Cobb Douglas function ($Y_t = A_t K_t^{\alpha} L_t^{1-\alpha}$), in which technical progress is exogenously determined. The Solow residual may be explicitly derived from equation (1) as:

$$\%\Delta A = \%\Delta Y_t - [\alpha\%\Delta K_t + (1-\alpha)\%\Delta L_t] \qquad (2)$$

In equation (2), $\%\Delta Y_t$, $\%\Delta K_t$ and $\%\Delta L_t$ are observed in the economy. However, the Solow residual is not observed; it explains what remains in output growth after subtracting out the effects on growth caused by capital and labour inputs.

The endogenous model extended a Cobb Douglas function to include variables such as investment in human capital, research-and-development (knowledge), and innovation, as significant contributors (Romer, 1990; Aghion and Howitt, 1992 Mankiw, 2014). Wennekers and Thurik (1999) defined human capital as skilled and unskilled labour, and further subdivided skilled labour into professionals and entrepreneurs. Barro (1997, 2003) built on the endogenous growth model by deriving the following specification:

$$\Delta y_t = F(y_{t-1}, l_{t-1}, Z_t) \qquad (3)$$

Here, ΔY_t, the change in GDP per capita is treated as a function of initial GDP per capita *(y_{t-1})*; initial human capital per capita in log form *(l_{t-1})* and *Zt* comprise control and environmental factors, like level of education, government policies, corruption, political stability, and property rights.

In the current study, Barro's model (equation 3) is adapted to derive the following:

$$y_t = F(TEA_t, Uemp_t) \qquad (4)$$

Here GDP per capita (y_t) is a function of early stage entrepreneurship activity (TEA_t), and unemployment rate ($Uemp_t$). A narrow official definition of unemployment is used;

accordingly, individuals who took active steps in the past few weeks to find employment but were unsuccessful, are considered as unemployed. In the present study, the unemployment rate can be interpreted as an embodied term representing Barro's Z_t in equation 3, above. As an embodied indicator, the unemployment rate not only represents the high levels of individuals without employment, but also the inefficiencies and dysfunctionalities in the economy, that serve to maintain the unemployment at the observed levels (Parker, 2009; Blau, 1987). This study assumes a linear, long term relationship between the variables in equation 4, which is operationalized for statistical estimation as follows:

$$y_t = \alpha_0 + \alpha_1 TEA_t + \alpha_2 Unemp_t + \epsilon_t \qquad (5)$$

Here, as described above, represents total early-stage-entrepreneurial activity, represents the unemployment rate, and represents the independently distributed error term with a zero mean and constant variance.

RELATING ENTREPRENEURSHIP TO UNEMPLOYMENT

Individuals may venture into entrepreneurship by starting a business of their own in response to opportunities created by a vibrant economy (Urban, 2013; Naude, 2008). On the other hand, individuals may be 'pushed' into entrepreneurship by high levels of unemployment in an economy where there is limited state welfare support, and the prospects of securing formal employment are poor (Audretsh and Keilbach, 2005; Ghavidel et al., 2011).

From an economic perspective, one chooses entrepreneurship as an occupational route when expected profits and non-income benefits from self-employment are much higher than the wage-employment income (Hurst and Lusardi, 2004). With entrepreneurship, there is a flexible income but also high levels of risk. If the opportunity cost of self-employment is high in terms of sacrifice or forgone alternatives, for a serious risk-averter, entrepreneurship may not be a viable option. However, at times, in South Africa as in many developing countries, high unemployment drives many people to become self-employed, out of desperation to earn an income, the so-called 'refugee' effect, or 'necessity entrepreneurship'. Further, the low earnings from salaried employment are a strong incentive to opening small formal or informal businesses, where start-up costs and risks are low (Burton, Sorensen & Dobrev, 2016). Hence, following Plehn-Dujowich (2011) and Ghavidel et al., (2011) one may postulate the following relationship between entrepreneurship (TEA_t), income (y_t), and unemployment ($Uemp_t$):

$$TEA_t = \beta_0 + \beta_1 Uemp_t + \beta_2 y_t + \varepsilon_t \quad (6)$$

METHODOLOGY

This paper examines the links between unemployment and income-entrepreneurship in post-apartheid South Africa, by estimating equations 5 and 6, using Stock and Watson (1993) Dynamic Ordinary Least Squares (DOLS) regression, as well as correlation analysis. The DOLS approach was selected because of its robustness for small samples. Data on unemployment, economic growth, and real GDP income per head were obtained from the South African Reserve Bank (SARB) quarterly bulletins and the Labour Force Surveys. Data on TEA was obtained from Global Entrepreneurship Monitor (GEM) reports. Data was analysed using Eviews 9.5 and SPSS 22. Before the long run cointegrated relationships between the variables could be assessed, the variables underwent stationarity tests. All three variables were found to be I(1) in levels, and upon first differing they were rendered I(0).

Since data on TEA entrepreneurship in South Africa is available only since 2001, some extrapolation had to be done to estimate TEA for the 'missing' period 1994 to 2000. The study used a simple but robust trend technique to extrapolate the TEA series to 1994 to increase the sample size for the purpose of regressing reasonable long run relationships. The following trend regression was estimated using the 2001–2013 (13 observations)[1] TEA data:

$$E_t = 3.553846 + 0.246154\, Trend \quad (7)$$

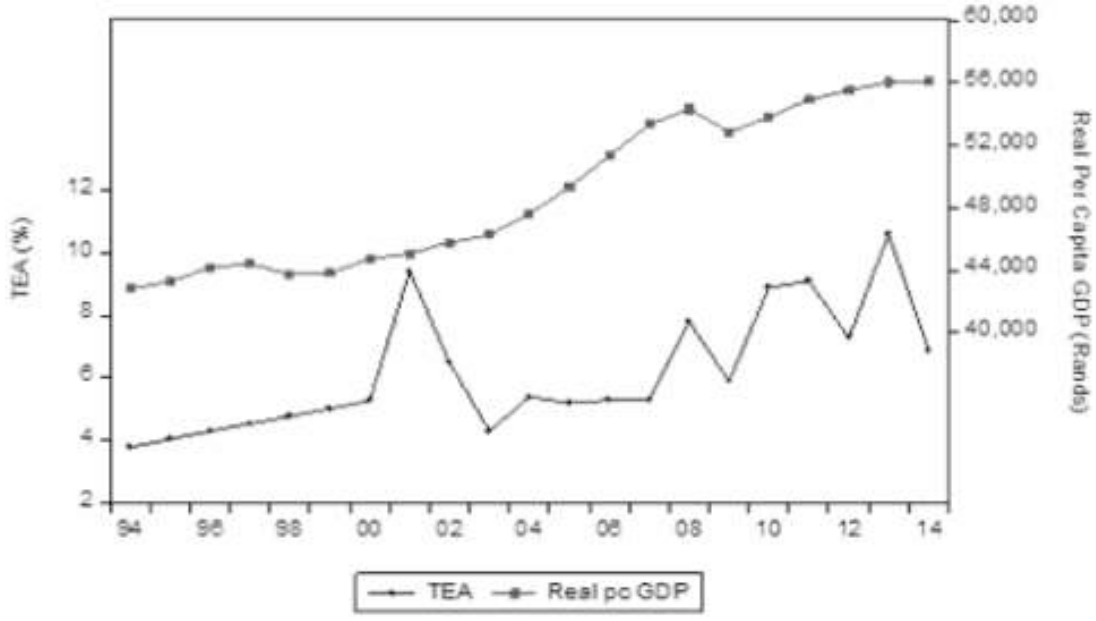
t statistic *(1.81)* *(1.82)*

As it can be noticed, both coefficients were statistically significant. The graph in Figure 1, below depicts the complete (1994–2014) TEA dataset used in this study, together with real per capita GDP. The first 7 data (1994–2000) points were generated using equation 7. Accordingly, TEA ranged from 4% to 5.3% during the period in question. These points are considered to be plausible, as the dawn of the democratic era unlocked business opportunities for all formerly disadvantaged individuals, and strengthened business confidence in the future of South Africa as a rainbow nation under the Mandela leadership.

PRESENTATION AND DISCUSSION OF RESULTS

ased on the actual and extrapolated GEM data, the graph below (Figure 1) shows that there has been a significant drop in the percentage of adult South Africans involved in starting a

business, in 2014. Moreover, the percentage of South African adults running established businesses (businesses older than 3.5 years) also slipped from 2.9% in 2013 to 2.68% in 2014. South Africa continues to perform below similar efficiency driven economies, where the average TEA rate is 14%, while that of established businesses is 4.5% (Herrington, Kew & Kew, 2015). On the positive side, real per capita income and entrepreneurship in South Africa have increased modestly, as reflected in Figure 1 below, where TEA rates are shown on the left axis and real per capita GDP (in Rand) on the right axis over time.



One can notice broad similarities in the co-movement of both variables over the 1994–2014 period. Real per capita GDP income and TEA showed an upward, and positive association, though not smooth, as a result of the benefits of economic growth. The correlation between entrepreneurship and income was significant ($r = 0.643$; $p = 0.01$). A rising income provides scope for enterprise development for both necessity and opportunistic entrepreneurship (Herrington, 2012; Kantor, 2017).

Unit Root Tests

To avoid the possibility of spurious regressions, unit roots tests (Table 1) were initially conducted to ensure that all variables entering the regression are integrated of the same order (i.e. I(1)), followed by estimating the long run relationship, and thereafter, testing for cointegration among the variables, which implies that a combination of such variables is I(0).

The following table reports the Augmented Dickey Fuller unit root tests, which confirm that all the series entering the regression were I(1):

Table 1: Unit Root Tests

Variable	Levels		First Difference	
	Tau Statistic	**Critical Value**	**Tau Statistic**	**Critical Value**
TEA	-4.06	-4.49 (1%)	-6.85	-2.69 (1%)
Real pc GDP	-2.27	-4.53 (1%)	-2.18	-1.96(5%)
Unemployment	-1.70	-4.50(1%)	-5.75	-4.53 (1%)

Notes: All bracketed percentages indicate significance levels of the critical statistic.
Trend and intercept were used to estimate the levels of Tau Statistic for TEA and Real per capita GDP series, while only intercept was used for estimating unemployment.

Since all the variables were integrated of the same order, entering them in the DOLS regression in their levels form was justified. The following subsection presents the results of the DOLS and Johansen regressions.

Cointegrating vector with per capita GDP as the dependent variable

Using DOLS technique, the study tried to assess to what extent TEA (the explanatory factor) affects real per capita GDP (dependent variable), while unemployment rate serves as a control variable. The regression results are presented in Table 2 below.

Table 2: DOLS Regression Real Per Capita GDP as the Dependent Variable

Dependent Variable: natural log real per capita GDP				
Variables	**Coefficient**	**Standard Error**	**t-Statistic**	**P – Value**
Constant	10.96	0.1565	70.08***	0.0000
TEA	0.048	0.0077	6.26***	0.0001
Unemployment Rate	-0.017	0.0062	-2.83**	0.0197
R squared = 0.91		Sum of squared residuals = 0.014		
Standard error of Regression = 0.0398		Long run variance =0.820		

*Notes: ***, ** and *, represents 1%, 5% and 10% significance levels.*
Adjusted sample was from 1996-to 2013 where 18 observations were included after adjustments.
Fixed lead and lag specification (lead = 1, lag = 1)
The long run variance estimate (Bartlett kernel, Newey-West fixed band width = 3000

The regression results (Table 2) show that a 1% rise in TEA leads to a 0.05% rise in yearly per capita GDP income. Contrastingly, a 1% rise in the unemployment rate causes per capita GDP to fall by 0.017%. As labour resources become economically inactive, the rise in unemployment adversely impacts the income growth potential of the economy. All the coefficients are significant, as noted by the t-statistics and p-values. Moreover, the goodness of fit of the model, as reflected by the R-squared, shows that 91% of the variation in per capita GDP is explained by unemployment and TEA.

The plausibility that the above regression results show long-run cointegration relationships is supported by the Johansen (1991), the Trace, and the Maximum Eigenvalue tests for cointegration, as presented in Tables 3.1 and 3.2 respectively.

Table 3.1 Trace Unrestricted Cointegration Rank Test

Sample (adjusted): 1996–2014. Included observations: 19 after adjustments Trend assumption: Linear deterministic trend. Series: Lreal per capita GDP, TEA, Unemployment Lags interval (in first differences): 1 to 1				
No. of CE(s)	**Eigenvalue**	**Statistic**	**Critical Value**	**Prob.****
None *	0.749134	37.55723	29.79707	0.0052
At most 1	**0.397191**	**11.28355**	**15.49471**	**0.1947**
At most 2	0.083970	1.666412	3.841466	0.1967
Trace test indicates 1 cointegrating equation(s) (CEs) at the 0.05 level. * denotes rejection of the hypothesis at the 0.05 level. **MacKinnon-Haug-Michelis (1999) p-values				

Table 3.2 Maximum Eigenvalue Unrestricted Cointegration Rank Test

No. of CE(s)	**Eigenvalue**	**Statistic**	**Critical Value**	**Prob.****
None *	0.749134	26.23094	21.13162	0.0086
At most 1	**0.409888**	**10.02143**	**14.26460**	**0.2383**
At most 2	0.083970	1.666142	3.841466	0.1967
Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level. * denotes rejection of the hypothesis at the 0.05 level. **MacKinnon-Haug-Michelis (1999) p-values				

The Johansen cointegration tests (Tables 3.1 and 3.2) suggest that there is at most a single long run cointegrating vector for real per capita GDP, unemployment and total entrepreneurial activity, since the calculated trace (11.28 < 15.49) and maximum eigenvalue statistics (10.02 < 14.26) are less than their respective critical values at the 5% significance level.

Table 4: Johansen Long-run Cointegrating Vector

Normalised variable: natural log real per capita GDP			log likelihood = -10.5541	
Variables	**Coefficient**	**Standard Error**	**t-Statistic**	**P-Value**
Constant	-11.04	0.10225	-107.97***	< 0.01
TEA	0.056	0.0077	6.96***	< 0.01
Unemployment Rate	-0.024	0.00462	-5.22***	< 0.01

*Notes: ***, **, and *, represent 1%, 5%, and 10% significance levels.*
The adjusted sample was from 1996 to 2014, where 19 observations were included after adjustments.
The short-run adjustment equation is not presented since our interest lies solely in the long-run relationship.

It is to be noted that the Johansen estimates of the coefficients' long run relationship generate the same signs for the TEA and unemployment coefficients, but are slightly higher in magnitude than the DOLS estimates. Overall one may conclude that the elasticity of per capita GDP income with respect to TEA ranges between 0.048 (Table 2) to 0.056 (Table 4). Hence, a 1% increase in TEA results in a rise in real GDP per capita income, ranging between 0.05% and 0.06%. Further, the elasticity of per capita GDP income with respect to unemployment ranges between -0.017 (Table 2) to -0.024 (Table 4) Thus, a 1% rise in the unemployment rate causes a fall in GDP per capita income of about 0.02%.

Cointegrating vector with TEA as the dependent variable

In the second regression, the influence of unemployment and real per capita income (as explanatory variables) on entrepreneurship (as the outcome factor) was examined. The results are presented in Table 5.

Table 5: DOLS Regression: TEA as the Dependent Variable

Dependent Variable: TEA				
Variables	**Coefficient**	**Standard Error**	**t-Statistic**	**P – Value**
Constant	-205.24	0.1347	-6.08***	0.0002
Log per capita GDP	18.90	3.0836	6.13***	0.0002
Unemployment Rate	0.31	0.1347	2.33**	0.0448
R squared = 0.729		Sum of squared residuals = 17.94		
Standard error of Regression = 1.412		Long run variance = 0.823		

*Notes: ***, **, and *, represent 1%, 5%,and 10% significance levels.*
Adjusted sample was from 1996 to 2013 where 18 observations were included after adjustments.
Fixed lead and lag specification (lead = 1, lag = 1)
The long run variance estimate (Bartlett kernel, Newey-West fixed band width = 3000)

The findings indicate that a 1% rise in the unemployment rate results in a 0.31% rise in total early stage entrepreneurial activity (Table 5). The variable is significant (p=0.04; t=2.33). This seems to reflect a displacement 'refugee' effect bordering on 'push' entrepreneurship, as unemployment forces individuals to venture into entrepreneurship to earn income by necessity. In short, unemployment induces necessity entrepreneurship, and it prompts business formation among alert individuals.

The influence of real income on entrepreneurship is also found to be highly significant (p=0.0002, t=6.13). A 1% rise in per capita real GDP also causes a 0.19% rise in entrepreneurial activity. Opportunities for business arise with an expanding economy. More businesses start-up and expand when income is increasing, which in turn stimulate demand, reflecting scope for opportunity entrepreneurship. Moreover, the goodness of fit of the regression model shows that 73% of the variation in TEA is explained by real per capita GDP and unemployment.

Table 6.1 Trace Unrestricted Cointegration Rank Test

Sample (adjusted): 1996–2014. Included observations: 19 after adjustments Trend assumption: Linear deterministic trend. Series: TEA, Real per capita GDP, Unemployment Lags interval (in first differences): 1 to 1				
No. of CE(s)	**Eigenvalue**	**Statistic**	**Critical Value**	**Prob.****
None *	0.777978	46.22703	35.19275	0.0022
At most 1	**0.399651**	**17.63246**	**20.26184**	**0.1106**
At most 2	0.341493	7.937836	9.164546	0.0850
Trace test indicates 1 cointegrating equation(s) (CEs) at the 0.05 level. * denotes rejection of the hypothesis at the 0.05 level. **MacKinnon-Haug-Michelis (1999) p-values				

Table 6.2 Maximum Eigenvalue Unrestricted Cointegration Rank Test

No. of CE(s)	**Eigenvalue**	**Statistic**	**Critical Value**	**Prob.****
None *	0.777978	28.59456	22.29962	0.0058
At most 1	**0.399651**	**9.694627**	**15.89210**	**0.3630**
At most 2	0.341493	7.937836	9.164546	0.0850
Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level. * denotes rejection of the hypothesis at the 0.05 level. **MacKinnon-Haug-Michelis (1999) p-values				

The Johansen cointegration tests (Tables 6.1 and 6.2) suggest that there is at most a single long run cointegrating vector for total entrepreneurial activity, real per capita GDP, and unemployment, since the calculated trace (17.63 < 20.26) and maximum eigenvalue statistics (9.69 < 15.89) are less than their respective critical values at the 5% significance level.

Table 7: Johansen Long-run Cointegrating Vector

Normalised variable: TEA			Log likelihood = -10.55401	
Variables	**Coefficient**	**Standard Error**	**t-Statistic**	**P-Value**
Constant	201.12	25.0979	25.12***	< 0.01
LGDP per Capita	18.19	2.24752	6.96***	< 0.01
Unemployment Rate	0.42	0.07610	-5.22***	< 0.01

*Notes: ***, **, and *, represent 1%, 5%, and 10% significance levels.*
The adjusted sample was from 1996–2014 where 19 observations were included after adjustments.
The short-run adjustment equation is not presented since our interest lies solely in the long-run relationship.

One can notice that the Johansen estimates of the coefficients' long run relationship generate the same signs for the TEA and Unemployment coefficients, but is slightly lower (18.19 as compared to 18.90, in Tables 5 and 7) and higher (0.42 as compared to 0.31, in Tables 5 and 7), respectively, compared to the DOLS estimate of the TEA and unemployment coefficients. Overall, one may conclude that the elasticity of TEA with respect to per capita real GDP income ranges between 18.90 and 18.19. A 1% increase in per capita GDP results in an increase in TEA ranging between 0.18% and 0.19%. On the other hand, the elasticity of TEA with respect to unemployment ranges between 0.31 to 0.42. This suggests that a 1% increase in the unemployment rate can result in a rise in total early-stage entrepreneurship activity ranging between 0.31% and 0.42%. This perhaps confirms the presence of a 'push' factor to entrepreneurship.

LIMITATIONS

This study has certain limitations. Data on South Africa GEM reports and TEA are available only from 2001. Due to the limited data availability, the study employed a small data set, and to augment the TEA series by one third, it used an extrapolation trend technique. The results are therefore to be treated with some caution. Further, small data sets prevent one from including other relevant control variables due to the loss of degrees of freedom, arising from more coefficients having to be estimated in a regression. Hence, the study was also constrained to use the 'catch-all' unemployment rate to capture all the control type variables suggested by Barro (1997, 2003). The DOLS approach is robust to small samples, while the Johansen approach performs best under large sample sizes, albeit it did generate some plausible good results.

CONSTRAINTS TO ENTREPRENEURSHIP

In South Africa, the government intends to reduce poverty, inequality, and unemployment, partly through affirmative enterprise promotion, in the spirit of broad-based black economic empowerment that supports previously disadvantaged individuals. However, forcing entrepreneurship on individuals who have no enterprise propensity or enterprise ability may constrain the entrepreneurial process and the delivery of an effective supply of entrepreneurship, upon which income, employment, and growth are dependent. At the individual level, contextual factors, such as culture, family upbringing, capital, and education, as well as natural talents, are important in influencing people to venture into self-employment and embark on entrepreneurship. Similarly, at the societal level, some cultures or ethnic groups, such as the Yoruba in Nigeria and Asians in China, India, and South Africa have a greater entrepreneurial proclivity than others. They respond differently to institutional, contextual, and environmental constraints or incentives. While the macroeconomic dynamics are important in generating employment and income growth, one has to also look at the environmental context in support of entrepreneurial activity and growth in real per capita GDP income (Casson, 2003).

A worrying concern is that the environmental conditions for business entrepreneurship are apparently not sufficiently favourable in the new South Africa. The GEM identifies nine 'Entrepreneurial Framework Conditions', ranging from the availability of finance and entrepreneurial education, to cultural and social norms that hinder or stimulate entrepreneurship within a country. About 50% of businesses that were discontinued in South Africa over the period 2006–2014 was due to problems of finance and insufficient profits (Herrington et al, 2015). In 2016, according to the GEM report, South Africa had a new firm ownership rate of 3.3%, established business ownership rate of 0.7%, and business discontinuance rate of 2.5%. This implied that the South African economy lost about 63% of business founded within a year. Surely, business discontinuance may not necessarily mean failure, but it does reflect something about the entrepreneurship environment. Indeed, according to the Ease of Doing Business ranking, as calculated by the World Bank in association with the International Bank for Reconstruction and Development (IBRD), South Africa has progressively dropped from 28th position in 2006 Ease of Doing Business ranking, to 36th in 2010, 41st in 2013, 69th in 2014, and 74th in 2016. This trend is not impressive, when compared with smaller economies, such as Mauritius or Botswana (Johnson, 2015).

Different GEM reports from 2009 to 2017 have consistently mentioned primary and secondary education, government programmes, and government regulations as major

constraints, impacting negatively on entrepreneurship in South Africa (Herrington, 2011; Xavier et al, 2012; Herrington et al, 2017). On the positive side, though, these GEM reports revealed that South Africa scores highly in other areas, such as physical and commercial infrastructure, and internal market dynamics. According to the World Economic Forum's Global Competiveness Report (GCR) 2014/15, South Africa ranked low on health and primary education (132 out of 144 countries), but was first in accounting and auditing standards. Cumbersome regulations and excessive inefficient bureaucracy, prohibitive labour laws, labour rigidity, high levels of corruption, and crime are other serious limitations to entrepreneurship development in South Africa. These add to cost of doing business. The 2014/15 GCR indicated that South Africa ranked 120th (out of 144 countries) for burden of government regulations, 104th for favouritism of government officials, 89th for wastefulness of government spending, 139th for flexibility of wages, 143rd for hiring and firing, and last i.e. 144th for cooperation in employer-labour relations. If entrepreneurs cannot fire non-performing labour partly because of inflexible legislation and prohibitive regulations, they do not hire so easily, thus aggravating the unemployment problem and reducing the attractiveness of entrepreneurship as a career option for aspiring entrepreneurs. Many growth-oriented entrepreneurs may choose to remain small, and limit their enterprise or employment growth, partly because of strict regulations and employment protection legislation.

The implications of poor education, skills shortages, and excessive regulations for new entrepreneurship development and for sustaining entrepreneurship are enormous, even though physical infrastructure and capital are available. It is thus no surprise that South Africa has a relatively low TEA rate among the BRICS countries; though, as indicated earlier, it is recognized as an efficiency-driven economy (Kelly, Singer, and Herrington, 2016). Promoting a conducive environment that supports an entrepreneurial ecosystem is critical for activating, enabling and stimulating entrepreneurship activity. South Africa, like other countries, desires productive entrepreneurship to generate higher levels of economic, employment, and income growth. Stimulating entrepreneurial activity and economic growth may require policy makers to intervene, to attune and address contextual constraints. As Douglas North (1990) argues, this may mean *changing the rules of the game* to support wealth creators and nurture the risk-taking, value-adding processes. As Kantor (2017: 268) puts it "It is the risk lovers, those initiate enterprises, those who start up businesses and succeed against all the odds in realising very high returns, who make a great difference to human condition. … They lead the way forward. Theirs is essential freedom to be nurtured

and protected", for enhancing entrepreneurial propensity and ability, critical for individual and national prosperity.

RECOMMENDATIONS AND CONCLUSION

A society that is supportive of an entrepreneurship culture and has good business regulatory environments is likely to have increasing entrepreneurial activity, and experience greater levels of economic growth and development. Legislations do not create busisnesses; it is the actions of entrepreneurs that create business ventures, generating income and employment. The findings have demonstrated plausible long run cointegrating relationships for real per capita GDP income, unemployment, and entrepreneurial activity (TEA) in South Africa. Hence, there is a connecting link between the variables. On the one hand, growth in income, usually resulting from economic growth, is found to be related positively to entrepreneurship. On the other hand, entrepreneurship is positively and significantly dependent on real changes in per capita GDP income, thus leading to a virtuous circle of one variable positively influencing the other over time, thereby strengthening and enriching the wellbeing of all stakeholders in the society. Unemployment must be interpreted as an embodied term accounting for all those latent socio-economic-political factors that keep the economy constrained on a low growth, high unemployment path. The findings point out that some jobseekers attempt to become self-employed through entrepreneurship, suggesting the presence of a necessity or push factor. In aggregate, high unemployment rates tend to force real GDP per capita income to remain on a low growth path.

While entrepreneurship is critical to employment and to augmenting economic growth and income, various factors constrain enterprise development in South Africa. These include lack of adequate finance, skills, competitiveness, labour market rigidities, and cumbersome regulations (Parsons, 2014; Lings, 2014; Herrington et al, 2017; Johnson, 2015). As Urban (2013:181) argues, the convergence of institutional risks, from crime, security, and corruption, along with a dysfunctional government, poses serious challenges to actual and potential entrepreneurs in the country. South Africa needs to attend to these constraints to create a more propitious business ecosystem environment that secures a higher rate of entrepreneurial and income development. Further, addressing macroeconomic variables, and developing critical institutions are necessary, though not sufficient, for higher entrepreneurship, employment, and growth.

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