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A Review of Media and Extremism with Special Reference to Controlling Terrorists Attack

By Dr. Geetali Tilak
Tilak Maharashtra Vidyapeeth

Abstract- The media works as the messenger between the incidents and the public. This may include many events such as social events as festivals, political, economic, techno events, technologies, etc., and crime as well. This study considers the news media, social media, and internet websites for this study. An exploratory type of research is conducted. The study is concerned with the terrorism, extremism and the roles and responsibilities of media. This study concentrated on improving the situation in the context of terrorism by identifying the causes of initiation and spread of extremist thoughts and bringing control over terrorists' attacks through suggesting ways. This study proposed the changes in the media ownership pattern to curb the terrorists' and like attacks.

Keywords: media, terrorism, violence, communication, social media ethics, media policy, media strategies.

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Keywords: media, terrorism, violence, communication, social media ethics, media policy, media strategies.

Research objectives:

- To find out the ways to report news of terrorists attack
- To identify ways to bring control over terrorists attack

Research Method: This study utilized exploratory type of research design that helped researcher to examine the past and secondary type of data. Researcher study the published researcher in view of the terrorism, extremism, news media, social media, and internet webs related to terrorists groups.

I. Introduction

Responsibility and authority go hand in hand. One can does not say that one has full authority without fulfilling any duty. It, in practice, comes automatically with later. So is the case with media. Media itself signifies that it is a medium. There is a general perception that the media is responsible for the terrorism. In many cases looking at the media reports, news, videos, and the breaking news prima facie all other stakeholders, hold media responsible for such mis-happenings. If it is not done by media, again the media is hold responsible for not sharing the information it has. It is a vital point to look at through both the lenses; media, and other stakeholders.

II. Identification and Discussion

It became important for journalists, and media to report the terrorists' activities that they might happen, or happened. While doing this job media and journalists should follow ethics. Sometimes it becomes impossible to adhere to ethics and report the news. In such situations how the reporters, or media, or social-media, or social media users should behave that become important. It is important to verify, as identified by many authors (Media Smarts, 2019), the information received and to be shared further. Researchers,(Alinizi & Altabeiri, 2017) considered, social media as a threat as it can be used easily to spread of rumors and to fight with information crimes, in 2016, Kingdom of Saudi Arabia responded with new law to fight the information technologies crime.

Curiosity leads people to read news. They want to know in general what is happening in the world they live. The messages, information, videos, reported about terrorist activities attract people to read and see it because of not only curiosity but the fear factor too. People are concerned about the safety of themselves and their relatives, and friends. Knowing such information in advance, they want to be safe and want to make aware people they know and care.

Many evidences put forth by the author about terrorists' attacks in the prepared statement for the senate member (Watts, 2018). This urge for safety makes people attached such information and the same push them to share. In this fast pace people have no time to identify the truth behind the information they received and they about to share.

Ministry of Culture, Ontario published a report on media and terrorism that is also named as handbook of journalists mentioned the dos and don'ts for the journalists (Marthoz, 2017). Researcher (Weimann, 2014) urged strategic thinkers to identify solutions for not abusing tools developed in this segment that are inevitably invented to catch the pace in to live in the race by social media organizations and information technology companies.

Social media companies want to run their businesses, so they are providing platforms to share the information. Nevertheless, they even the part of the world they are doing business in, hence the ethical responsibilities. So, they also should be prepared to sort out fake, harmful information and stop it there itself from spreading further. Recently many governments from different nations brought in the laws to ensure stop terrorism, crime related information. As suggested by the author, "Social media companies should move

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aggressively to thwart terrorists and authoritarians exploiting their systems not only because it's what is best for their users and society, but because it's good for business as well." (Watts, 2018). Further, he suggested people involved that they themselves need to care for the information they read and spread. There are some good initiatives for example:

> "It can be tough to tell what's true and what's "fake news" just by looking at a headline. But it's easy to do a quick check and get the real facts when something doesn't look right online. We want you to help us Break the Fake by stopping the spread of false info and getting Canadians to check before sharing!" (Media Smarts, 2019)

Terrorists prefer social media, as it is available free, easy to use and widespread (Awan, 2017) , can reach many within clicks. These abilities of the social media plus likes (Awan, 2017) and forwards abilities are utilized by terrorists. Further, (Awan, 2017), added that it is very difficult to identify the messages from terrorists' groups, further making it very complex.

Authors, (Ines , Reding, Edwards , & Gribbon, 013), categorized their study into four parts terrorist and extremist websites, what is being posted, birth of extremist ideas into the individual mind, planning, and execution of attacks. Further, these authors beautifully identified five themes from the literature about radicalization. Internet websites from extremists group and social media has provided opportunities for initiation of radicalization, and its spread. These categories may help in dividing this type of study in such smaller parts and will help researchers, thinkers to focus on a particular area.

Researcher (Beckett, 2016) opined in a study that the news media report terror events in a way that can spread fear and confusion. Researcher would like to propose a thought in this regard, governments throughout the world should ban using videos and photographs of terror attacks, or association media should ethically consider reporting a single photograph that would be used for reporting the news by any media. It will stop the struggle among journalists (Beckett, 2016). Even the journalists themselves do not want to struggle so much to take photos and videos but the peer pressure works here to force media management to press further. In this struggle real journalism is missed, the real journalist's role the journalists may have perceived while selecting it as job is missing. The efforts should be taken to reinstate by restricting media ownership to nonprofit organizations. This will stop the publicity the terrorist seeks as identified by (Beckett, 2016).

III. Conclusion

As identified and concluded by the researcher, (Rourke, 2010), there is requirement of training to the involved to control such incidents. These incidents involve crime, terrorism and like activities that are happening may be in same or similar period. This give rise to stress to the working people for the cause. Further, there exists tremendous information on media platforms such as YouTube, Facebook, Instagram, etc. that further makes almost impossible for the officials to identify the relevant information. Each official person working may not be so competent to do data mining for the cause. To have better control over the situation researcher agrees with (Rourke, 2010) to provide training for the investigating, and/or controlling officials and the media persons.

Creating awareness among public is very important so that the information that is harmful to nation can be stopped from spreading. Researcher, (Ramakrishna, 2010), suggested creation two immune systems: theological and ideological that will help people to keep themselves away from such extremists' thoughts. Researcher suggested protecting the integrity of the social media (Watts, 2018).

Journalists should be given freedom for the work to be done provided they should be using some guidelines adhering to the rules and regulations laid by the government for media companies. Social media companies also should follow the guidelines strictly and ethically to safeguard the society they work in and work for the society. While deployment of the policy guidelines it should be seen that the freedom for the opinion of the journalists and their suggestions should remain untouched. Journalist should be transparent even at the time of broadcasting breaking news and/or developing a story regarding such sensitive issues: crime, violence, terrorists' attacks, etc.

Journalists need to understand the exceptional situations where restrictions are imposed, and the same moment it is mentioned in the report that they, the journalists, have the full right to investigate and report the event(Media Smarts, 2019). When journalists would be transparent, it would bring trust to media as mentioned by (Beckett, 2016).

Media has become the messenger in this context of extremism and terrorism and/or violence. Media has been seen carrying the threatening messages of the extremists to the concerned i.e. in most of the cases government. However, this is not the true job of the media, and media should limit itself to its prime duties in such cases. This is true for the news media: print, television, and radio. However, in case of social media: Twitter, You tube, Facebook, etc. should take the responsibility to first identify and then stop such terror messages from spreading, reporting these messages to the concerned.

IV. Future Research

The research can be taken further to identify the strategies or to develop in absence to aware people

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about terrorism and media connections, limitations for media, shouldering the social responsibility contributing to curb terrorism by not spreading the untruthful and harmful information. Further, these studies could identify the ways for restricting media ownership to nonprofit version.

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Regional Food and Cuisine: The Case of the Brotos Frutos Culinária do Cerrado Association in Brazil

By Katianny Gomes Santana Estival, Solange Rodrigues Santos Corrêa, Christiane M. Pitaluga, Jaqueline Correa Gomes & Caroline Spanhol
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Abstract- The richness of Brazilian flora and fauna reveal opportunities for agri-food markets, especially regarding the added value of regional foods, brand development, and differentiation strategies. In this context, the aim of the present study was to characterize the business strategies used by the Brotos Frutos Culinária do Cerrado Association, highlighting their strengths and weaknesses. To achieve the proposed objectives, techniques of observation and direct interviews with those responsible for the Association were used. The results revealed the absence of a business plan capable of guiding the organization's practices, a lack of knowledge on the market and on consumer behavior. Suggestions to improve the management are discussed during the study.

Keywords: *value creation; entrepreneurship; agribusiness; markets.*

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Regional Food and Cuisine: The Case of the Brotos Frutos Culinária do Cerrado Association in Brazil

Katianny Gomes Santana Estival [α], Solange Rodrigues Santos Corrêa [σ], Christiane M. Pitaluga [ρ], Jaqueline Correa Gomes [ω] & Caroline Spanhol [¥]

Resumo- A riqueza da flora e fauna brasileira revelam oportunidades para os mercados agroalimentares, sobretudo quanto a agregação de valor aos alimentos regionais, o desenvolvimento de marcas e estratégias de diferenciação. Nesse contexto, o objetivo geral do artigo foi caracterizar as estratégias de negócio utilizadas pela Associação Brotos Frutos Culinária do Cerrado, com destaque para os seus pontos fortes e fracos. Para atingir os objetivos propostos foram utilizadas técnicas de observação e entrevistas diretas junto aos representantes da Associação. Os resultados revelaram a ausência de um plano de negócios capaz de orientar as práticas da organização, o desconhecimento do mercado e do comportamento do consumidor. Diante disso, sugestões de melhoria são discutidas no decorrer do estudo.

Palavras-chave: criação de valor; empreendedorismo; agronegócio; mercados.

Abstract- The richness of Brazilian flora and fauna reveal opportunities for agri-food markets, especially regarding the added value of regional foods, brand development, and differentiation strategies. In this context, the aim of the present study was to characterize the business strategies used by the Brotos Frutos Culinária do Cerrado Association, highlighting their strengths and weaknesses. To achieve the proposed objectives, techniques of observation and direct interviews with those responsible for the Association were used. The results revealed the absence of a business plan capable of guiding the organization's practices, a lack of knowledge on the market and on consumer behavior. Suggestions to improve the management are discussed during the study.

Keywords: value creation; entrepreneurship; agri-business; markets.

I. Introduction

The richness of Brazilian flora and fauna reveals opportunities for agri-food markets, especially regarding the aggregation of value to regional products and raw materials, as well as new growth opportunities from brand development and differentiation strategies.

In this perspective, the aggregation of food value takes place in compliance with minimum quality criteria, in which those related to food safety, sustainability, respect for Human Rights and animal welfare stand out (WILKINSON, 2013).

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The new social movements of consumers and the politicization of consumption are also part of this context. In this regard, Portilho (2009) states that consumers, in selecting and purchasing goods, tend to seek elements of responsible consumption practices, values, and meanings shared by the groups and social networks of which they are part. Thus, it appears that sensitivity to the influences of consumer pressure has been incorporated into the new quality markets of the agri-food system.

In production chains of agri-food systems, such as in the cocoa and chocolate production chain, the strengthening of discussions can be observed with pressure for action by companies being driven by consumer movements on virtual social networks, on gender issues, in the face of the contempt of women's work in cocoa production. According to the report published by OXFAM (2013), women working on cocoa farms generally receive less than men and they rarely own the land they cultivate, even if they work in the activity throughout their lives. The practice of discrimination and harassment at work was also identified.

In 2013, OXFAM (Oxford Committee on combating hunger), an international organization that works for social causes and development, launched the campaign for women and cocoa – a plan of action, as part of the Behind the Brands campaign. Through the signing of a petition via internet social networks, more than 100,000 people demanded that the Mars, Mondelez, and Nestlé global companies “see, hear and act” on behalf of cocoa farmers and their families. The three companies buy more than 30% of the cocoa produced in the world (BEHIND the BRANDS, 2015).

Food quality markets are currently influenced by different factors, including "ethical factors" and "technical factors". The former are related to the social and environmental practices of organizations, while the technical factors are not limited to hygiene and compliance with food safety laws, for example, involving the certification of origin of the product. In the view of Cruz and Schneider (2010), this process endorses the displacement of consumers in the search for the appreciation of regional products of known origin, traditional products or craft products, as opposed to industrialized foods and problems related to food safety.

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While the value of local food represents a competitive advantage for agri-food companies, it also faces high costs in terms of its compliance with health rules and standards. Faced with these restrictions, the importance of discussion and compliance in regard to quality criteria arises, as does the need to reflect on the processes, scale of production and distribution of food (CRUZ; SCHNEIDER, 2010).

Considering the social, economic and managerial importance of the revaluation of locally produced foods, the present study aims to characterize the business strategies used by the *Brotos Frutos Culinária do Cerrado* Association, headquartered in the urban area of Campo Grande / MS, in the Food Incubator of the Municipal Council of Campo Grande. It produces derivatives from raw materials of fruits, such as araçá, buriti, baru, bocaiuva, jatobá, guavira, pequi fruit, pitomba and hibiscus, for marketing in retail outlets, local fairs and the National School Meals Program (PNAE).

To achieve the proposed objectives, the techniques of bibliographic and documentary research on quality in the agri-food system, creative economy and gastronomy of the Cerrado and the case study method for organizational diagnosis of the Association were used. The information presented in the case study was collected through direct interviews with the President, between April and May 2016, at the headquarters of the Food Incubator of the Municipal Council of Campo Grande / MS.

a) Quality criteria in the agri-food system

In Callon, Méadel and Rabeharisoa's proposal (2002) on the economics of qualities, a product would be defined by the qualities attributed to it during the tests of the quality variables. The qualities would be intrinsic and extrinsic. Intrinsic qualities would be defined by measurable technical criteria that would account for efficiency or lack efficiency in a given product. Regarding extrinsic quality, evaluation depends not only on the quality criteria measurable by evaluation tools, but also on the assessments and judgments of the product users. The broad notion of quality has the advantage of approximating quality in both senses and including the classic issues of Economics, Economic Sociology, and organizational management.

Economy of qualities can be viewed in this context as one of the central themes of the dynamics and organization of markets. It proposes to dynamically visualize the economy under the products, taking into account the need to adapt to supply and demand, to forms of competition and to all forms of the strategies organized and deployed by the different actors to qualify the products. It is based on the uniqueness of the products, which leads to the pursuit of closer relationships between what the consumer wants and expects and what is offered by the organizations. Consumers have a strong influence on product qualification and legitimacy (CALLON, MÉADEL and RABEHARISOA, 2002).

Agri-food products, such as cocoa derivatives and chocolate, are literally consumed by consumers, whereby a failure in quality can cause serious harm to the health of individuals. Both the guarantee of quality in food safety and the quality of product presentation are factors that lead the consumer to build preferences and define purchase options (TOLEDO et al, 2000). For Toledo et al (2000, p. 99) "safety and quality are two inseparable dimensions at all stages of the agri-food chain. They depend on the culture and knowledge of all for prevention and for the practice of continuous improvement, bearing in mind the final consumer."

b) Creative economy and gastronomy

According to Costa and Souza-Santos (2011, p. 151), the creative economy is related "to the development of today's modern economy and modern societies, insofar as intellectual capital becomes increasingly relevant to the development of new products and markets".

Considering the importance of the concept of creative economy and the gastronomy of the Cerrado, the study by Zaneti and Balestro (2015) was found. The authors discussed the valuation of traditional products from the gastronomic pole of Brasília, which is the third largest in Brazil. The results have shown that consumers are willing to pay a premium price for products that add quality and symbolic value.

Symbolic value is that related to the socio-cultural aspects of producers, to traditional forms of production and consumption. In addition, these authors also noted that in high-level Brazilian gastronomy there is a growing trend of aggregation and valuation of cultural and symbolic capital to traditional foods. However, there is a demand on the part of chefs regarding the criteria related to taste, uniqueness, and quality of these products. Also from the point of view of chefs, guaranteeing the origin and traceability of food are attributes associated with food quality.

Given the important role of chefs in the formation of opinions and trends in agri-food, the authors Zaneti and Balestro (2015) highlighted that the chefs are strategic partners for social construction and construction of the markets of innovation and creativity in the gastronomy of the Cerrado.

II. Case Study of the Brotos Frutos Culinária do Cerrado Association

The *Broto Frutos Culinária do Cerrado* Association (ABFCC) was created in 2013 by 12 family farmers, 70% women and 30% men, resident in the cities of Campo Grande and Terenos in Mato Grosso do Sul. The idea arose from the need for farmers to

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increase income and the pursuit for improvement in quality of life.

An exchange trip between women's enterprises at a UN congress in New York in 2015, awakened the associates to a greater appreciation of the raw materials from the Cerrado region of Mato Grosso do Sul and to the identification of ingredients that could be used in many different dishes, both savory and sweet, besides the creation of new aromas and the dissemination of local knowledge.

The mission of the Association is to integrate the production planning of native plants of the Cerrado, to increase conservation of the socio-biodiversity and guarantee healthy food as a preventive form of caring for people's health, and to generate employment and income for the countryside and the city. It is also part of the objectives to promote the appreciation of the human being and recovery of knowledge and cultural traditions.

The focus of the associates is on diversifying production, increasing income generation for family farmers and protecting and expanding the production of native seedlings of the Cerrado biome. The venture is in the incubation phase at the Municipal Incubator of Campo Grande-MS, Norman Edward Hanson, where it receives technical advice on enterprise maturity. The 1 (one) year incubation has enabled progress with respect to diversification of the product portfolio and the beginning of commercial partnerships, but there are still major difficulties for the enhancement of commerce and consequently for financial sustainability.

The main partner institutions of the ABFCC are: (i) SEBRAE-MS (Micro and Small Business Support Service) which provides occasional training sessions and consulting services; (ii) the Campo Grande/MS Municipal Council; (iii) the Federal University of Mato Grosso do Sul (UFMS); (iv) Dom Bosco Catholic University (UCDB), through the Center for Technology and Analysis of Agribusiness (Ceteagro); v) IFMS – the Federal Institute of Mato Grosso do Sul – through the work of its undergraduate courses and research to expand knowledge on fruits of the Cerrado, involving planting, management, and integral use; (VI) Business Professional Woman (BPW), offering support for the dissemination and marketing of products; and (vii) SENAR/SESC (National Rural Apprenticeship Service/ Social Service for Commerce) with orientation on marketing and promotion.

The Association also seeks to provide ways of adding value to the products, increasing income generation and quality of life of the suppliers of the Cooperative of Rural Products of the New Alliance Settlement (COOPERANA), the cooperative of organic producers of family farming, the main supplier of the raw materials used in the production of the Brotos Frutos Culinária do Cerrado Association.

In the existing partnerships and in the pursuit of expansion of business relationships, the aim is to achieve financial self-sustainability of the enterprise through the enhancement of commercialization in institutional markets such as the PNAE (National School Meals Program) and increased insertion in the local markets of Mato Grosso do Sul, including natural product emporiums, supermarkets, fairs, restaurants and hotels.

Due to the originality of the project's proposal, which aims to enhance the production and processing of organic and regional products from the Cerrado of Mato Grosso do Sul, the Association has received several awards. These include the Sebrae Business Woman Award 2014; 2nd place in Confam (annual Convention of BPW Brazil), 2014,in Cuiaba, with presentation of the Case study of Success in an international event of the same entity in New York (USA) in March 2015; the Zumbi dos Palmares Award (Campo Grande City Council), 2014; and the Santander University Solidarity Award 2015/2016 for the partnership between UCDB and the Association.

Farmers and family farmers produce raw materials such as araçá, buriti, baru, bocaiúva, jatobá, guavira, pequi, pitomba and hibiscus, among others, from which bread, cakes, cookies, sweets, juices, pies, savories, and pâté are produced. The monthly sales revenue is approximately R$ 4,000.00. The products are marketed in retail outlets, local fairs and the National School Meals Program (PNAE). There are plans to expand the trade channels with large retail networks and government programs such as the PNAE – National School Meals Program.

The target public of the enterprise is individuals with secondary and higher education, belonging to classes A, B, and C, sportspeople and people seeking agro-ecological, healthy food that is safe and provides knowledge of the origin and production process.

The results of the interviews conducted enabled identification of some of the strengths of the enterprise, such as the use of its own work force, the collection and processing of the fruits, prime location (next to the commercial center of the city of Campo Grande/MS), products without chemical agents, organic products (raw materials purchased from the cooperative partner have participatory organic certification), whole-grain products and products enriched with fruits of the Cerrado.

As negative points, the small physical infrastructure for production and trade, logistics difficulties in the search for raw materials with family farmers, a lack of skilled labor for production, disorganized trading and a lack of working capital were identified.

In the region where family farmers are inserted, there is vulnerability of women, young people and adults, low levels of education and a lack of opportunities to integrate into family farming activities with income prospects and quality of life. In view of this,

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in the opinion of the participants, the development and deployment of the Association has facilitated the generation of employment and income, diversification of trade and production, as well as the improvement of quality of life and organization of the farmers' group.

On the other hand, even with the agreement of various partnerships and the prizes won, several challenges were identified, in which the following stand out:

1) Lack of systematized information on the dynamics and demands of the regional consumer markets (final consumers and food service: bars, restaurants, accommodation, gastronomy schools), which becomes a bottleneck for the expansion of trade;
2) Difficulty of access to institutional markets, such as the PNAE (National School Meals Program). Although they are listed in the reference guide, there is still resistance to the choice of raw materials and products due to lack of knowledge on culinary use, flavor and nutritional information;
3) Difficulty in accessing working capital for the purchase of machinery and equipment;
4) Demand for the organization of administrative management and standardization of production processes.

III. Final Considerations

The aim of the study was to characterize the business strategies used by the *Brotos Frutos Culinária do Cerrado* Association. The association is in the initial phase of activities, in a growing market, with potential for adding value to raw materials and its association with the activities of gastronomy and tourism, through revaluation of local cuisine and regional products.

By using the concept of creative economy, the venture combines traditional popular knowledge by developing new products from regional raw materials such as barúsanha, pequi, jatobá, and bocaiuva. Among the main benefits of the proposal, it is noteworthy that the increase in the consumption of these products may promote environmental conservation and the fulfillment of the desires of the consumers who seek local products from family agriculture, with the features and guarantee of health-related products, food safety, and origin identification.

The proposal of the Association also promotes the empowerment of women and young people in family farming, with the creation of opportunities for employment and income generation, related to adding value to the products of the Cerrado agriculture, with the possibility of continuity of the young people in activities of family farming in the countryside and in the city. There is also a project to offer buffet services for Cerrado products – an activity that is already carried out occasionally and enables engagement and income generation for women and young people.

The partnerships established with technical support, teaching and research institutions in the MS-region also favor the development of innovations in products and production processes. The partnership with UCDB (Dom Bosco Catholic University), for example, through the Santander 2015 award, made it possible to create a new product; a cereal bar made of raw materials from the Cerrado, which is being tested for future consumer markets. There is also a partnership with the Federal University of Mato Grosso do Sul to study the behavior of consumers of Cerrado products and regional foods.

However, it can be noted that the enterprise and its members still lack the skills, both technical and managerial, in financial management, improvement of distribution logistics, better knowledge of the consumer market, development of communication strategies and business plan development. Based on these findings, it is suggested that new partnerships with the Association focus on filling these gaps and thus improving their market performance.

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Integrating Universal Healthcare in Early Childhood Education for Sustainable Community Development (IHSD)

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Abstract- The early years of life are crucial to establishing a sound foundation for cognitive, social, emotional and physical development for the rest of children's lives. Universal health coverage and nurturing care framework policies ensure holistic child care, however, many children in Siaya County seem to lack holistically child care in their education as we spend our energies on treatment rather than prevention services which are more cost effective. The major question this study sought to respond to was "How do preschools integrate universal health care services in early childhood education? This is an action research design utilizing both quantitative and qualitative tools of data collection and is informed by humanizing child development theory as proposed by Eugene M. De Robertis, 2008.The participants for this project included 1400 pre-school teachers. Instruments of data collection included questionnaires for pre-school teachers, interview schedule for teachers and document analysis of curriculum, teacher preparation materials, and health care records. Quantitative data was analyzed using descriptive statistics, while qualitative data utilized thematic analysis approach.

Keywords: *child development; nurturance; healthcare; universal; early childhood education.*

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Keywords: child development; nurturance; healthcare; universal; early childhood education.

I. Introduction

Early child development sets the foundation for lifelong learning, behavior, and health. The experiences children have in early childhood shape the brain and the child's capacity to learn, to get along with others, and to respond to daily stresses and challenges (Unicef, 2017). Beginning in the last trimester of the prenatal period, brain pathways are formed by developing new connections (Richter LM, Daelmans B, Lombardi J, et al, 2017). This growth increases after birth and follows a predictable sequence (McCain, Mustard & Shanker, 2007); National Scientific Council on the Developing Child, 2007). At birth, newborns start with very similar brains and brain structures. There are "sensitive periods" during a child's development, when the wiring of the brain for specific abilities is established (Couperus & Nelson, 2006; Black M, Walker P, Fernald L, 2017). Providing responsive, nurturing and stimulating experiences establish the wiring of the brain connections. Children who are well supported and nurtured physically, emotionally, socially and intellectually will develop a multitude of neural connections that will serve them well throughout their life course. (Gertler P, Heckman J, Pinto R, et al, 2014) A child's interest and curiosity are the motivators that create new connections to acquire new skills. Each new skill builds on a skill already learned. (Berk, L. & Roberts, W. (2009). The child's environment can support and enhance his interest and curiosity. Early brain development establishes a child's social competence, cognitive skills, emotional well-being, language, literacy skills, physical abilities and is a marker for well-being in school and life resiliency (Blair, 2002).

There are many interrelated factors which influence a child's overall healthy development. Education, health, social status, access to quality health and social services, housing, access to stimulating early learning environments, adequate nutrition, clean water, and a secure and nurturing parent-child relationship all play a role. Given the importance of the early years in shaping a child's brain development, every child has a right to an enriched and supportive environment in order to reach his full potential. (Yousafzai AK, Lynch P, Gladstone M, 2014) Families of young children need access to health care, quality and affordable child care, parenting supports, and education within their local community. The concept of a 'community hub' is not a new one. More than a decade ago, McCain and Mustard (1999) called for centres which operate using "a 'hub and spoke' model" (p. 17), to provide "seamless supports and access to early intervention for families in need" (p. 17). In a few communities, this holistic, seamless approach has been used with success (e.g., Toronto First Duty sites, integrated Best Start sites). But the goal of "An integrated continuum of early child development and parenting centres to serve all Ontario children" (McCain & Mustard, 1999) is still a work in process.

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To meet the needs of children and families, an integrated and holistic approach to service delivery is essential. In keeping with this holistic approach to service delivery, care must be taken to address the needs of the whole child. Universal health coverage can generate significant health and economic benefits to populations (World Bank. 2005) and enable governments to reduce inequity. (Nicholson D, Yates R, Warburton W, et al. 2015) Despite costing more to national governments in the short term, UHC pays back its initial debt to national economic growth in multiples. Access to healthcare is important for women and children, including establishing breastfeeding and immunization, and contributes to early childhood development. The Lancet Commission on Investing in Health in 2013 found that the economic benefits of achieving a grand convergence of global health outcomes for infectious diseases and for maternal and child health would outweigh the costs by a factor of between 9 and 20 over 20 years from 2015 to 2035. (Lancet2013). When implemented well UHC can contribute to nation-building (Millwood, 2008; Stuckler D, et al 2010; McKee M, et al 2013).UHC has an important role to play in global health security efforts through building a strong frontline health system, strengthening access to vital services and funding robust surveillance systems. (Alsan M, et al 2016; Kutzin J, Sparkes SP 2016; WHO, 2016).

Within this UHC and holistic concept of healthy child development, paying attention to the social, emotional, physical, cognitive and language domains of each child's development serves as a guide for professionals to ensure all areas of a child's development are included (Campbell F, Conti G, Heckman J, 2014). To achieve this, the Nurturing Care Framework provides a roadmap for action. It builds on state-of-the-art evidence about how early childhood development unfolds and how it can be improved by policies and interventions (Britto P, Lye S, Proulx K, 2017). It outlines why efforts to improve health, well-being and human capital must begin in the earliest years, from pregnancy to age 3; Nurturing care is the set of conditions that provide for children's health, nutrition, security and safety, responsive care giving and opportunities for early learning (Stoltenborgh M, et al 2013). Nurturing children means keeping them safe, healthy and well nourished, paying attention and responding to their needs and interests, encouraging them to explore their environment and interact with caregivers and others. (Lucas JE, Richter LM, Daelmans B, 2018). To reach their full potential, children need the five components of nurturing care. These are Good health, adequate nutrition, responsive care giving, security and safety and opportunities for early learning. (Norman R et al, 2012).

II. Statement of the Problem

Although decreased child mortality, relatively improved nutrition and school enrolment may give a picture that the World is on track on its promises for children (Chan, M. (2013). However, many of the children who are surviving now, are not achieving their full developmental potential (World Health Organization; 2017). According to an estimate, in developing countries around the world, 200 million children under 5 years of age are not achieving their potential. Moreover, 57 million children around the world are out of school and thus at risk. Moreover, if one digs deeper, beyond national averages, there are widening disparities among regions, countries and within countries, based on wealth, gender, and geographic location. This study was based on domains of nurturing care which are; health, nutrition, responsive care, security and safety, early learning. This study concentrated on health and safety as an aspect of Nurturing care and sought to respond to the question. "How do preschools integrate universal health care services in early childhood education in Siaya County"

a) Purpose of the study

To establish the extent to which preschools integrate universal health care services in early childhood education in Siaya County

Objectives (s)

(i) To establish how preschools integrate universal health care services in early childhood education.
(ii) To find out which elements of universal health care services are being integrated by preschools in early childhood education?

Research Question

(i) How do preschools integrate universal health care services in early childhood education in Siaya County?
(ii) What elements of Universal health care services are being integrated in early childhood education?

III. Methodology

a) Research Design

The study adopted the Convergent Parallel Design. According to Tashakkori and Teddlie (2003), the convergent parallel design (also referred to as the convergent design) occurs when the researcher uses concurrent timing to implement the quantitative and qualitative strands during the same phase of the research process, prioritizes the methods equally, and keeps the strands independent during analysis and then mixes the results during the overall interpretation. For example, an investigator might collect both quantitative correlational data as well as qualitative individual or group interview data and combine the two to best understand participants' experiences. The data analysis consists of merging data and comparing the two sets of

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data and results (Creswell & Plano Clark, 2011; Morse & Niehaus, 2009).

b) Population and Sample

The target population for the study was 700 Preschools. That is, 700 ECD Centres, 1400 ecde teachers. The study used stratified random sampling to select ECDE teachers. Stratified random sampling identifies sub-groups in the population and their proportions and select from each sub-group to form a sample (Cooper and Schindler, 2009).Stratified random sampling was found appropriate for this study as it ensures that each sub-group is proportionately represented. In total, 140 Ecde teachers participated in the study having taken 10% of the target population according to Kothari 2011; Wolverton, 2009; Kothari & Guaray, 2015, and purposive sampling by taking 2 teachers from each Sub-County totaling to 12 teachers for interview.

c) Research Instruments

The instruments used in the study were questionnaires administered to ECDE teachers and interview schedule administered to 12 teachers.

d) Data Analysis

Data was analyzed both quantitatively and qualitatively. Quantitative data was analyzed using descriptive statistics, which quantitatively describes the main features of a collection of information, or the quantitative description itself. The Descriptive statistics aim to summarize a sample, rather than use the data to learn about the population that the sample of data is thought to represent. On the other hand, qualitative data from interviews was analyzed using the thematic framework.

IV. Findings and Discussion

Table 1: Percentage frequency response on Health and safety

ITEM	IA	M	G	E
Written policy on what to do if a child gets sick	90	10	0	0
Written Rules concerning exclusion for contagious illness	89	11	0	0
Records of immunization and other health information	4	80	16	0
Staff have had physical exam and TB test within 2 years	96	4	0	0
Area set aside for sick child.	89	11	0	0
Policy on reporting a child who has been abused or neglected	91	0.9	0	0
Written policy concerning a child's physical or mental health.	100	0	0	0
Children allergies and medication schedule posted for staff use	100	0	0	0
Written safety and emergency procedures.	80	16	4	0
Staff trained in safety and emergency procedures.	89	11	0	0
Written specific emergency evacuation procedures.	90	10	0	0
First aid kit accessible	90	10	0	0

Key: IA= Inadequate; M=Moderate; G=Good; E=Excellent

From table one, 90% of teachers have inadequate written policy on what to do if a child is sick. This concurs with interviewed teachers who stated that they have no written policy. Thus "*we know what to do when a child is sick but we have no written policy". On the second item on* written Rules concerning exclusion for contagious illness, 89% of the teachers indicated inadequate. Interviewed teachers also reported that they have no written rules concerning exclusion for contagious illnesses. A representative statement "*we just tell parents not to allow a child come to school but we have not developed a policy*"

On records of immunization, 80% of teachers moderately had immunization record, however, document analysis revealed that there were only ticks on each of the imunizable diseases such as whooping Cough, Measles, Tuberculosis, Diphtheria, Tetanus and Poliomyelitis without indicated when it was done. A representative statement was that "*we ask parents whether the child is immunized and we tick, but we don't keep their original immunization cards*"

On whether staff have had physical exam and TB test within 2 years, results indicated 96% inadequacy. This was supported by interviewed teachers who noted that they are hearing physical examination from the researcher "*am hearing about physical exam and TB test from you, we don't have that… all we need is certificate in ECD*". On setting place a side for sick child, 89% of teachers reported inadequacy. This statement is in agreement with interviewed teachers who noted that there is no separate room for sick children. A representative statement "*Space is what we lack, we have no additional room for sick child. We just monitor in class as we wait for parent*

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to pick him or her" On mechanism for reporting abused or neglected child, 91% reported inadequate. This agrees with interviewed teachers who stated that they have no way of knowing a child that is a bused. "*if we detect something is wrong, we call a parent, we are not trained on how to detect child abuse or neglect, in-fact for neglect we only observe whether a child is hungry or sad"* on the policy on physical and mental health, the results indicate 100% inadequate. This concurs with qualitative data that revealed teachers do not know how to deal with physical or mental health. On allergies and medication schedule, the result reported 100% inadequate. This concurs with interviewed teachers that indicated there were no posting of allergies and other health problems for staff information" *we don't follow medication schedule strictly, we have a lot to handle in class that sometimes we forget"* on written safety and emergency procedures, the findings reported 80% inadequate and 16% moderate. This means that majority of teachers have no written emergency procedures. From the interview schedule, informants reported that *"we know what to do in an emergency, but we have no training on emergency procedures"* this statement alluded to the next item that asked teachers whether they have training on emergency or not and the finding reported 89% inadequate. There were also lack of training on evacuation procedures as was reported at 90%. Qualitative data revealed that during an emergency, parents are called to pick their children and teachers do not know what to do next. A representative statement *"during emergency, we call parents to come pick their kids and we do not know what to do next"* on the item accessibility of first aids, this was way inadequate at 90%. From the interview schedule, it was reported that many centres do not have these kits. a representative statement *" we know we are supposed to have these kits, but sometimes when they get finished, we do not have money to buy them"*

V. Discussion

From the ongoing findings, it revealed that almost all teachers indicate lack of written policy on what to do when the child is sick. Almost all teachers also indicated lack of written rules concerning exclusion for contagious illness. Records of immunization were available but only ticked without much explanation on when it was done. The study also revealed that staff were not aware of physical examination and TB test as a requirement for being a teacher. They only know that once they train and have a certificate on ECD that was all. Teachers indicated lack of policy on reporting a child who has been abused or neglected and do have policy on physical or mental health. There was no specific area set aside for a sick child. There were no children allergies and medication schedule posted for staff use and majority of teachers indicated lack of adequate safety and emergency procedures training. Specific emergency evacuation procedures were inadequate with almost all teachers indicating that first aid kits were not accessible.

VI. Conclusion

From the findings, it is evident that many aspects on inclusion of health and safety are inadequate in early childhood education centres. The study concluded that many ECDE Centres in the County lack nurturing care in terms of health and safety. The study revealed that most of components on health and safety included in the early childhood education at preschool centers are at the level of inadequate. Teachers indicated that they know what to do in cases of emergency but lack written policy guiding their actions. This reveals the level of unpreparedness on the part of teachers concerning non- medical arrangements at school level.

VII. Recommendations

- There is need for enabling policies, supportive services, empowered communities and caregivers' capacity building including preschool teachers.
- There is need for availability of developed programmes on stimulation, nurturance and pedagogy of care.
- There is Actions the health system can take to respond to nonmedical concerns of young children that impact their health. This will involve capacity building on health matters.

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A Webometric Study of Selected Popular Social Media Websites in World using a Link Analysis Approach

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Abstract- The present study has been done by using webometric methods. Each Social Media web site was searched in Alexa databank and relevant data including traffic rank, pages viewed, links, bounce percentage, time on site, search percentage, and Indian/other users were collected. Social media has become something that is important to enhance social networking and sharing of information through the website. Social media have not only changed social networking, they provide a valuable tool for social organization the website of a Social Media Sites is a platform to exhibit the courses offered by the institution and also about the research activities carried out by that Social Media Site. Prioritizing the content is one of the best ways to make sure the visitors are finding the information the site wants them to find, and that they wants to find, and that they want to find. a total of 64 Popular Social Media Sites were taken up for the study homepage of the Social media were taken up for the study and the various web objects were identified and also their locations in the home page of the Social Media Sites were analyzed and discussed. The study also helps the web designers to improve the usability of websites.

Keywords: *webometrics, popular social media, social media websites, link analysis, alexa internet.*

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Abstract- The present study has been done by using webometric methods. Each Social Media web site was searched in Alexa databank and relevant data including traffic rank, pages viewed, links, bounce percentage, time on site, search percentage, and Indian/other users were collected. Social media has become something that is important to enhance social networking and sharing of information through the website. Social media have not only changed social networking, they provide a valuable tool for social organization the website of a Social Media Sites is a platform to exhibit the courses offered by the institution and also about the research activities carried out by that Social Media Site. Prioritizing the content is one of the best ways to make sure the visitors are finding the information the site wants them to find, and that they wants to find, and that they want to find. a total of 64 Popular Social Media Sites were taken up for the study homepage of the Social media were taken up for the study and the various web objects were identified and also their locations in the home page of the Social Media Sites were analyzed and discussed. The study also helps the web designers to improve the usability of websites.

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I. Introduction

Social media is Internet based technology which promotes opportunities to social interaction; among its users. It is enhanced through new communication tools and sites that are called; social networking sites. Internet-based tools and audio-visual technology with the ability to retrieve, store, connect and take the features that make the authors publish their work, including through blogs and receive comments on it Wikis has the ability to promote and facilitate the creation of a common through academic collaboration, Social bookmarking is an online catalog of hyperlinks that help users who want to share Facebook, Twitter, and LinkedIn, including the social networking site called SNS that has the ability of online promotion today websites of any organization/service sector facilitates for the information dissemination and reveals the reputation of the organization since users are becoming net citizens. The content of the websites target the user community and therefore, after ensuring that content is useful, well-written, and in a format that is suitable for the Web, it is important to ensure that the information is clearly organized in the form of different web objects/links in the home page. Therefore content of the home page must be well organized with the necessary information in the home page, grouping related informational elements, etc. The term "webometrics" was coined by Almind and Ingwersen in 1997. Webometricis combination of two words 'web' and 'metric', web is a collection of web pages or text documents including images, video, audio etc. interconnected by hyperlinks and metric means measurement, hence, webometrics is the measurement of web, its structure and application. In this research we used the Alexa Internet tool which was the instrument in the previous studies. (Ambhore, S. P. Khaprde, V.S.and Ranveer, V.B. 2016). The study covers the 64 Popular Social Media Sites It is based on traditional Webometrics methods for ranking of Social Media Sites and analyse the web performances of study.

II. Alexa: A Tool for Website Evaluation

Alexa Internet started in April 1996 by American web entrepreneurs Brewster Kahle and Bruce Gilliat and presently it is a California-based subsidiary company of Amazon.com which provides commercial web traffic data. Currently, Alexa Internet is the most well known tool for evaluating websites that offers a free of charge evaluation service. Alexa data is collected from millions of its Toolbar users. Alexa continually gathers various types of information (from all public websites) such as traffic rankings, number of page views, links pointing to sites, average time on site per user, etc. Alexa Toolbar users access various websites and Alexa computes websites' traffic by analysing the web usage of millions of Alexa Toolbar users and data obtained from other diverse traffic data sources.

The Alexa global traffic rank measures how a website, typically defined at the domain level, is doing in respect to all other sites on the web over the past 3 months. The rank is calculated using a combination of the estimated average daily unique visitors to the site

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and the estimated number of page views on the site over the past months. The site with the highest combination of unique visitors and page views is ranked

a) Definition Analysis

Webometrics:

As the term _Webometrics' Björneborn & Ingwersen, 2001, 2004; Thelwall, 1997, 2008 is combination of two words Web & metrics, we can interpret it as, science of quantitative measurement of websites and its different attributes or contents. The definition of Webometrics is study of quantitative aspects of the construction and use of information resources, structure and technologies on the web drawing on bibliometric and informetric approaches. Alternatively, the field may also be defined the study of web-based content with primarily quantitative methods for social science research goals using techniques that are not specific to one field of study.

Review of Literature:

Catledge and Pitkow (1995)1 conducted a study at Georgia Institute of Technology that captured client-side user events of NCSA's XMosaic. Actual user behaviour, as determined from client-side log file analysis, supplemented our understanding of user navigation strategies as well as provided real interface usage data. Log files analysis also yielded design and usability suggestions for www pages, sites and browsers

Bjorneborn and Ingwersen (2004)2 defined webometrics within the framework of informetric studies and bibliometrics, as belonging to library and information science, and as associated with cybermetrics as a generic subfield. They developed a consistent and detailed link typology and terminology and make explicit the distinction among different Web node levels when using the proposed conceptual framework.

Park (2004)3 traced South Korean Web pages hyper linking pages hosted in Taiwan, using a search engine. The context in which Taiwan appears in South Korean pages was also examined. Specifically, the structure of hyperlink connectivity from South Korea and Taiwan was analysed. It was found that the hyperlink network was very sparsely connected in terms of the number of South Korean Web Pages hyperlinking to the pages of the other country.

Jose, Isidro and Jose (2006)4 conducted a longitudinal study of the evolution and the state of 738 websites in two different points in time (1997 and 2004). It tries to establish the rate of growth and decay of the Web and all the web elements. To this end, the structure and the contents of these websites are extracted through a crawler and compared at the two different moments in time. The main results confirm a growth of web contents and elements in the web, although there is also a high degree of web content decay. The results suggest that in the seven year period covered by this study the web is characterised by both strong dynamism and instability.

Ambhore, S. P. Khaprde, V.S. and Ranveer, V.B. (2016)5 Marathi News Paper Websites: A Webometric Study. Using 'Alexa Internet' the result study show that regarding Marathi News Paper web sites for eight indexes (traffic rank, pages viewed, speed, links, bounce percentage, time on site, search percentage and Indian/foreign users) as obtained from Alexa Internet.

b) Scope of the Study

The scope of the present study is limited to 64 Popular Social Media Web Sites in world.

III. Methodology of the Study

This study consists of the 64 websites of Popular Social Media Web Sites in world.which are listed by taken as a sample for evaluation in the present study. The URLs of these Popular Social Media were collected from the internet. The present study has been done by using webometrics methods with the help of Alexa databank, which is known as the most famous tool for evaluating websites. In this research we selected seven indexes – i.e. traffic rank, pages viewed, links, bounce percentage, time on site, search percentage, Indian and other users. In order to analyse Social Media websites. Using these each Social Media URLs, web site was searched on June, 2018 in Alexa website (www.alexa.com) and all the data were obtained by real-time examination according to prearranged evaluation indexes (Table 1). The data collection process was completed on the same day to decrease possible errors associated with frequent website updates. The downloaded data were further entered into the specially designed Microsoft Excel worksheet. Then data were analyzed and tabulated to relevant findings in accordance with the desired objectives. The Social Media with their URLs, which are coming under the purview of this study, are provided.

a) Objectives of the Study

The objective of this study is given below.

1. The objective of this study is the to Evaluate of Popular Social Media websites based on Alexa indexes they are:

   Traffic rank (India and Foreign)

   - Pages viewed
   - Time on site
   - Links
   - Speed
   - Bounce percentage
   - Search percentage
   - Users Percentage (Indian users).

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2. To study the various Availability of web objects or links that are available in the website of Popular Social Media websites in world
3. Country-Wise percentage of visitors.

Popular Social Media websites in world plays a very important role in the Indian economy, and settings up of adequate number of Social Media were considered very important in India. While the emphasized the importance of a strong research base for Social Media listed in the website are examined and are included. The data regarding Popular Social Media websites for eight indexes (traffic rank, pages viewed, links, speed, bounce percentage, time on site, search percentage and Indian users) as obtained from Alexa Internet is presented in Table 1.

Table 1: Data obtained from Alexa Internet

Sr. No.	Popular Social Media Sites	Global Rank	Rank in others Country	Pages viewed	Links	speed	Bounce rate	Time on site	Search Visits India
1	Facebook	3	United States - 3	3.94	5,047,596	3.324 s	49.90%	9:29	7.70%
2	WhatsApp	54	India - 17	1.27	16,574	0.87 s	81.80%	2:28	12.50%
3	QQ	6	China-2	3.77	315,935	3.898 s	41.70%	3:45	9.20%
4	WeChat	3,007	China-567	1.15	2,275	1.526 s	75.70%	2:25	27.20%
5	QZone	6	China-2	3.77	315,935	3.898 s	41.70%	3:45	9.20%
6	Tumblr	74	United States-44	5.18	849,992	3.693 s	46.10%	7:28	11.20%
7	Instagram	15	United States-11	3.94	1,512,766	1.948 s	62.10%	5:48	5.70%
8	Twitter	11	United States-8	3.22	3,851,643	2.006 s	54.10%	6:24	10.70%
9	Google+	1	United States - 1	10.81	2,467,386	1.33 s	33.20%	8:19	0.70%
10	Baidu Tieba	4	China-1	5.62	145,722	2.549 s	25.00%	7:13	8.50%
11	Skype	418	United States 628	2.92	42,737	1.081 s	38.00%	3:09	15.60%
12	Viber	1,883	Russia 508	1.26	4,362	1.3 s	84.90%	1:40	6.80%
13	Sina Weibo	17	China 8	4.18	112,784	4.008 s	32.80%	5:25	4.20%
14	LINE	266	Japan 48	3.96	108,858	0.805 s	44.60%	7:11	22.10%
15	Snapchat	4,874	United States 2,031	3.20	8,734	2.4 S	41.70%	3:45	26.60%
16	YY	245	China 48	5.07	1,436	4.127 s	27.00%	3:06	1.90%
17	VKontakte (VK)	16	Russia 2	4.71	331,619	2.995 s	50.70%	9:59	3.40%
18	Pinterest	65	United States 28	3.6	1,465,446	3.618 s	54.00%	4:19	28.10%
19	LinkedIn	25	United States 9	4.6	1,378,530	2.677 s	44.10%	6:27	18.50%
20	Telegram	366	India 290	2.00	1,387	0.918 s	74.80%	3:39	13.30%
21	Reddit	21	United States 6	7.30	328,606	3.401	40.30%	1:27	21.20%
22	Taringa	1,244	Argentina 21	3.30	23,408	5.546	64.00%	4:24	39.20%
23	Foursquare	2,286	United States 1753	1.62	10,422	2.159	76.70%	1:30	58.70%
24	Renren	2,208	China 336	3.87	9,743	3.923	52.80%	2:44	27.20%
25	Tagged	1,720	United States 1,485	14.5	4,466	1.849	17.60%	2:45	6.40%
26	Badoo	994	Russia 580	4.23	2,162	(2.666	62.20%	6:03	4.30%
27	Myspace	4,247	United States 1,876	2.53	199,646	3.049	50.60%	2:38	21.80%
28	StumbleUpon	13,881	United States 4,587	1.50	302,461	1.726	63.10%	1:19	18.60%
29	The Dots	63,948	United Kingdom 4,456	2.4	65	4.884	63.20%	2:50	31.50%
30	Kiwibox	129,792	India 15,782	3.6	9,822	4.645	43.30%	3:29	5.00%
31	Skyrock	5,081	France 242	5.07	32,191	1.87 S	56.60%	4:31	48.50%
32	Delicious	149,099	India 25,845	1.70	127,361	2.379	53.20%	1:17	17.80%
33	Snapfish	21,381	United States 5343	5.04	2,138	2.897	27.40%	5:37	22.70%
34	ReverbNation	11,234	United States 4,423	2.21	23,388	2.971	70.80%	2:50	31.00%

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35	Flixster	91,155	United States 27,721	1.40	3,051	1.56	81.60%	1:14	41.10%
36	Care2	22,718	United States 9,372	2.66	11,782	4 s	70.20%	3:23	34.40%
37	CafeMom	16,145	United States 3451	2.42	4,665	1.764	43.60%	2:34	29.70%
38	Ravelry	4,524	United States 1,487	11.10	16,713	0.978	33.30%	7:30	8.70%
39	Nextdoor	1,521	United States 245	2.08	776	1.477	57.10%	3:41	7.50%
40	Wayn	224,123	Nm	1.70	2,317	NM	60.20%	1:46	8.10%
41	Cellufun	1,770,280	NM	8.30	117	NM	66.70%	1:44	18.50%
42	YouTube	2	United States 2	5.06	1,924,665	2.763	56.00%	8:50	11.30%
43	Vine	32,863	United States 11,231	1.44	1,787	0.721	77.30%	1:32	20.00%
44	Classmates	14,640	United States 2,554	2.67	1,894	1.718	52.20%	3:27	21.00%
45	MyHeritage	5,876	United States 2,227	5.02	3,567	2.011	52.20%	7:29	17.10%
46	Viadeo	11,819	France 554	1.83	18,467	3.196	70.50%	1:51	55.50%
47	Xing	1,692	Germany 72	4.1	11,800	1.611	44.90%	4:09	23.90%
48	Xanga	190,257	United States 77,152	2.8	14,890	1.557	45.70%	1:57	22.80%
49	LiveJournal	222	Russia 16	2.7	34,689	2.027	69.30%	4:48	8.60%
50	Friendster	344,462	United States 304307	1.00	20,296	NM	88.80%	0:53	52.40%
51	Funny or Die	50,005	United States 12,609	1.76	9,656	2.086	63.00%	3:00	21.80%
52	Gaia Online	11,923	United States 2,936	15.8	9,280	2.641	20.90%	1:12	9.70%
53	We Heart It	3,438	India 1,408	5.12	61,822	2.645 S	40.00%	6:34	22.30%
54	Buzznet	59,092	United States 23,276	8.4	10,753	1.341 S	41.80%	4:19	8.50%
55	DeviantArt	185	United States 119	7.79	134,681	2.044 S	35.20%	8:18	13.60%
56	Flickr	361	United States 273	4.45	483,071	3.208 S	56.10%	4:53	17.30%
57	MeetMe	15,183	United States 4,560	4.63	1,046	1.665	54.90%	6:37	16.90%
58	Meetup	944	United States356	4.03	32,245	2.126	39.90%	4:18	19.60%
59	Tout	665,293	United States 214,712	1.9	503	NM	52.30%	1:56	18.00%
60	Mixi	2,823	Japan 172	3	15,552	1.827	41.30%	6:14	11.20%
61	Douban	122	China 34	6.42	9,253	1.246	45.70%	5:25	23.80%
62	Vero	230,566	United States 130,542	1.9	110	NM	59.20%	2:00	44.70%
63	Quora	80	United States 47	1.81	13,465	1.737 S	69.30%	2:52	58.40%
64	Spreely	347,755	United States 156,013	3.6	55	NM	42.90%	5:08	6.90%

i. *Traffic Rank*

With regard to the attribute traffic rank in world, the best-ranked Global Rank Social Media websites in world are The Cellufun (1,770,280), with traffic ranks respectively. The Tout shows high Global traffic ranks in (665,293), which reflects their weak performance on this account. Out of the 64 Social Media websites, only 3 have traffic rank of less than Google+(1), YouTube(2), Facebook(3) which projects their good performance in this attribute while compared to others. In the case of Global traffic rank, All Social Media websites i.e., have traffic rank more than reaming all are shown very weak performance in this attribute (Table.1).

ii. *Page views*

Concerning to this attribute, Social Media websites, Gaia Online the highest number of average pages viewed by users per day (15.8), followed by Ravelry, Social Media websites (11.10) and Google+ Social Media websites (10.81). The lowest number of average pages viewed is Friend ster Social Media websites 1.00 for Telegram Social Media websites 2.00 all others have shown bad function in this attribute.

iii. *Downloading Speed*

Concerning the downloading speed Taringa Social Media websites and The Dots Social Media

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websites have the highest speed (5.546 Seconds and 4.884 Seconds, each respectively). WhatsApp Social Media websites has the slowest downloading speed of 0.87 Seconds followed by Vine Social Media websites and Ravelry Social Media websites The overall downloading speeds are in the range of 0.721 Seconds – 0.978 Seconds (Table 1), which clearly indicate the weak performance of the Social Media websites in this attribute.

iv. *Links*

Regarding the number of links that each Social Media websites has received, Facebook Social Media websites has received the highest number of links (5,047,596), which is considerably different from other Social Media websites. This websites has covered a various range of which has probably made it much more popular than others. Twitter Social Media websites with 3,851,643 links occupy second place. Google+ with 2,467,386 links is the last in the queue (Table 1). Majority of the Social Media websites have less than thousand links shows their poor performance in this attribute.

v. *Bounce percentage*

Friendster Social Media websites has the high bounce percentage (88.80%), followed by Viber Social Media websites with (84.90%) and WhatsApp Social Media websites (81.80%), and Tagged Social Media websites shows the lowest rate of bounce percentage (17.00%) shows its weak performance (Table 1). The higher bounce rate in most of the Social Media websites indicates their weak performance in this attribute.

vi. *Time on site*

The estimated daily time spent on site by the visitors is highest for VKontakte (VK) Social Media websites (9.59), Face book Social Media websites occupies second place with (9.29) followed by YouTube Social Media websites with (8.50) and the lowest in this category is for Friendster Social Media websites (0.53). The time spent on the rest of the (Table 1).

vii. *Search Visitors percentage*

The highest percentage of visits that came from search engines is for The Search Visits in India Quora Social Media websites with (58.40%) and the lowest is Kiwibox Social Media websites (5.00%) for (Table 1).

Table 2: Availability of Web objects

Sr. No.	Web objects	Available	%	Not Available	%
1	About Us	37	57.81	27	42.19
2	Accessibility Statement	1	1.56	63	98.44
3	AdChoices	1	1.56	63	98.44
4	Add your business	1	1.56	63	98.44
5	Ads info	4	6.25	60	93.75
6	Advertising	11	17.19	53	82.81
7	Album	1	1.56	63	98.44
8	Analytics	1	1.56	63	98.44
9	ananasonastick	1	1.56	63	98.44
10	Announcements	1	1.56	63	98.44
11	Annual Meeting	1	1.56	63	98.44
12	apathycollusion	1	1.56	63	98.44
13	API	1	1.56	63	98.44
14	Apps & Tools	7	10.94	57	89.06
15	Articles	3	4.69	61	95.31
16	ARTIST OF THE DAY	1	1.56	63	98.44
17	Attribution	1	1.56	63	98.44
18	avva	1	1.56	63	98.44
19	Badoo	1	1.56	63	98.44
20	Baidu homepage	1	1.56	63	98.44
21	Beans	1	1.56	63	98.44
22	Beauty live	1	1.56	63	98.44
23	Beauty salon reservation	1	1.56	63	98.44
24	Benefits Plus	1	1.56	63	98.44
25	Blogs	17	26.56	47	73.44

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26	Board of Directors	1	1.56	63	98.44
27	Brand Marketing	5	7.81	59	92.19
28	Browse	1	1.56	63	98.44
29	Browse channels	1	1.56	63	98.44
30	Businesses	7	10.94	54	84.38
31	Calendars	2	3.13	62	96.88
32	Campus	1	1.56	63	98.44
33	CANVAS PRINTS	1	1.56	63	98.44
34	CARDS	1	1.56	63	98.44
35	Career change site	1	1.56	63	98.44
36	Careers	10	15.63	54	84.38
37	Channels	2	3.13	62	96.88
38	Charts	2	3.13	62	96.88
39	Cities	1	1.56	63	98.44
40	City	1	1.56	63	98.44
41	classification	1	1.56	63	98.44
42	Coaches + Trainers	1	1.56	63	98.44
43	Collections	2	3.13	62	96.88
44	Commissions	1	1.56	63	98.44
45	Committee Composition	1	1.56	63	98.44
46	Communities	2	3.13	62	96.88
47	Community	12	18.75	52	81.25
48	Company	11	17.19	53	82.81
49	Connections	1	1.56	63	98.44
50	Contact Us	10	15.63	54	84.38
51	Constellation	1	1.56	63	98.44
52	Cookies	5	7.81	59	92.19
53	COPPA	1	1.56	63	98.44
54	Corporate Governance	1	1.56	63	98.44
55	Create	1	1.56	63	98.44
56	Crowd Picks	1	1.56	63	98.44
57	Culture	3	4.69	61	95.31
58	Current Team	1	1.56	63	98.44
59	Customer service	1	1.56	63	98.44
60	Daily Deviations	1	1.56	63	98.44
61	Deals	1	1.56	63	98.44
62	Devblog	1	1.56	63	98.44
63	Developer Information	1	1.56	63	98.44
64	Developer Portal	1	1.56	63	98.44
65	Developers	7	10.94	57	89.06
66	Deviations	1	1.56	63	98.44
67	Directory	3	4.69	61	95.31
68	Discover	3	4.69	61	95.31
69	DMCA	1	1.56	63	98.44
70	DNA	1	1.56	63	98.44

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71	Docs & Films	1	1.56	63	98.44
72	Douban	1	1.56	63	98.44
73	Downloads	5	7.81	59	92.19
74	dr_guillotin	1	1.56	63	98.44
75	Education	1	1.56	63	98.44
76	Efforts of soundness	1	1.56	63	98.44
77	Employers	1	1.56	63	98.44
78	Entertainment	4	6.25	60	93.75
79	Events	8	12.50	56	87.50
80	Every Block FAQs	1	1.56	63	98.44
81	EVERYBODY LOVES A LIST!	1	1.56	63	98.44
82	Everyone DSP	1	1.56	63	98.44
83	Everyone mobile client download	1	1.56	63	98.44
84	Everyone's charity	1	1.56	63	98.44
85	Everyone's financial management	1	1.56	63	98.44
86	Everyone's staging	1	1.56	63	98.44
87	Executives	1	1.56	63	98.44
88	Fashion	1	1.56	63	98.44
89	Family Apps	1	1.56	63	98.44
90	Family tree	1	1.56	63	98.44
91	Family Tree Builder	1	1.56	63	98.44
92	FAQ	2	3.13	62	96.88
93	Features	5	7.81	59	92.19
94	feedback	1	1.56	63	98.44
95	Financials	2	3.13	62	96.88
96	Follow us on Twitter	1	1.56	63	98.44
97	Foursquare City Guide	1	1.56	63	98.44
98	Foursquare for Good	1	1.56	63	98.44
99	FREE LUNCH	1	1.56	63	98.44
100	Free Stuff	1	1.56	63	98.44
101	Freelance	1	1.56	63	98.44
102	Found	1	1.56	63	98.44
103	Fun everyone	1	1.56	63	98.44
104	Funding Rounds	1	1.56	63	98.44
105	FM	1	1.56	63	98.44
106	Games	5	7.81	59	92.19
107	Get help	1	1.56	63	98.44
108	Gift Guides	1	1.56	63	98.44
109	Google+	2	3.13	62	96.88
110	Governance Documents	1	1.56	63	98.44
111	Groups	4	6.25	60	93.75
112	Guidelines	2	3.13	62	96.88
113	Happy car	2	3.13	62	96.88
114	Hardware	1	1.56	63	98.44
115	Hashtags	1	1.56	63	98.44

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116	Health New	1	1.56	63	98.44
117	Help Center	13	20.31	51	79.69
118	hewontgo	1	1.56	63	98.44
119	Historical records	1	1.56	63	98.44
120	History	1	1.56	63	98.44
121	Home	21	32.81	43	67.19
122	How To	1	1.56	63	98.44
123	image	2	3.13	62	96.88
124	Instagram	1	1.56	63	98.44
125	International	1	1.56	63	98.44
126	Investor Events	1	1.56	63	98.44
127	Investor Relations	2	3.13	62	96.88
128	Investors	1	1.56	63	98.44
129	iPad client	1	1.56	63	98.44
130	iPhone App	1	1.56	63	98.44
131	iPhone/Android	1	1.56	63	98.44
132	Job Board	1	1.56	63	98.44
133	Jobs	11	17.19	53	82.81
134	JoinSign In	1	1.56	63	98.44
135	Journals	1	1.56	63	98.44
136	Kit	1	1.56	63	98.44
137	know	1	1.56	63	98.44
138	Languages	2	3.13	62	96.88
139	lawofcosines	1	1.56	63	98.44
140	layrrin	1	1.56	63	98.44
141	Learning	3	4.69	61	95.31
142	Legal	1	1.56	63	98.44
143	Legal Notices	2	3.13	62	96.88
144	Lens Studio	1	1.56	63	98.44
145	Library	2	3.13	62	96.88
146	Licensing & Reprints	1	1.56	63	98.44
147	Lifestyle	2	3.13	62	96.88
148	LINE	1	1.56	63	98.44
149	LINE Out	1	1.56	63	98.44
150	LINE Pay	1	1.56	63	98.44
151	LINE STORE	1	1.56	63	98.44
152	Links	1	1.56	63	98.44
153	Live	1	1.56	63	98.44
154	Live broadcast	1	1.56	63	98.44
155	log in	4	6.25	60	93.75
156	Log in with XING	1	1.56	63	98.44
157	M&A Details	1	1.56	63	98.44
158	Main Sections	1	1.56	63	98.44
159	Management	1	1.56	63	98.44
160	Map	1	1.56	63	98.44

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161	Marketing	3	4.69	61	95.31
162	Mashable	1	1.56	63	98.44
163	Mashable Australia	1	1.56	63	98.44
164	Mashable Careers	1	1.56	63	98.44
165	Mashable Deals	1	1.56	63	98.44
166	Mashable ME	1	1.56	63	98.44
167	Mashable SE Asia	1	1.56	63	98.44
168	Mashable Shop	1	1.56	63	98.44
169	Mashable UK	1	1.56	63	98.44
170	Meditation	1	1.56	63	98.44
171	Meet the team	1	1.56	63	98.44
172	Meetup	1	1.56	63	98.44
173	Meetup Pro	1	1.56	63	98.44
174	Member directory	1	1.56	63	98.44
175	Members	1	1.56	63	98.44
176	military	1	1.56	63	98.44
177	message board	1	1.56	63	98.44
178	mixi community	1	1.56	63	98.44
179	mixi games	1	1.56	63	98.44
180	mixi news	1	1.56	63	98.44
181	mixi page	1	1.56	63	98.44
182	mixi word	1	1.56	63	98.44
183	Mobile	3	4.69	61	95.31
184	Mobile & desktop apps	1	1.56	63	98.44
185	Mod Help Center	1	1.56	63	98.44
186	Mod Support	1	1.56	63	98.44
187	Mom Support	1	1.56	63	98.44
188	Monst	1	1.56	63	98.44
189	More	8	12.50	56	87.50
190	Movies	2	3.13	62	96.88
191	Music	4	6.25	60	93.75
192	My show	1	1.56	63	98.44
193	NBA	1	1.56	63	98.44
194	Neighborhoods	1	1.56	63	98.44
195	Network	1	1.56	63	98.44
196	New Videos	1	1.56	63	98.44
197	News	6	9.38	58	90.63
198	Notes	2	3.13	62	96.88
199	NOW ON VERO	1	1.56	63	98.44
200	Occasions	1	1.56	63	98.44
201	Open platform	1	1.56	63	98.44
202	Operating company	1	1.56	63	98.44
203	Opportunities	1	1.56	63	98.44
204	Other products	1	1.56	63	98.44
205	Other topics	1	1.56	63	98.44

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206	Our Products	2	3.13	62	96.88
207	Our team	1	1.56	63	98.44
208	Overview	1	1.56	63	98.44
209	Paramétrer les cookies	1	1.56	63	98.44
210	Parenting	1	1.56	63	98.44
211	Partnerships	2	3.13	62	96.88
212	physical education	1	1.56	63	98.44
213	Personal file	1	1.56	63	98.44
214	Past Team	1	1.56	63	98.44
215	PC & Mobile	1	1.56	63	98.44
216	PHOTO BOOKS	1	1.56	63	98.44
217	PHOTO GIFTS	1	1.56	63	98.44
218	Photos	7	10.94	57	89.06
219	Pictures of children	1	1.56	63	98.44
220	Pilgrim SDK	1	1.56	63	98.44
221	Pinpoint / Audiences	1	1.56	63	98.44
222	Pinterest	2	3.13	62	96.88
223	Places	1	1.56	63	98.44
224	Platform	1	1.56	63	98.44
225	Policies	2	3.13	62	96.88
226	Politique de confidentialité	1	1.56	63	98.44
227	Politique de cookies	1	1.56	63	98.44
228	Polls	1	1.56	63	98.44
229	Pottfolio	1	1.56	63	98.44
230	PORTRAITS	1	1.56	63	98.44
231	Post an ad	1	1.56	63	98.44
232	Posts	8	12.50	56	87.50
233	Premium	2	3.13	62	96.88
234	Premium perks	1	1.56	63	98.44
235	Press Releases	9	14.06	55	85.94
236	Price list	1	1.56	63	98.44
237	Pricing	1	1.56	63	98.44
238	PRINTS	1	1.56	63	98.44
239	Privacy policy	19	29.69	54	84.38
240	ProBusiness	1	1.56	63	98.44
241	Products	2	3.13	62	96.88
242	Products & Solutions	1	1.56	63	98.44
243	Profiles	2	3.13	62	96.88
244	ProFinder	1	1.56	63	98.44
245	ProJobs	1	1.56	63	98.44
246	Public agencies	1	1.56	63	98.44
247	Public Homepage	1	1.56	63	98.44
248	Q&A	1	1.56	63	98.44
249	Questions to members	1	1.56	63	98.44
250	Reading	2	3.13	62	96.88

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251	Real estate advertising	2	3.13	62	96.88
252	Recent News & Activity	1	1.56	63	98.44
253	Recruiter	1	1.56	63	98.44
254	Recruiting with XING	1	1.56	63	98.44
255	Recruitment	2	3.13	62	96.88
256	Reddit Coins	1	1.56	63	98.44
257	Reddit Gifts	1	1.56	63	98.44
258	Reddit Mobile App	1	1.56	63	98.44
259	Reddit Premium	1	1.56	63	98.44
260	Reddit.com	1	1.56	63	98.44
261	registered	2	3.13	62	96.88
262	Related Hubs	1	1.56	63	98.44
263	Renren	1	1.56	63	98.44
264	Reporting process	1	1.56	63	98.44
265	Resources	2	3.13	62	96.88
266	Reviews	1	1.56	63	98.44
267	RSS	1	1.56	63	98.44
268	Safety	3	4.69	61	95.31
269	Salaries	1	1.56	63	98.44
270	Salary	1	1.56	63	98.44
271	Salary check	1	1.56	63	98.44
272	Sales	1	1.56	63	98.44
273	Science	2	3.13	62	96.88
274	Security	3	4.69	61	95.31
275	Self-service advertising	1	1.56	63	98.44
276	Series	1	1.56	63	98.44
277	Service terms	2	3.13	62	96.88
278	Settings	4	6.25	60	93.75
279	Share videos	1	1.56	63	98.44
280	Sharing	1	1.56	63	98.44
281	Shop	1	1.56	63	98.44
282	Shows	1	1.56	63	98.44
283	Sign up	2	3.13	62	96.88
284	Sign up for free	1	1.56	63	98.44
285	Sitemap	1	1.56	63	98.44
286	Sites	1	1.56	63	98.44
287	Skype	1	1.56	63	98.44
288	Skype for Business	1	1.56	63	98.44
289	Skype for content creators	1	1.56	63	98.44
290	Skype for developers	1	1.56	63	98.44
291	Skype Interviews	1	1.56	63	98.44
292	Skype Manager	1	1.56	63	98.44
293	Skype Number	1	1.56	63	98.44
294	Skype Support	1	1.56	63	98.44
295	Skype to Phone	1	1.56	63	98.44

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296	Skype with Alexa	1	1.56	63	98.44
297	SME	1	1.56	63	98.44
298	smitrich	1	1.56	63	98.44
299	Snapcodes	1	1.56	63	98.44
300	Social Good	2	3.13	62	96.88
301	Social Good Summit	1	1.56	63	98.44
302	Social Theater	1	1.56	63	98.44
303	Solutions	1	1.56	63	98.44
304	Spectacles	1	1.56	63	98.44
305	Sports	1	1.56	63	98.44
306	Spotify Playlist	1	1.56	63	98.44
307	Spotlight	1	1.56	63	98.44
308	Status	2	3.13	62	96.88
309	Status Updates	1	1.56	63	98.44
310	stewie_e	1	1.56	63	98.44
311	Stock Information	1	1.56	63	98.44
312	Stories	3	4.69	61	95.31
313	Submit News	1	1.56	63	98.44
314	Subscription	1	1.56	63	98.44
315	Suggestions?	1	1.56	63	98.44
316	Superuser Tools	1	1.56	63	98.44
317	Support	4	6.25	60	93.75
318	SUPPORT & HELP	1	1.56	63	98.44
319	Swarm	1	1.56	63	98.44
320	Talent	1	1.56	63	98.44
321	Tech	2	3.13	62	96.88
322	Terms	11	17.19	53	82.81
323	Technology	1	1.56	63	98.44
324	Terms & Conditions	1	1.56	63	98.44
325	Terms of service	3	4.69	61	95.31
326	TERMS OF USE	3	4.69	61	95.31
327	Terms of Use & Privacy	1	1.56	63	98.44
328	THE APP	1	1.56	63	98.44
329	Ticketing and event promotion	1	1.56	63	98.44
330	Time	1	1.56	63	98.44
331	Tools	1	1.56	63	98.44
332	TOP 8	1	1.56	63	98.44
333	Topics	3	4.69	61	95.31
334	Training	1	1.56	63	98.44
335	Travel	1	1.56	63	98.44
336	Trending	1	1.56	63	98.44
337	Troubleshooting	1	1.56	63	98.44
338	Universities	1	1.56	63	98.44
339	Unlock Charts	1	1.56	63	98.44
340	Updated	1	1.56	63	98.44
341	User Help Community	1	1.56	63	98.44

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342	User stories	1	1.56	63	98.44
343	Users	1	1.56	63	98.44
344	VALUES	1	1.56	63	98.44
345	Viadeo services	1	1.56	63	98.44
346	Viadeo.com	1	1.56	63	98.44
347	Viber Out	1	1.56	63	98.44
348	Videos	15	23.44	49	76.56
349	Web page	1	1.56	63	98.44
350	WhatNerd	1	1.56	63	98.44
351	WhatsApp Web	1	1.56	63	98.44
352	XING News	1	1.56	63	98.44
353	XING SE	1	1.56	63	98.44
354	XING share button	1	1.56	63	98.44
355	Yoga	1	1.56	63	98.44
356	Your Account	1	1.56	63	98.44
Total	356	702		22088	

Majority of the web objects are available in the Social Media websites. The web objects that are not available in the Social Media websites were also calculated. Chart Control method has been generally adopted for identifying the quality control of the attribute. Normally different charts used are p chart, np chart, c chart, and u chart. In this study, np chart is used to identify the quality control of the attribute. Np charts may be defined as the Fraction of non-conformants which is the ratio of the number of nonconforming objects found to the total number of web pages actually taken up for the study. Np charts are statistical process control tools used to evaluate the items of non-conformity in a process.

The value of p is calculated using the formula

$$P = \frac{\sum np}{\sum n}$$

$$P = \frac{Total\ number\ of\ web\ objects\ available}{Total\ number\ of\ universities\ \chi\ Number\ of\ web\ objects}$$

While putting the Values in above formula we calculate Control Limits, such as Upper Control Limit (UCLnp) and Lower Control Limit (LCLnp).

$$P = \frac{\sum 22088}{\sum 22088/64x356}$$

P= 0.9694

N= Total No of University x p (16 x 1.1071)

NP= 17.7136

Control Limit=$np \pm 3\sqrt{(n\,p\,(1-p))}$

$$62.0416 \pm 3\sqrt{62.0416(1-0.9694)x}$$

62.0416+3x1.23

62.0416+65.73

Control Limit = 127.7716

Upper Control Limit = 127.7716+62.0416

UCLnp = 189.8132

Lower Control Limit = 127.7716-62.0416

(LCLnp) = 63.73

Using the formula, Control Limit was found to be 127.7716 and Upper Control Limit is Value we get 189.8132, and Lower Control Limit is (LCLnp) = 63.73 for web objects is shown.

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Table 3: Country-Wise percentage of visitors

Sr. No.	Popular Social Media Sites	PERCENTAGE OF VISITORS
1	Facebook	United States 25.2% Japan 4.4% United Kingdom 4.4% India 4.2% Germany 3.5%
2	WhatsApp	India 17.6% Brazil 11.9% Indonesia 5.6% Mexico 5.4% Iran 4.5%
3	QQ	China 93.5% Japan 2.1% United States 1.3% South Korea 0.6%
4	WeChat	China 55.2% Hong Kong 7.7% United States 6.2% Japan 5.3% Malaysia 3.6%
5	QZone	China 93.5% Japan 2.1% United States 1.3% South Korea 0.6%
6	Tumblr	United States - 33.7% Japan - 7.6% United Kingdom - 4.9% India 3.8%
7	Instagram	United States - 23.7% Russia - 7.8% Japan 5.2% Iran - 4.3%
8	Twitter	United States - 31.3% Japan 16.2% United Kingdom 6.1% India 3.4% Canada 3.3%
9	Google+	United States 21.2% India 9.0% Japan 5.3% Brazil 3.2% China 3.1%
10	Baidu Tieba	China 94.9% Japan 1.6% United States 0.9% Hong Kong 0.6% Taiwan 0.5%
11	Skype	United States 15.2% India 10.5% Japan 9.1% Russia 5.3% Germany 3.5%
12	Viber	Russia 15.8% Ukraine 9.7% Poland 5.4% United States 4.4% Germany 4.3%
13	Sina Weibo	China 94.1% Japan 2.1% United States 1.4% Taiwan 0.7% South Korea 0.5%
14	LINE	Japan 39.1% Taiwan 27.8% Thailand 23.8% Indonesia 2.9% China 1.6%
15	Snapchat	United States 41.9% Saudi Arabia 7.8% United Kingdom 5.2% India 4.3% France 4.0%
16	YY	China 96.8% Japan 1.3% United States 1.0%
17	VKontakte (VK)	Russia 52.3% Germany 5.2% China 4.6% Kazakhstan 3.2% Netherlands 2.9%
18	Pinterest	United States 45% India 7.7% Brazil 5.0% Japan 3.1% Iran 2.2%
19	LinkedIn	United States 40.5% India 8.0% United Kingdom 4.4% Canada 3.8% Japan 3.1%
20	Telegram	India 10.4% United States 6.9% Germany 4.7% Italy 4.6% China 4.3%
21	Reddit	United States 54.0% United Kingdom 8.2% Canada 6.4% Australia 3.2% Germany 2.5%
22	Taringa	Argentina 35.4% Mexico 15.5% Spain 10.9% Colombia 6.4% Chile 5.6%
23	Foursquare	United States 24.7% Turkey 9.6% Brazil 5.0% Japan 4.4% Mexico 4.2%
24	Renren	China 86.6% Japan 5.0% United States 2.4% Taiwan 0.9% Hong Kong 0.9%
25	Tagged	United States 24.3% United Kingdom 4.2% Mexico 4.1% India 3.7% Egypt 3.4%
26	Badoo	Russia 8.9% Italy 8.1% Brazil 7.7% Spain 6.8% France 6.0%
27	Myspace	United States 40.1% India 19.3% United Kingdom 3.3% Italy 3.2% Germany 3.1%
28	StumbleUpon	United States 45.9% India 18.1% Japan 8.6% China 4.2% South Korea 4.0%
29	The Dots	United Kingdom 53.2% India 9.7% United States 8.6% Germany 2.9% Pakistan 2.4%
30	Kiwibox	India 59.9% Pakistan 6.5% United States 4.8% Vietnam 4.8% Iran 4.3%
31	Skyrock	France 53.1% Algeria 5.5% India 4.1% Belgium 3.4% Morocco 2.8%
32	Delicious	India 44.6% United States 19.6% Turkey 2.9% Pakistan 2.8% Philippines 2.2%
33	Snapfish	United States 73.9% India 12.4% United Kingdom 2.4% Germany 1.4% Canada 1.3%
34	ReverbNation	United States 37.1% Japan 6.6% India 6.5% United Kingdom 6.4% Indonesia 3.5%
35	Flixster	United States 53.2% United Kingdom 6.5% India 3.6% Canada 3.6% Australia 2.3%
36	Care2	United States 43.4% India 9.9% Austria 6.1% Canada 5.8% United Kingdom 4.4%
37	CafeMom	United States 68.4% Canada 3.9% India 2.4% China 2.0% Brazil 1.4%
38	Ravelry	United States 54.9% Germany 8.5% United Kingdom 6.2% Canada 4.7% France 3.4%
39	Nextdoor	United States 96.7% France 1.1% Spain 0.5% Australia 0.5%
40	Wayn	United States 32.7% India 28.6% Poland 10.0% Pakistan 2.1% Kenya 0.9%

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41	YouTube	United States 15.6% India 8.2% Japan 4.7% Russia 4.6% China 3.5%
42	Vine	United States 53.1% India 5.5% United Kingdom 5.2% Canada 4.1% Japan 3.6%
43	Classmates	United States 91.2% Canada 3.3% India 0.6%
44	MyHeritage	United States 42.3% United Kingdom 7.7% Canada 4.7% Russia 4.0% Australia 3.8%
45	Viadeo	France 61.9% India 4.2% Morocco 3.7% Algeria 2.7% Tunisia 2.2%
46	Xing	Germany 73.1% Austria 7.1% Switzerland 5.7% India 2.9% United States 1.7%
47	Xanga	United States 43.4% Switzerland 12.7% Hong Kong 12.0% India 11.2% Pakistan 1.4%
48	LiveJournal	Russia 38.5% Germany 7.7% United States 7.3% China 6.1% Netherlands 3.5%
49	Friendster	United States 18.2% India 13.3% Indonesia 12.0% Philippines 8.5% Malaysia 4.9%
50	Funny or Die	United States 59.5% India 8.8% Canada 3.9% United Kingdom 2.8% Australia 1.5%
51	Gaia Online	United States 68.7% Canada 8.0% United Kingdom 3.0% Saudi Arabia 2.5% Italy 1.6%
52	We Heart It	India 17% United States 15.3% Brazil 4.2% Australia 2.7% Algeria 2.7%
53	Buzznet	United States 41.9% Japan 12.0% India 12.0% Canada 10.7% United Kingdom 5.5%
54	DeviantArt	United States 31.4% dom 5.3% Germany 3.9% China 3.9% France Flag France
55	Flickr	United States 29% United Kingdom 6.2% Germany 5.3% India 4.9% Japan 4.8%
56	MeetMe	United States 50.9% United Kingdom 6.8% India 6.0% Italy 5.4% France 2.4%
57	Meetup	United States 48.1% Japan 6.5% United Kingdom 5.6% India 4.4% Canada 4.1%
58	Tout	United States 54.7% India 20.4%
59	Mixi	Japan 98.4%
60	Douban	China 91.6% Japan 2.3% United States 1.4% Hong Kong 1.0% Taiwan 0.9%
61	Vero	United States 28.4% India 13.1% Egypt Flag Egypt Turkey 2.1% Russia 1.3%
62	Quora	United States 34.8% India 21.0% United Kingdom 5.2% Canada 3.9% Japan 3.0%
63	Spreely	United States 61.7% United Kingdom 21.3%
64	Cellufun	NM

Table 3 shows the data on Country-Wise percentage of visitors. Most of the United States user's to Social Media websites like China, India, Japan, United Kingdom, Germany, Pakistan, Hong Kong, Austria, Switzerland, Turkey, Bangladesh, The percentage of people who visit a web site Country-Wise percentage of visitors The top 3 highest percentage of users is for Nextdoor Social Media websites with United States (96.7%), followed by Baidu Tieba Social Media websites, China (94.9%) has the lowest percentage of users in Vero Social Media websites United States (28.4%).

IV. Findings

1. Among the 64 popular social media websites were taken up for the study
2. The web object, Administration, as the other web objects like Logo, Title, etc. was found in almost all the social media websites and it is very much below the control of the websites.
3. The findings of this study provides an overall picture of social media websites status in terms of their performances on the web based on the seven indexes of Alexa internet evaluation tool. Results of show that, most of social media websites do not act successfully on the web and need much attention. Similarly, some high traffic ranking social media websites showed weak performance in some of the attributes whereas some open traffic ranking social media websites performed comparatively better in some of the attributes. The bounce rate of most of the social media websites are not satisfactory, which needs to be given due attention as it could increase the number of visitors for the respective social media and their consequent global reach. Besides administrators of social media, the results of this study will be useful for web site managers in any field including those in charge of library web sites. The study will also help librarians and anyone interested to increase usage of a web site by analyzing the use of web site using Alexa internet.
4. The website of Next door Social Media websites, having the highest United States Users of 96.7% users and Vero Social Media websites United States (28.4%) has the lowest percentage of users in India

V. Conclusion

The web impact factor was developed by Ingwerson to measure the impact of a web area by the

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number of links it receives. WIF calculations were found to be a crude instrument for Webometrics studies Webometrics research want search engines and an academic web crawler have been used. The purpose of this website evaluation using Alexa Internet tool helps the webmaster and the respective Open University websites to improvise the usability of websites. The present study has been exploratory and there is possibility to future research in this area. The result of this study gives an overall preview of the Open University websites traffic and page ranks of local and foreign.

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Expanding Entire Volume of Knowledge Influences on Incrementing Individual Knowledge

By Duli Pllana

Abstract- In general, people chase knowledge tending to know the entire knowledge; nevertheless, they set one step forward and two steps backward. The development of knowledge grows exponentially; recently knowledge doubles every year very soon is predict it is going to double every twelve hours. There are many researchers who deals with body volume of knowledge, and what percentage of entire knowledge are able to know specialist researchers. In a broad-spectrum people are eager to know the development of knowledge; likewise, how much they know in their favorite field or occupation; as a result, they test their knowledge in different ways. Usually, students or test takers are assessed by others on the test. Nonetheless, majority of test takers check their knowledge on their own before they take any test. Another way assessing knowledge is by getting feedback from others. The key question remains, do test takers/learners get the accurate assessment on their knowledge? Most likely the evaluation might be inaccurate on inspecting the knowledge in a specific field.

Keywords: entire knowledge, individual knowledge, knowledge doubling, assessing, generation, iq scores, expert phase.

GJHSS-H Classification: FOR Code: 970122



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Expanding Entire Volume of Knowledge Influences on Incrementing Individual Knowledge

Duli Pllana

Abstract- In general, people chase knowledge tending to know the entire knowledge; nevertheless, they set one step forward and two steps backward. The development of knowledge grows exponentially; recently knowledge doubles every year- very soon is predict it is going to double every twelve hours. There are many researchers who deals with body volume of knowledge, and what percentage of entire knowledge are able to know specialist researchers. In a broad-spectrum people are eager to know the development of knowledge; likewise, how much they know in their favorite field or occupation; as a result, they test their knowledge in different ways. Usually, students or test takers are assessed by others on the test. Nonetheless, majority of test takers check their knowledge on their own before they take any test. Another way assessing knowledge is by getting feedback from others. The key question remains, do test takers/learners get the accurate assessment on their knowledge? Most likely the evaluation might be inaccurate on inspecting the knowledge in a specific field. Test givers are subjective in their decisions, teachers are too generous with giving a positive feedback, and assessing your own work is biased. Assessing your own knowledge is impossible because people inflate their evaluation or deflate. Furthermore, the paper deals with the question are children smarter than parents. The outcome will reveal the evidence of correlation between the entire and individual knowledge. Above all, Individual knowledge is relative since it depends on the development of entire knowledge.

Keywords: entire knowledge, individual knowledge, knowledge doubling, assessing, generation, iq scores, expert phase.

I. Introduction

Correlation of doubling knowledge, assessing own knowledge, and comparing intelligence of new generation with the old generation has nonlinear or linear association. Doubling knowledge with respect to time decreases the percentage of individual knowledge compared to the entire knowing. On the other hand, doubling knowledge contributes on growth of new generation's knowledge compared to the old generation knowledge. The process of continuous double knowing cannot occur infinitely because it is impossible for storing the infinite amount of a quantity in a finite space. The development of quantity of knowing will correlate with the enhancement of quality. Quality will postpone the fast rate doubling process of quantity, which will reflect a negative correlation or it will keep in a constant rate.

Quantitatively analyzing the knowledge doubling in relationship with time or the growth of knowledge in terms of time resembles exponential functions. The crucial question remains, does the doubling knowledge grows forever? According to the book "Turning Point in the chapter 7" writes, "The most common basis for criticism of the growth paradigm, however, has been the Malthusian argument: that the earth's resource base is finite and ipso facto inadequate to sustain unlimited growth" (Ayres, 1998). Furthermore, the book quotes Kenneth Boulding said, "Anyone who thinks that exponential growth can go on forever in a finite world is either a madman or an economist - Source cited by Richard Douthwaite, 1993, pl." Knowledge is a result of the finite sources, which multiplies rapidly; time on enlarging knowledge will decrease exponentially aiming toward the smallest possible value.

In general, Doubling Knowledge is happening every twelve months and in the near future is expected every twelve hours according to the article, *Knowledge Doubles Almost Every day, and It's Set to Increase* (Sandle, 2018). In several fields, doubling knowledge does not happen very quickly. Based on the journal article, *Review: The "Structure of the Knowledge" in the "Information Age"* states, "Scientific knowledge doubles every six or ten years, and, by bringing so much information to the public, exerts more influence from many sides on decisions of political and economic nature" (Maier-Leibniz, 1996). In the fields less interested for wider audience knowledge progresses will a slow rate because people do not invest enough money and energy. On the other hand, demanded field will produce knowledge very quickly. Considering accumulated knowledge in all fields, time producing doubling knowledge is expected to decrease less than 12 hours in the near future.

Self-reflection applies in all fields of life, but it does not describe the accurately situation or the state of knowing. Usually, teachers, students, lectors, self-reflect on their work. The article, *Self-reflection and Academic Performance: Is there a relationship? Points,* "The students in our study repeatedly had to reflect on how and what they have learned as the semester unfolded,

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and received continuous feedback from their teachers on their performances" (Lew &Schmidt, 2011). During the reflections students attempt evaluating their readiness for the test or evaluating their knowledge in a specific subject. Even though students want to be unbiased on their evaluation, they still struggle with their inflated or deflated self-assessing.

Self-evaluation of knowledge requires a great discipline, neutrality, and experience. Evaluating own skills in a subject reflects significant errors due to biased implementation. The book, Knowledge *surveys: Students ability to self-assess* claims, "We noted an apparent pattern in this data set. That is, students seemed to have a greater mismatch between survey and exam scores at some Bloom levels" (Clauss & Geedey, 2010). The mismatch of the exam data and self-evaluation reflects an inflated or deflated assessment. Human nature corresponds with biased evaluation on the areas involving self-interested. Experience in assessing own knowledge plays a key element on finding out the truth. For instance, the expert phase reaches a minimal gap between survey and actual knowing. On the other hand, the average phase inflates the gap between the survey and knowing to a highest point.

The Bennett Test proves that children are getting smarter than their parents; nonetheless, the IQ test might not be 100% accurate. The other factors on supporting the concept children are smarter than parents are knowledge increase and learning transformation from concrete to abstract. Based on the article, The *Flynn effect: your kids are smarter than you,* states, "Our society and intellectual environment have changed enormously over the last century, transitioning from 'concrete' to 'abstract'" (Dr. Carl, n. d.). The concrete thinking would make a difference between a wolf and a dog in terms of domestic animal and wild animal; on the other hand, abstract thinking would classify the wolf and the dog as mammals. Abstract thinking demands a great energy on thinking and a sophisticated conclusion. Also, the quantity of knowledge converts into qualitative knowledge, which assists young generation to be smarter than the older generation. Thus, IQ test corresponds with accurate scores – children are getting smarter than parents.

II. Knowledge Doubling

In the last two centuries, knowledge enlarged its entire magnitude more than eighty percent. The growth of knowledge launched with tiny (snail) steps; recently, the progress of knowledge is expanding with huge steps. According to the article *Op-Ed: Knowledge Doubles Almost Every day, and It's Set to Increase* claims, "Now our knowledge is almost doubling every day" (Sandle, 2018). The graph of doubling knowledge was as a linear function with a low positive slope. The positive slope boosted tremendously with a high rate. Comparing the knowledge doubled from 100 BC to 1700 AD and 2017 to 2018 gives the impression knowledge soon will blow to infinity. Nevertheless, humanity will keep the most useful data, digitally or physically, and the rest will belong to the forgotten knowledge. Collected knowing will always multiply its dimension with tendency on staying within a limited scope. Its graph resembles exponential function growth.

The branch of philosophy Epistemology (the reason about knowledge) studies knowledge in the details. Knowledge has a broad and several definitions; there is an attempt to mention a simple definition, which makes perfect sense. Referring to the *Oxford dictionary* the definition of knowledge verbalizes," Facts, information, and skills acquired through experience or education; the theoretical or practical understanding of a subject. Another definition is: The sum of what is known." The article *the Concept of Knowledge and How to Measure it defines knowledge roughly*, "Knowledge is often defined as a belief that is true and justified" (Hunt, 2003). In fact, the last statement is based on the philosophical perspective on study knowledge. In order for a piece of evidence to be true for an individual, someone must believe it is true. In addition the individual should justify the data is true by using recognized and reasonable epistemological and scientific approaches.

Knowledge is older than humanity because humans are not the only living being who grasp knowledge. Before humans came on the earth, animals, birds, and insects emerged on the Earth. They started to build their nets or chose the best locations to raise their family, and practiced simple reasonable movement to perform some kind of a simple beneficiary work. Additionally, ants are the most organized entity after the human beings. According to the article *Can Only Humans Have Knowledge* claims, "However, despite the growing body of evidence showing that animals can possess knowledge, there are still considered to be a range of abilities that distinguish humans from animals" (Boyes, 2016). There is no question are humans the most intelligent entity on the Earth? The matter of fact is when the knowledge presented on the planet Earth? Despite the differences between animals and humans on possessing comprehension, the existence of animals, birds, and insects is a proof that a form of a nonhuman knowledge exists and it is older than humanity's life span; thus, it proves knowledge is older than human beings.

Humankind accelerated knowledge all over with huge steps since they came into the life form on Earth. Before hundred thousand years ago, they draw animals and other living beings inside walls of caves. Today scientists discover many early man-artworks on stones, bones, and other inorganic materials. The article *When did the Human Mind Evolve to What It is Today* writes," After analyzing the mixture and nearby stone grinding

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tools, the researchers realized they had found the world's earliest known paint, made 100,000 years ago from charcoal, crushed animal bones, iron-rich rock and an unknown liquid" (Wayman, 2012). Man began progressing with thinking slowly, and knowledge mounded up relatively quickly compared with the previous knowledge (none human –knowledge). Nonetheless, there was a long way to go until it reached the peak of contemporary amount of knowing. The advancement of knowing prospered with respect to exponential growth function (Table 1. Shows the exponential growth of knowledge with respect to time).

Knowledge doubles	100 BC – 1700	1800 years
Knowledge doubles	1700 – 1900	200 years
Knowledge doubles	1900 – 1950	50 years
Knowledge doubles	1950 – 1970	20 years
Knowledge doubles	1970 - 1980	10 years
Knowledge doubles	1980 – 1988	8 years
Knowledge doubles	Now	Doubles every year
Soon it will double	Near the future	Doubles every 12 hour

Figure 1: Acceleration of Knowledge Doubling During the New Era (A.D.)

Endless Expansion of Universe induced the human brain on yielding advanced ideas and growing data exponentially in all segments of life. Accumulated data of information implemented with different speeds during different time frame. Based on the article *Knowledge Doubling every 12 month, Soon Doubling every 12 hour* writes, "Buckminster Fuller created the Knowledge Doubling Curve; he noticed that until 1900 human knowledge doubles approximately every century… According to IBM, the build out of the internet of things will lead to the doubling of knowledge every 12 hours" (Schilling, 2013). The growth of knowledge from 100 BC to 1700 AD shows a liner change with a low steep positive slope. Knowledge doubling from 1700 to 1900 has a steeper positive slope than the previous one. Moreover, from 1900 to 1950 the linear function has a steeper slope then the previous one. This process keeps repeating consistently as time tends to the future. Graphing all the pieces of linear functions together resembles exponential function growth. Based on the exponential growth model, knowledge doubling, soon will occur within the frame time of 12 hours. The big question remains what is going to be the ratio of humankind knowledge and individual knowledge?

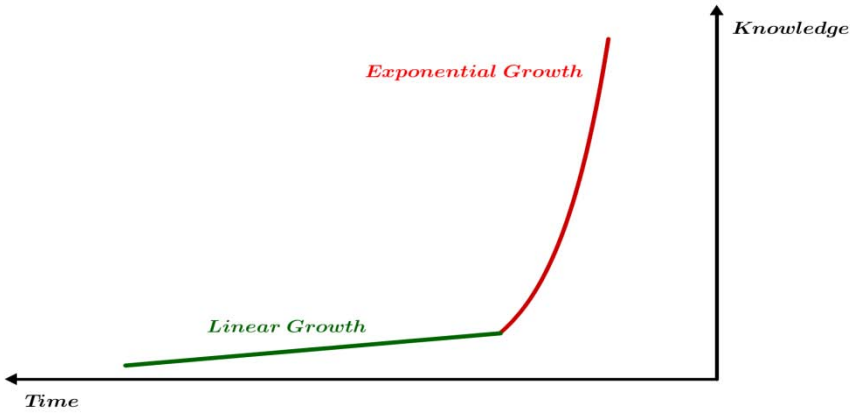

Figure 2: Knowledge Doubling Curve

III. Discussion on Knowledge Doubling

Laws of physics plays a large part in all sections of the life involving abstract human activities. Anything that starts to move from a resting position requires more energy to work against inertia. The article *Rapid Doubling of knowledge Drives Change in How We Learn* illustrates, "In 1982, futurist and inventor Buckminster Fuller estimated how long it took for all accumulated and transmitted knowledge up until the year One CE to double in size. His estimate was about 1500 years…" (Pedagogy and Learning, d.). Since knowledge was moving from this relatively rested position, the next doubling knowledge occurred seven times quicker. The inertia on movement of knowing rapidly increased up the motion; as a result, doubling knowledge enhanced quality and reduced its time tremendously.

The curve of doubling knowledge changes the shape as it goes to the Nineteen Century by multiplying its volume exponentially. In the twenty Century, it was a

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higher need to find new ways of working, learning, and living. The Growth of population in the world is another factor that affected new innovative ideas developing the whole spectrum of human life and contributed to the rise of doubling knowledge. There are many relevant factors on doubling knowledge then and now; I will not get in the depths of the factors that accelerated the new innovations. Nonetheless, various competitions between various rivals produced new ideas and multiple innovations with a higher rate causing the curve to get the J shape.

Digital technology in the twenty first century connected humanity in the entire globe of the world, and transformed education remarkably. Based on the article *AI in the 21st Century – With Historical Reflections*, States "The field of artificial intelligence has changed dramatically over the last 50 years" (Languerealla, Iida, Bongard, n. d.). Recently, Artificial intelligence reached a point of development to support natural intelligence to accelerate extremely doubling knowledge. Even though, the artificial intelligence has positive and negative sides, natural intelligence still is going to expand knowing by analyzing both sides. Taking into consideration speed and accuracy of artificial intelligence on multitasking operation, doubling knowledge will occur less than twelve hours per day.

IV. How Much do we Know?

Usually I read mathematics books, and I came across a thrilling evidence that says average mathematicians with PhD degree know less than 10% of whole mathematics. The volume of the mathematical knowledge (books and scripts) and human capacity obtaining knowledge is in a proportion with less than 1:10. The individual with a PhD degree understands the entire volume of knowledge in his or her field is extremely low, therefore, he or she knows to a certain degree there is a huge amount of information that are beyond his or her understanding. An individual who enters before expertise phase thinks he or she knows more than everybody else. An individual who enters college level or higher education, he or she knows there is the start to learn new modules, and there is a small limited portion of the study to perform until reaching the maximum of knowing. Majority of people inflate or deflate how much they know, and few people embrace the Socrates expression, "I know that I know nothing."

Few years ago, I came across an interesting graph (the graph has been modified recently by different researchers) in the Internet that represents three relevant questions; how much I know; how much more I realize is there to know; and how much I think I know? The graph of the knowing and the book that describes how much mathematics knows a PhD mathematician have many elements in common. As a result, I started to get more information on this topic and I did a research on the self-assessment of knowing and its graph. The graph illustrates the evidence where we start learning from nothing and we go in the circle. According to the article *As You Start to Know More, You Realize You Know Nothing* states, "We go from I know nothing to I am an expert I know nothing as our actual knowledge increases" (Erik, 2019)! The process that goes in the cycle from nothing – expert – nothing is explained thoroughly in the figure below.

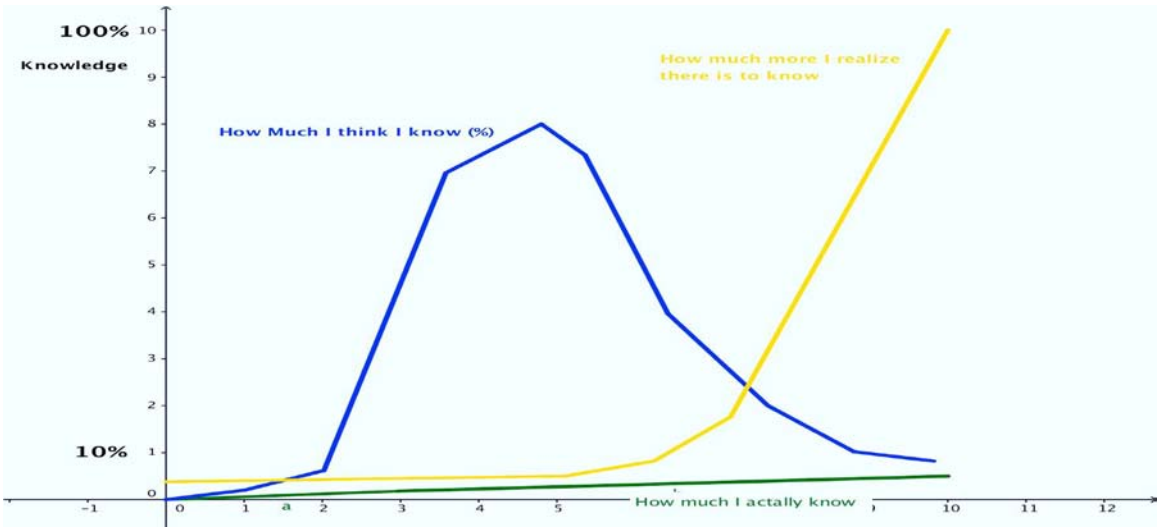

Figure 3: The graph represents the relationship of three human phases and knowledge.

- Beginner phase (The I know nothing phase)
- Average Phase-Hazard Phase (The I am an expert phase)
- Expert phase (The I know nothing phase)

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Legend: Relationship between three main factors presented in the plane coordinates.

- 1 How much I actually Know
- 2 How Much more I realize there is to know
- 3 How much I think I know

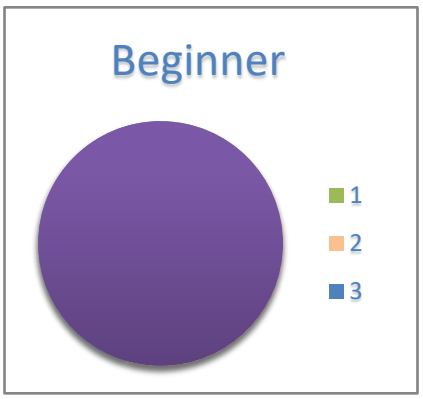

Figure 4: Beginner Phase

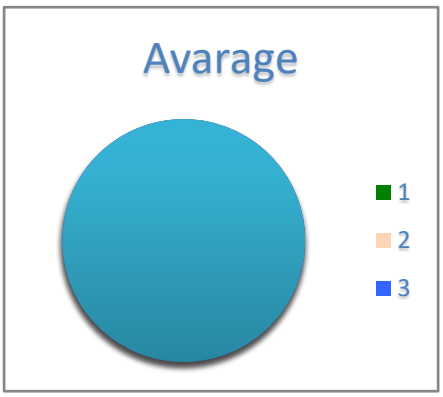

Figure 5: Average phase



Figure 6: Expert phase

I asked my students at a community college, how much they think they know mathematics in the scale from 1 to 10. The results were approximately with the results of the students from the charter high school. Since the results are similar, I will present just scores of the high school. I asked my students in charter high school, how much do you know about mathematics in the scale from 1 to 10. In integrated mathematics I have 30 students. In this case participated 30 students: 12 choose 5, 7 choose - 6, 10 choose - 7, and 1 chose - 8. My senior students' in college prep math: 2 choose - 6, 4 choose - 7, and 2 choose - 8. In contemporary math I have 10 students. 2 choose - 5, 4 choose - 6, 2 choose - 7 and 2 choose - 8.

Self-Assessing reflects incorrect outcomes since it is tempted to give a biased response on a certain task. Evaluating yourself resonates with a subjective intention in favor of personal interests. Referring to the article *A Q & A with David Dunning, PhD, Professor of Psychology at Cornell University* states, "It's difficult, almost impossible, for us to accurately evaluate our competencies… The first is the spin we tend to give the feedback we receive about ourselves from the outside world. That is, we claim credit for our successes and lay blame for our failures elsewhere. Second, what people tell you to your face is never exactly what they're saying behind your back" (n. d). External assessment impacts on self-esteem and self-evaluation considerably to the point the self-assessing would be deflated or inflated. Based on the article, *Why We Overestimate Our Competence, Social Psychologists Are Examining People's Pattern of Overlooking Their Own Weaknesses* asserts, "Steven Heine, PhD, a psychologist at the University of British Columbia, is showing that self-inflation tends to be more of a Western than a universal phenomenon" (Angelis, 2003). Usually, positive thinking plays a major role on students to inflate their knowing in the western world. On the other hand, In Asia students deflate their knowledge as a result of the modesty. In the both cases, self-assessment reveals inaccuracies of the outcomes.

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Number of Students who evaluate their knowledge on mathematics	Percentages (%) Picked
14 students	50.00
13 students	60.00
16 students	70.00
5 students	80.00
Median	65.00
Mean	62.50

Figure 7: Represents data of students self-assessing their knowing in mathematics

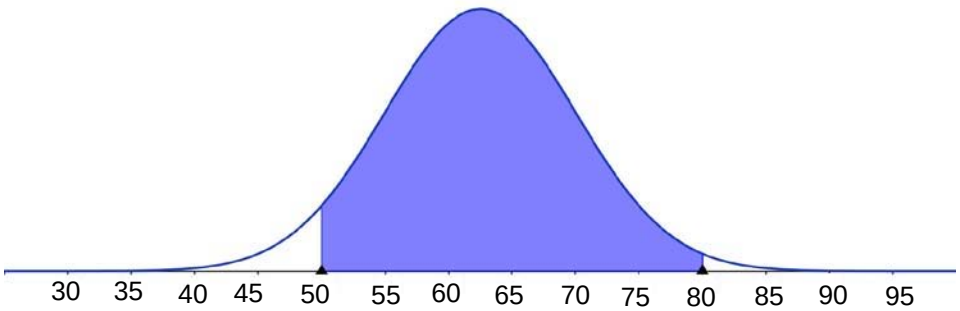

Figure 8: Normal distribution of students' data self-assessing their knowing in mathematics

The average phase most likely incorporates undergraduate college students to the beginner graduate students. Nonetheless, this phase includes all individuals who think they know everything. Dr. Hudson, mentor in teachers' program for charter schools, claims, "During the PLC (professional learning community) I had difficulties to work with teachers who have experience more than seven years. Several experienced teachers felt like they know everything, and they do not need to participate in PLC." New changes in education results as a necessity following recent educational development. New teaching and learning innovation occurring much faster than human brain can processes less than ten percent of it. In the case, a good teacher knows about ten percent of the entire knowing in education field in this academic year. The teacher will know less than five percent of entire educational knowledge during the next academic year. The ratio of entire educational knowledge and the teacher educational knowledge will grow exponentially - counting the average phase.

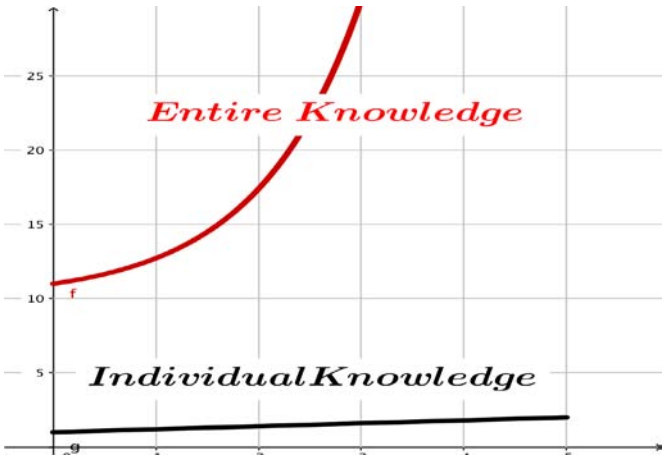

Figure 9: The ratio of the growth of Entire Knowledge and Individual Knowledge

The expertise phase requires a detailed work with deep analysis in a specific area of a subject. Usually, graduate study focuses on a narrow field with all-inclusive elements consisting in the proceeding methodologies. In the graduate study at New Jersey City University, Dr. Z says," When you choose a dissertation thesis it is like you are going in the mountain and choosing a tree. On the tree you are choosing a branch. On the branch, you select and pick up a leaf. The leaf you chose is your dissertation thesis. You are the one who knows the best about the leaf you selected." Dr. Z makes an analogy between the mountain with the entire

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knowledge in a particular field, and the leaf with the individual knowledge. The PhD candidate should know all facts concerning with the chosen leaf.

The Polish Mathematician, Stanislaw Ulam, describes how much is the volume of mathematics in his book, *Adventures of a Mathematician.* An interesting evidence of the book that was published in 1970 states, "the typical number of theorems per paper, Ulam estimated that around 100,000 to 200,000 mathematical theorems were being published every year." The article, *How much mathematics is There* states, "Philip Davis and Reuben Hersh, in their book The Mathematical Experience, estimated that the accumulated body of mathematical knowledge represented about 100 000 volumes of books: for comparison, they estimated that a specialist researcher might know the equivalent of between 60 and 70 volumes of mathematics…" (Srtatmaths, 2013). Calculating the percentages how much a specialist researcher knows mathematics is 0.07% according to the statistics in 1980. Nowadays, the body volume of mathematics has been expanded multiple times, hence the individual knowing of the whole (entire mathematical information) has been dropped extremely. Thus, individual capacity to retain quantities of the entire body of data tends toward shrinking as quantity of data expending; estimating the human's brain capacity of retaining knowledge with respect to entire body volume of material is unmanageable.

V. Discussion how Much do we Know?

In the past, entire knowledge has been spread within a narrow scope concentrated on several geographical locations. Usually, empires were thirsty for power, therefore, they accumulated the largest portion of the world's knowledge. However, the entire knowing in the medieval period was limited to a narrow scope. The article, *The Knowledge Doubling Curve*, illuminates, "The Renaissance Genius Sir Francis Bacon was thought to be the last person who knew everything a person could know–at least in a European nation in 1600" (Peter Lundell, 2014). Francis Bacon was considerate a very able man who had an incredible intelligence; during his lifetime the volume of body knowledge was not statistically organized, so the knowledge in the western Europe did not incorporate all information from other continents. Probably, Bacon might have known approximately all knowledge in the western world.

Now days the world has become smaller, people could share ideas in the matter of fractions seconds throughout the planet. Just by a superficial estimate without getting deep in statistics, it is clear the knowledge has been multiplied more than ten times since sixteen centuries. Logically speaking, if Francis Bacon was alive at this period of time, he would have known less than 10% of the accumulated knowledge. Literally, the graph in Figure 3 would spot Francis Bacon's knowledge in the expert phase. The graph of Figure 3 does not present the truth accurately, but it gives a general idea of relationship of entire knowledge and individual knowledge. The knowledge is expanding as a result of sharing information across the world, and then individual knowledge declines systematically with respect to entire knowing.

Now days, Internet diminishes the needs to have books and memorizing lots of information. Anything we need to know, we just google the questions, and then we find desired answers or we refresh our memories. According to the article *Individual knowledge in the Internet age* claims, "Some Internet boosters argue that Google searching serves as a replacement for our memory and that students need not memorize — need not learn— as much as they did before the Internet" (Sanger, 2010). Internet is one of the reasons that declines individual knowledge with respect to entire one. Considering the other factor (the increase of body knowledge in general) and Internet impact on individual learning, individual knowledge declines dramatically compared to the entire knowing.

VI. Recent Generations Are Smarter than Previous Generations

The quantity and quality of the knowledge change with respect to time; consequently, the ratio of the brain capacity containing knowledge and the total one, decreases as time increases. There is a disagreement when we question who is smarter than the old generation or new generation. Answering this question compels us to take a considerable number of empirical studies until we satisfy essential scientific criteria. Another reliable evidence is reading improves our thinking and accelerates the work of neurons with a higher rate. Reading books or other educational resources were accessible in the past and present; nonetheless, nowadays we have more books and other resources (digital medium) with higher quality than it was earlier. Considering the same percentage of people in the past and now have the same interest on intellectual work. Recently, the complexity of jobs to operate routinely coerces people to learn new techniques, processes, implementations, or information.

Today we have more books (digital books-reading material) that is accessible than ever before. Books are like windows to see many different worlds for those who are ready to read them. Obviously, reading gives an opportunity to expand our understanding in many directions. The article, *On First Understanding Plato's Republic* claims, "A book can change a mind, but only if that mind is ready to be changed. ... Books intrude into that process of self-evolving in a unique way" (Allot. 2011). As I mentioned earlier we consider

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the minds of the past and present who were ready to change for good. Mind in the present has a better access in a larger quantity and quality than those in the past. Therefore, children are smarter than their parents according to their availability of the reading material.

Studying intelligence is puzzling because we do not have a valid mechanism which would measure accurately. Nonetheless, we are going to observe from different viewpoints. Based on the article *Is Intelligence determined by genetics* says, "Intelligence is also strongly influenced by the environment. Factors related to a child's home environment and parenting, education and availability of learning resources, and nutrition, among others, all contribute to intelligence" (U.S. National Library of Medicine). Children inherit some genes with regard to the intelligence from parents, and they learn from parents' experience. Additionally, children get a qualitative education (interactive education involving technology) that was not available to their parents. Speaking from philosophical stance goods rises awareness in an advanced level.

The IQ test is very reliable test that measures intelligence with a high degree of accuracy. An IQ test for children has been taken in 1930, and the same test for the children has been repeated in 2010 (Briggs, 2015). According to the book "Using &Understanding Mathematics a Quantitative Reasoning" The average scores of IQ was 100, while in 2010 actual test, the average IQ score 124 comparing to the previous test (IQ test in 1930). Based on both tests, there is an increase of t of the 24 scores of the IQ from 1930 to 2010. The actual test in 2010 is an evidence the scores have been increasing at a rate of 0.3 score per year.

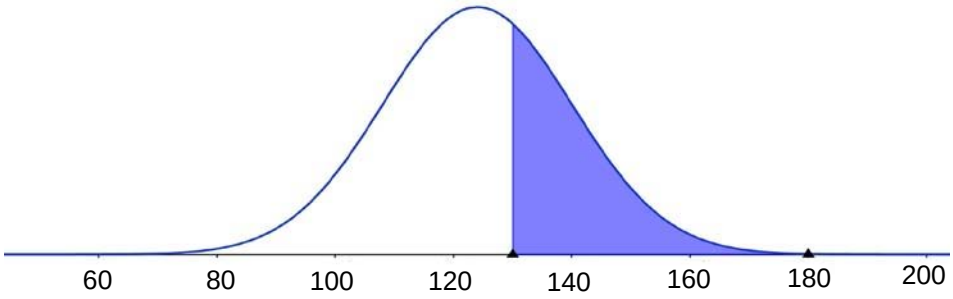

Figure 10: IQ scores in 2010 with mean 100 indicates the average would be at 124. Almost 50% of children were intellectually superior, while none of them were intellectually deficient.

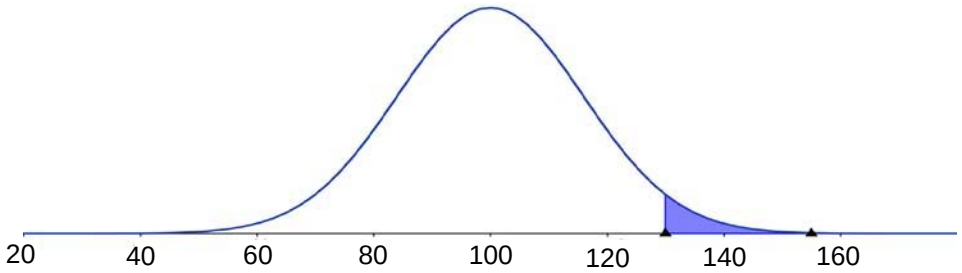

Figure 11: The IQ test of children, in 1930 with mean 100, and there were around 10% intellectually superior.

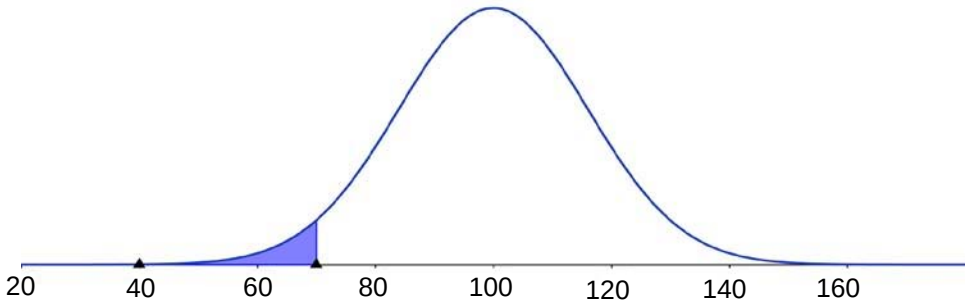

Figure 12: IQ test in 1930 shows about 10% of children were intellectually deficient.

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VII. Discussion on new Generation are Smarter than old Generation

New information enters the mind through reading or other learning methodologies; consequently, challenges our curiosity to analyze new data. The article *The Importance of Learning* claims, "Any kind of learning involves a change in neural structure or function" (Hanson, d.). While we analyze or wonder about the new data neurons do their necessary work by traveling on new pathways. New generation deals with more new data than older generations; hence, new generation have an opportunity to learn more than the older one. New accumulated knowledge makes new generation smarter than the older generation.

The IQ test is not perfect measurement of intelligence, but it is the most accurate device that exists today. Recent findings on measuring IQ suggests the new generations are smarter than older generations. Based on the article *Are Humans getting Smarter or Dumber* says, "Flynn and his colleagues have found that all around the world, the new generations score higher on the old tests than the original test takers did." The IQ test has been used for more than a century. Since the IQ test has been for so long, in principle has been used in the same way to the old generation to the new generation. Even though the IQ test might contain a degree of flaws, it has reliable outcomes on determining the new generation is getting smarter.

James R. Flynn studied the IQ of different generations for more than half a century across the world, he came to the conclusion that the new generation are getting better scores. The article, *The Flynn Effect and Bell Curve,* "I think there are two reasonable interpretations of the Flynn effect. One is to agree with Murray and Herrnstein that IQ test scores measure "intelligence" and to conclude that intelligence is primarily determined by environmental factors, and particularly by education" (Quiggin, 2003). Considering the transformation of the quality of the education toward a higher degree, new generation will increase their awareness and enhance their thinking. In the case, we compare/contrast the old generation and new generation, IQ scores support the idea that new generation is smarter than the older generation.

VIII. Conclusion

Historically observing doubling knowledge lead us to astounded results; there is no doubt the process of cumulative knowing grows exponentially fast in the relationships to time. Estimated volume of knowledge contains a degree of inaccuracies; nonetheless, still the exponential growth is indisputable. The ceaselessly development of new information dictates changes in teaching, learning, and assessing knowledge. For instance, the graph in the figure 3 asserts the expert phase (an individual with a PhD) knows between 5% to 10% of accumulated knowledge. On the other hand, referring to Ulma's esteemed of body knowledge and specialist researcher's capacity to know (the estimated knowledge in 1970) yields the expert knows about 0.07%. There might have been a certain period of time - the time was ephemeral when a PhD individual who knew 5% to 10% as the figure 3 states. The ratio of the whole body of knowledge and individual knowledge is in relation with the formula : $Ratio = \frac{Entire\ \ Knowledge}{Individual\ \ Knowledge} = \frac{e^n}{\frac{1}{10}} = 10e^n = \infty$. The graph of knowing is unpredictable, and it is going to change with respect to time. Obviously, the individual knowledge declines exponentially with respect to time. Despite the fact that individual knowing descents as entire knowing tends to infinity, new generations are getting smarter than the older generation. The rise of quantity and quality of the entire knowledge provides individuality with effective teaching and learning methods. Consequently, the growth of knowing impacts individual understanding to elevate to a higher level. The best, study case that proves enhancement of intelligence is justified in 1930 and 2010 IQ tests scores, which elucidates individual knowing expansion. The exponential expansion of knowledge does not grow indefinitely; after a finite number of knowledge doubling, it will reach the point of impossible expanding knowledge. Until then, we believe mathematical facts that show doubling knowledge will occur every twelve hours.

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Road Transport Policy Reforms in Nigeria: A Case of Underdeveloped Infrastructure

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Abstract- The study investigated the extent of road transport reform implementation in Nigeria with intention to assess the extent of road network infrastructural development in Nigeria.

The study made use of both primary and secondary data. The population for the study consisted of 2683 civil servants. Primary data were obtained through the administration of a set of questionnaires, structure interviews, and observation to elicit information from the respondents. A multi-stage sampling technique was adopted. Three zones and two strategic state capitals were purposively chosen from each zone, thus: from the North-Central zone (Ilorin and Lokoja), south-west zone (Akure and Ibadan), and south-south zone (Asaba and Benin). For the Senior Civil Servants, a set of questionnaires was administered using a proportional random sampling technique. In this case, 268 copies, representing 10% of the Senior Civil Servants was considered appropriate. Structured interview was conducted with six directors (Ministry of Works (3), Ministry of Transport (2), and Federal Road Maintenance Agency (1)).

Keywords: reform, infrastructure, road, implementation.

GJHSS-H Classification: FOR Code: 120506



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The study revealed that road network development as a part of the reform implementation was partial (92.8%) while public-private partnership (80.3%) and road concessionaire model (76.5%) remained unexecuted.

The study concluded that the unfaithful implementation of road transport reform in Nigeria was responsible for road infrastructural underdevelopment.

Keywords: reform, infrastructure, road, implementation.

I. Introduction

The role played by transportation cannot be over-emphasized in the growth and development of any nation. This is because the primary function of transportation is to move passengers and goods from one place to another for higher value or utility. The modern transport system in Nigeria started during the colonial period in which the networks of rail, water, and road development were established for the exportation of cash crops such as cocoa, cotton, etc. as well as the importation of cheap, mass-produced consumer goods. The old transport systems were planned in the most economical way possible, as shown with the construction of sub-standard and sub-base rail and road alignments, which later proved inadequate to accommodate heavy vehicles. In the post-colonial era, the re-orientation of goals in the transport sector became imperative as transportation served as an instrument of unification of the country and a tool for social and economic development.

The positive impact on the nation's social and economic growth by the development of petroleum resources pushed up the demand for the transport system. The imbalance identified between the needs of Nigerians and the economy for adequate transport facilities and the ability of the transport sector to meet such demands informed the introduction of National Transport Policy. Friedrich (1975) defined public policy as the proposed course of action of the government or one of its divisions. While public policy was defined by Easton (1979) as the authoritative allocation of values to the whole society. But policy formulation is an instrument that is being used both by public and private organizations to address existing problems or imbalances and safeguard the re-occurrence of such in the nearest future through articulated goals and objectives as contained therein. Although the National Transport Policy draft document initiated in 1965, its adoption took effect in 1993, and was tagged "moving out of the crisis" as the first National Transport Policy concentrated majorly on modal development as a thrust. The realization of the fact that the aspiration contained in this document seemed inadequate to transform the dynamics and ever-changing transport sector environment nationally led to the 2003, 2008, and 2010 reforms which paid attention to integrated intermodal development, deregulation, privatization, and public-private partnership respectively.

The 2010 National Transport reform aimed at institutionalizing the transport system through the creation of central coordinating centers to administer its affairs. Despite the various policy document reforms, the transport sector and road transport mode witnessed deterioration in facilities. Nine years after, the achievement was minimal in the transport sector in general and road sub-sector in particular. The lofty general policy goals and objectives for the transport sector and in particular the road transportation seem unattainable. As many of the Federal highways and bridges in Nigeria, including Oyo-Ilorin, Lagos-Ibadan, Jebba-Mokwa, Ife-Ibadan, and Benin-Onitsha among other expressways, are characterized with large

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potholes and failed portions which slow down movements and expose users to frequent accidents with the attendant loss of lives and properties.

Nigeria major road transport infrastructure as at year 2010, consisted of 34,123 km of Federal roads including seven bridges across the Benue and Niger Rivers, the Lagos ring road, the Third Mainland Axial Bridge; 30,500 km of state; and 130,000 km of local roads (Buhari, 2000; FGN, 2010). But in December 2002, the Central Bank of Nigeria (CBN) conducted a nation-wide survey on the state of highways in the country which estimated the road network in the country to be 194,000 kilometers. It also revealed that most of the roads, especially those in the North-Western and South-Eastern parts of the country, were in bad condition. The trend is generally similar to the other part of the country. The majority of the roads constructed over three decades had not been rehabilitated even once, resulting in cracks, depressions, dilapidated bridges, and numerous potholes that make road transport slow and unsafe (CBN, 2002).

The Federal Republic of Nigeria's Constitution (1999) accordingly shared the responsibility of maintaining, planning, and developing the nation's transport infrastructure among the three tiers of Government. To this end, the Federal Government, through Federal Road Maintenance Agency (FERMA), Federal Ministry of Works and Federal Ministry of Transport, is responsible for the infrastructural development of national highways that make up only 17% of the existing road network in Nigeria; intra-state roads are the responsibility of State Governments; while the Local Governments are required to cater for intra-urban and rural feeder roads, which constituted over 60% of the existing road network. Other stakeholders in road network administration are the Federal Road Safety Commission (FRSC), Nigeria Police Force, and Vehicle Inspection Officer (VIO), while National Union of Road Transport Workers (NURTW) and Road Transport Employer Association of Nigeria (RTEAN) are the end-users.

The Nigeria road network as estimated at 108,000km as paved is the largest in West Africa and the second largest south of the Sahara in 1990. Nigeria today has a dense network of urban centers unequaled anywhere in Africa (Ramirez-Djumena, 2014) with fast-growing population of 140 million (National Population Commission, 2006) but World Population Reference Bureau (2012) put it at 170.1 million, which surpasses the existing road network. Despite the lopsided constitutional arrangement, the impact of the three tiers of government and, in particular, the Federal Government, remained minimal as the condition of Nigerian roads has become deplorable, notwithstanding the reform put in place.

Apart from faulty design, lack of drainages and very thin coatings that are easily washed away by heavy rainfall, the underdeveloped nature of waterways and moribund railways system which has served as alternative means of transportation has increased the pressure on the roads which eventually congest the road network with heavy trailers, oil tankers and heavy vehicles and consequently damages with resultant effect of frequent road accidents arising from potholes and road failures. These seem to be the result of bad planning and poor maintenance culture emanating from weak policy formulation and implementation of road transport reform.

This situation aptly informed why attention focussed on policy reform implementation of the transport sector and road transportation in particular as it affects Federal highways in Nigeria. Therefore, this study aims at addressing the status of federal roads and the extent to which the policy reform implementation has impacted road infrastructural ability to cope with ever-increasing social, political, and economic development in Nigeria.

a) Statement of the Problem

Transport Systems provide mobility, timely accessibility, and facilitate the efficiency and productivity of the other sectors of the economy. Similarly, population growth, increased economic activity, and growing incomes combined to generate a higher demand for transportation service, which has some negative implications for development. The Federal Government of Nigeria (FGN) to introduce the National Transport Policy (NTP) in 1993, aimed at achieving sustainability in the transportation system. However, observing that the policy reform has little influence on transportation development, especially as the railways' system has partially collapsed with resultant increased pressure on roads. Different studies by scholars have been conducted on the level of transport development in Nigeria which include those from Buhari, (2000); Sumaila, (2013); Agbonkhese, Yisa, Agbonkhese, Akanbi; Aka & Mondigha, (2013); and Igwe, Oyelola, Ajiboshin & Raheem; (2013) among others whose studies focused on reviewing the national transport policy. Consequently, the road networks are overstretched congested with the roads characterized by deep potholes and failed portions, which impede movement and thus results in increased road traffic crashes. Despite putting in place of 1993 National Transport Policy and subsequent reforms, the road transport infrastructure seemed inadequate, and the yearly budgetary allocation seems not to impact favorably on the quality of the existing road network with adverse consequences on economic activities that have promoted poverty.

The above scenario informed the need to evaluate the National Transport Policy (NTP) to determine the extent to which the reform has achieved its stipulated objectives, and in particular, the

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effectiveness of road transports reform implementation activities at the execution stage on infrastructural development in Nigeria. Also, there is need to investigate the cause of the persistent deplorable state of road transportation and the extent of road transport reform implementation for economic sustainability. Hence, this study.

b) Research Question

The study attempted to provide answers to this question

i. To what extent are the guidelines in the transportation system in Nigeria been implemented?

c) Objectives of the Study

The study aims broadly to assessing the implementation of road transport reform in Nigeria, while its specific goal is to

i. Investigate the extent of road transport reform implementation in Nigeria;

d) Scope of the Study

The study covered policy formulation and implementation in the road transport system of the Federal Government of Nigeria and the agencies with the responsibility of the transformation, expansion, and maintenance of the physical infrastructures in the road transportation sector between 1993 and 2016. Specifically, the study covered the Federal Road Maintenance Agency, Federal Ministry of Works, and Federal Ministry of Transport that was statutorily responsible for policy formulation, implementation, maintenance, design, and construction of federal highways. The study also focused on roads from three geo-political zones, namely South West, South-South, and North Central.

II. Conceptual Review

a) Roads and Concept of Road Transport

Roads came into being as soon as well-defined paths emerge for easy passage of people and goods between farmland and settlements. It was brought about by the advent of the wheeled vehicle, which invariably prompted road improvement, which informed the need to construct roads so that the use of the motor vehicle could extend into less accessible communities and areas in developing countries. Hoyle (1973) posited that in the least developed and most remote inhabited parts of the world, transportation constituted part of the daily rhythm of life. Also, as part of human activity includes the painless passage of services, goods, and people from one community to the other.

Broadly, transportation terrain involves complicated interrelationships that are in place between the physical environment, models of political and social activity, and economic development status. According to Nutley (1998), transportation aims at providing accessibility or the ability to undertake a trip for a particular reason. But the transport requirement is usually derived, and the economy remained the main transport motivation (White & Senior, 1983). Transportation is assumed to occupy a core position in the global, regional, and local, economies aimed at world transformation. It does not only interact with the environs but also with the spatial distribution and development with varying types of social and economic activities (Hoyle & Knowles, 1998).

Hawkins (1962), White & Senior (1983) posit that transport as an human activity not only involves easy passage in space but as well as in time dimension. Concerning space dimension, functional transport reforms ensure the movement of cheap goods from the manufacturing point to the consumer's area, thus creating and widening the markets and economic growth. However, within time frame stocks, work in progress, and finished goods can be quickly turned over to serve markets and big economies (Hawkins, 1962). With the advent of new faster transport modes which have changed space and time dimension of traveling by bridging the distance connections between states, nations, regions, and continental boundaries than those that exist within the towns in the same country in terms of physical distance (Simon, 1996). As a consequence, not only has the geographies of production, distribution, and consumption been affected, but the different world delineation in various degrees of integration with technologies that has changed dramatically.

Road transportation, unlike other modes, has improved the majority of the world's population mobility and accessibility tremendously (Hoyle & Smith, 1998). In the area of road transportation reform, three main parts have been identified to include operations, vehicles, and infrastructure, which is also applicable to other modes of transportation. The wheeled conveyance as a means of transportation move on the road connectivity while the operations deal with the management and control of the system to ensure safety. The main infrastructure features include roads, bridges, nodes, and proper linkages (Dickenson; Gould; Clarke; Mather; Prothero; Siddle; Smith; & Thomas-Thorpe, 1996).

Road infrastructure described as a set of roads arranged in the form of a network linking the inhabited parts utilized by man. As the population of an area increases, the intensity of human activities becomes significant, and the road network is more congested. A road is a dedicated passage of land which has been smoothed, paved, and prepared to free movement from one destination to the other. Roads are classified and arranged based on the importance, attributes, and the function it is expected to perform or on the ownership. Accordingly, it differs in width, construction and quality of paving material, maximum allowed slope, and minimum curvature radius. There are different

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categorizations based on functions and available features into four different levels thus:

1. *Trunk A Road:* These are national highways or major roads of a country that connect state or regional capitals and cities. These roads are either dual carriageway or expressway.
2. *Trunk B road:* These are state highways that link markets and towns within the state to the state capital and also connected to national highways.
3. *Trunk C road:* These are roads built within the Municipal, local community or urban and rural roads that connect farmland and markets with towns within one province
4. *The International:* These are roads that are constructed linking two or more countries.

Trunk roads are usually a collective grouping of National, International, and primary highways while minor and tertiary roads grouped as local or community roads that remain unpaved but provide access to goods and services.

New roads are built to enhance road transport between two places to achieve economic benefit and social development that are associated with its building. New constructions are put in place not only to relieve the existing pressure of traffic congestion but to make new settlements accessible by connecting them to the road network and promoting commerce and other functions in the area. However, Simon (1996) posits that new road construction does not necessarily guarantee development in the area as he affirms that there is an indirect relationship in between and infrastructural upgrade.

As conceived by Tolly & Turton (1995), transport policy is not only viewed as the process of regulating and controlling the provisions of transportation but also to efficiently facilitate the economic, social, and political life of any country at the minimum social cost. As a framework for transport control and regulation, transport policy provides the government with a rule-setting function that ensures efficiency, safety, cost-effectiveness, and a conducive transport system. Conceptually, policy reform can be considered to be a form of aspiration, guidelines, ideas, goals, and visions for a better society. Equally, Hodgson (2012) argued that transport policy is specifically designed to proffer solutions and focus on the social issue of movement from the human angle as against viewing mobility as just a feature of the society.

However, transport policy deals with mobility as a central feature of the new world. Accordingly, to enhance globalization, the objective of transport policy is not aimed at changing mobility itself but rather its pattern. Hodgson (2012) concluded that the political goals complexities in transport policy inform why the issue of policy design became unique for policy researchers. Thus, Oyesiku (2004) concurred that transport policy not only serves as the bedrock for the strategy and direction of development of the transport system, but it enucleates the degree to which the planning and provision of transport offer suitable solutions. Oyesiku affirmed that the adopted strategies in transport provision together with the efficiency of the transport system are indirectly related to the nature and dynamism of the country transport policy. The consequence of societal values, transport policy, and reform process outlines and responds to the type of transport needs of the society in the way and manner it wants it developed. As a consequence, Sumaila (2008) posits that transport policy reform has many composite implications with its goals interdependent.

Within and across countries, Mercado, Paez, Scott, Newbold, & Kanaroglou (2007) have advanced an analytical framework to assess transport policies that direct on three indices which include consequence, context, and content. Arguing that the analysis and enumeration of policy objectives and values are useful in understanding why a particular transport approach embraced at the expense of others and which better explain the variations that occur across countries. Hence, from the perspective of a policy reform analyst, there is a need to consciously situate existing or proposed policies within the context of the country's policy problem.

According to Mercado et al. (2007), interpretation of transport policies based on the context in which it was formulated, bearing in mind the organizational arrangement and policy motivation derivable from the nation's political and socio-economic situations. The institutional analysis assesses the country's governmental structure and how the established relationship of sub-national will key into the policy formulation and implementation process. But the end-goals are the analytical product derivable from policy motivation of the country transport framework. Policy approaches, objectives, and solutions are used, to sum up, policy contents while consequence directly relates to the performance of policy solutions and policy outcomes. It emphasizes that policy intentions might become ineffective through the real implementation procedures of the adopted program approaches and solutions, which culminated in poor or unintended consequences.

b) Elements of Road Construction

Road construction involves the clearing of dedicated right-of-way aimed at overcoming the natural geographical obstacles with lower grades to permit foot or vehicular movement as stipulated by official guidelines or the standard set by law (O'Flaherty, 2002). The process is initiated by deforestation, digging, blasting, and removal of earth, and rock, which is followed by the construction of embankments, bridges and tunnels. A road pavement is the hard-wearing

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material laid down on the dedicated route aimed at sustaining vehicular movement on a road or walkway. Road engineers use asphalt or concrete materials laid on a compacted coarse base, which are often provided with signs and symbols to guide traffic. For low-impact roadways and walkways, permeable technique is currently in use while a variety of road building equipment is employed in road construction.

After full considerations of the environment, designing, planning, approval, and legal obligation requirements; the surveyor would then set the road alignment. The gradient and radii are mapped out and designed in a way that fits the natural ground levels and reduces the quantity of cut and fills (Kincaid, 1986). Adequate efforts would have to be taken to preserve reference Benchmarks. The road is designed and constructed for the primary use of vehicle and pedestrian movement (Lay, 1992). Environmental considerations and storm drainage are concerns that informed why sediment and erosion controls are constructed to prevent any detrimental effects. On the drainage lines, the sealed joint laid in the road easement with runoff coefficients and features expected to be adequate for the zoning of the land and storm water system. Drainage systems must be able to withstand the ultimate design flow intensity from the upstream catchment for drainage discharge outfall into rivers, creek, and sea with approval of the appropriate agency.

According to Oduwole (2002), to meet the minimum California Bearing Ratio results, general fill material should be free of organics and have a low plasticity index. The Select fill should be composed of broken rock and gravel or sand-clay below a particular tiny piece and be free of clay. After each layer of fill is compacted, the roadbed must be "proof rolled" until the roller that passes over an area create no visible mark or deformation; the section is then deemed to have complied. The roadway construction is completed by paving with asphalt or being left with gravel surfaces, which depend on expected usage and economic factors. Road safety signs including road surface marking, raised pavement markers, traffic signs, crash barriers, and other forms of road surface marking put in place for safety improvement, which in due course might require maintenance.

c) Incremental Model

The concept of disjointed incrementalism as simplified and made easy to grasp. As argued by Lindblom (1979), in most decision situations, people do not have all the necessary understanding, the time, the cognitive capacity, or the resources to conceive of all the options to visualize all the consequences of each option, to establish a set of desired and weighed. Incrementalism is a policy choice adopted at a particular time aimed at a gradual increase of value adjustment from a previous policy choice. The model has witnessed criticisms from methodological, empirical, and theoretical scholars but survives because there is no alternative replacement.

The policy change is the idea embraced by policymakers to ensure step-wise correction since the late 1950s. The concept has been applied successfully in the study of public budgets. Drawing on Lindblom (1959), Wildavsky (1964), scholars have argued that the results of the annual budget seem to drift instead of shifting abruptly. The concept of "base" and "fair" share that was premised on each year's budget should be on the previous year allocation and that any marginal increase should relatively be shared equally and made to cut across categories and agencies which resultantly affect the budget. The incremental model as a policy choice is said to be descriptive and has been under profound criticism by scholars that it did not survive. Critics have pin-pointed challenges in the models used by Davis, Dempster, & Wildavsky (1974); (Gist 1982; Natchez & Bupp 1973), in the standards used (Wanat 1974), in the model clarity of terms (Berry 1990; Hayes 1992), and in the nature of the process of making choices (Padgett 1980, 1981). Others complain of identified challenges associated with the complexities in the simple theories of budgeting, in particular, the incremental model (Kiel & Elliott 1992; Rubin 1988; Schick 1998).

Notwithstanding other criticisms, the budget performance arising from models of decision making featuring ''considerations of limited rationality in the face of complexity and uncertainty'' was the parameter employed by incrementalists (Davis, Dempster, & Wildavsky, 1974). Within the structure, outputs govern by standard operating procedures, are incremental, in which participants are expected to use step-wise decision rules for three reasons. The first concerns the easiness of reversing mistakes following changes. The second involves the participant's desire to establish stable expectations in a complex and uncertain environment. The third deals with the nature of interacting, overlapping, and conflicting institutions in American politics, which push participants to compromise (Davis, Dempster & Wildavsky, 1974; Fenno, 1966; Lindblom, 1959; Wildavsky, 1964).

However, Lindblom (1968) argued that incrementalism was possible to achieve a radical shift as "one person's incremental decision could be another man's radical change." He conceded the argument for forwarding the planning and application of rational analysis using analytical techniques. Finally, it is worthy to note that the transport system has witnessed incremental processes both in the National Transport policy formulation starting from 1965 policy statement to 1993 national Transport Policy Document with subsequent reforms in 2003, 2008, and 2010. The implementation of provisions of road transport infrastructures also conforms to incremental ideals.

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III. Methodology

a) Research Design

The study employed a descriptive design that involved a systematic collection, presentation, tabulation, interpretation, and analysis of data on road transport reform implementation, focusing road network infrastructure underdevelopment in Nigeria.

b) Study Population

The study population consisted of civil servants whose total population was 2683. The civil servants included the senior staff on grade level 7 and above in the selected ministries and agency. The breakdown of the population is as follows: Federal Ministry of Works had 1223; the Federal Ministry of Transport had 975, and Federal Road Maintenance Agency had 485.

c) Sampling Techniques and Sample Size

The administration of the questionnaire adopted a multi-stage sampling technique. The first stage involved the use of proportional sampling technique which ensure that adequate representation of the agency irrespective of their population; and application of 10% random sampling to personnel of the Ministry of Transport, Federal Ministry of Works and FERMA that are statutorily responsible for policy formulation, implementation maintenance, design and construction of federal highways. The study focused on roads from three geo-political zones, namely South West, South-South, and North Central, purposively selected from the six geo-political zones of Nigeria for data collection and which seemed to represent at least 50% of the six geo-political zones in Nigeria. Also, two-state capitals are purposively selected from each of the zones: Oyo State (Ibadan), Ondo State (Akure), Edo State (Benin), Delta State (Asaba), Kogi State (Lokoja) and Kwara State (Ilorin). The choices of these states were informed because all states capitals are within federal road network and also forming a network with those not selected. Also, for each Ministry and Agency, a simple random technique of balloting system was used in selecting respondents. These making it possible for each member of staff understudy to have an equal chance of being sampled. The sample size of 268 that constituted 10.1% considered a fair representation of the above population under study. The distribution of 268 copies of the questionnaire administered to the respondents was as shown in Table 1

Table 1: Administration of Questionnaire

Ministry and Agency	Population	size	Percentage
Federal Ministry of Transport	975	98	36.6
Federal Ministry of Works	1223	122	45.5
FERMA	485	48	17.9
Total	**2683**	**268**	**100.00**

Sources: Fieldwork July 2019

d) Sources of Data Collection

In the course of this study primary and secondary sources of data collection are use. Gathering of the primary data are done with the use of a set of open-ended and close-ended questionnaires, structured interviews, and personal observation. Two hundred and sixty-eight (268) copies, representing 10% administered to civil servant respondents drawn from the senior staff cadre of Federal Ministry of Works, Federal Ministry of Transport, and Federal Road Maintenance Agency. Structured interviews conducted on the Managerial Staff (Directors, Road Engineers, and Head of Departments), who volunteered and cooperated with the researcher. Personal observations were also used to assess physical infrastructure facilities, equipment, and others that were incidental to the study.

Secondary data collected from sources including Federal Ministry of Works, Federal Ministry of Transport, and Federal Road Maintenance Agency. Others included official documents of the selected ministries, journal articles, books, magazines, and internet resources.

IV. Data Presentation Analysis and Discussion

a) Demographic and Socio-economic Characteristic of the Respondents

This section discusses some demographic and socio-economic characteristics of the respondents, comprising civil servants from the ministries and agency under considerations. Demographic features considered include age, educational qualification, and grade level, on the one hand, and driving experience, type of driver's license, involvement in road accidents, among others, on the other.

The study revealed that close to two-thirds (62.9%) of the respondents were aged between 31 and 40 years, about one-third (32.6%) were aged between 41 and 50 years, and 4.5% were aged between 21 and 30 years (Table 2). Variations in required formal educational attainment for civil service employment and working as a transporter might be significant in explaining observed differences in the age distribution of respondents.

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Distribution of respondents revealed that one-quarter (25.0%) of the respondents have a postgraduate qualification, close to four-fifths (73.5%), of the civil servant, had a first degree or its equivalent. While none of the civil servants had educational qualifications less than the first degree. Observed educational attainment is a requirement for career civil servants. The fact that higher education as requirement for innovation in the service could also be significant.

Table 2: Demographic and Socioeconomic Characteristics of Respondents

Civil Servants			
1	Age (in years)	Frequency	Per cent
	21-30yrs	12	4.5
	31-40yrs	166	62.9
	41 – 50yrs	86	32.6
	51yrs and above	-	-
	No response	-	-
	Total	264	100.0
2	Highest qualification		
	Postgraduate	66	25.0
	Bsc./BA/HND	194	73.5
	NCE/OND	-	-
	SSCE/GCE	-	-
	Primary Schl.	-	-
	No response	4	1.5
	Total	264	100.0
3	Transport Ministry	96	36.4
	Power, Works and Housing	120	45.4
	FERMA	48	18.2
	Total	264	100.0
4	Cadre		
	Directorate	2	0.8
	Management	20	7.6
	Senior Staff	242	91.6
	Total	264	100.0
5	Grade Level		
	8-10	230	87.1
	11-13	32	12.1
	14-17	2	0.8
	Total	264	100.0
6	Length of Service		
	1-5years	12	4.5
	6-10years	156	59.1
	11-15years	80	30.3
	Above 15 years	16	6.1
	Total	264	100
7	Status on ownership of a personal copy of NTP		
	Had	112	42.4
	Did not have	152	57.6
	Total	264	100.0

Source: Fieldwork July 2019.

Table 2 revealed that 45.4% of the sampled civil servants were from the Ministry of Power, Works, and Housing; 36.4% were from the Ministry of Transport, and 18.2 % were from FERMA. Since the proportional sample taken from each Ministry/Agency, employed personnel in these agencies could be seen to be in the proportion of the total sample taken for the study. Of the 264 civil servants sampled, 0.8% was in the Directorate cadre, 7.6% were in the management cadre, and 91.6% were senior staff, implying that adequate, relevant information obtained from the sampled population. Grade Level of the sampled population followed a similar pattern with their designation: 0.8% was on levels 14 to 17; 12.1% were on levels 11 to 13, and 87.1% were on 8 to 10. Years of service of respondents also followed a similar pattern of being bottom-heavy: only 6.1 % have spent more than 15 years; 89.4 % have spent between 6 and 15 years, and only 4.5% have spent between one and five years. The study sought to know if the staff had a personal copy of the draft National Transport document, as this presented likelihood of having to make reference to it and get used

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to the provisions and thereby provide a basis for its successful road transport reform implementation. It revealed that 42.4% of the respondents have their copy, while 57.6% did not have. Personal interaction with the staffers that claimed not to have a copy of the policy revealed that they all claimed to be very familiar with the contents, which they claim is on the internet. Directors interviewed by the researcher argued that: 'if there was no National Transport Policy, then there will be no Federal Ministry of Transport.

b) Investigating the Extent of Road Transport Reform Implementation in Nigeria

The extent of the road transport reform implementation indicator included the following: network interconnectivity, road network development, alternative sources of funding attraction of private investors, and concessionaire of roads.

The National Transport Policy Reform of 2003 recognized the need for interconnectivity of road linkages to rail, airport, waterways, and the port. The interconnectivity is expected to facilitate and promote both accesses to local and international markets' export and import oriented goods and services. Of the 264 respondents sampled for the study, 230(87.1%) strongly agreed that the expected connectivity had been 'fully implemented,' and 13(4.9%) believed that the connectivity was only partially implemented (Table 3). Investigating on the anticipated road development expected to be achieved by the implementation of the policy revealed that 301(91.3%) affirmed that the road network development was at least 'partially implemented'; and only 4(1.5%) of the respondents were of the opinion that the road network development was 'not implemented' at all. Investigations on the implementation of provisions for sourcing alternative sources of funds for road management revealed that 179(67.8%) were of the opinion that this provision was 'poorly implemented'; 64(24.2%) affirmed the non implementation of the provision; and only 2(0.8%) of the respondents felt its contrary. Rating for attracting private investors received a similar pattern: 33(12.5%) of the respondents believed in its either poor implementation or 'Not implemented' at all (212(80.3%)). Implementation of roads concessionaire judged in a similar vein: 244(92.4%) of the respondents either affirmed that the policy was 'poorly implemented' (57(17.6%)) or 'Not implemented' at all (247(76.2%)).

Table 3: Extent of Road Transport Reform Implementation in Nigeria

1	Interconnectivity of road/ rail/port	Frequency	Percentage
	Fully implemented	230	87.1
	Partially implemented	13	4.9
	Poorly implemented	9	3.4
	Not implemented	8	3.0
	No response	4	1.5
	Total	**264**	**100.0**
2	**Road Network Development**		
	Fully implemented	4	1.5
	Partially implemented	241	91.3
	Poorly implemented	13	4.9
	Not implemented	2	0.8
	No response	4	1.5
	Total	**264**	**100.0**
3	**Alternative sources of funding**		
	Fully implemented	2	0.8
	Partially implemented	9	3.4
	Poorly implemented	179	67.8
	Not implemented	64	24.2
	No response	10	3.8
	Total	**264**	**100.0**
4	**The attraction of Private Investors**		
	Fully implemented	2	0.8
	Partially implemented	7	2.6
	Poorly implemented	33	12.5
	Not implemented	212	80.3
	No response	10	3.8
	Total	**264**	**100.0**

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5	Concessionaire of roads		
	Fully implemented	-	-
	Partially implemented	10	3.8
	Poorly implemented	42	15.9
	Not implemented	202	76.5
	No response	10	3.8
	Total	264	100.0

Source: Fieldwork July 2019.

Investigation on the implementation of the provisions on government disengagement from transport service provision in Table 4 revealed that 235(89.0%) of the respondents thought that it had been either fully implemented (117(44.3%)) or 'partially implemented' (118(44.7%)). In the case of road maintenance, 174(65.9%) of the respondents judged this provision as being 'poorly implemented'; 68(25.8%) judged it 'partially implemented' while only 4(1.5%) were positive about its full implementation. Investigation on the implementation of the provision of transit parks revealed that 244(92.4%) of the respondents either affirm that its 'poorly implemented' (47(17.8%)) or 'Not implemented' (197(74.6%)). Investigations on the implementation of provision for enforcement of traffic regulations received better rating: 238(91.9%) of the respondents either rated it 'fully implemented' (99(37.5%) or 'partially implemented' (139(52.7%)).

Table 4: Extent of Road Transport Reform Implementation in Nigeria

6	Government disengagement from transport services provision	Frequency	Percentage
	Fully implemented	117	44.3
	Partially implemented	118	44.7
	Poorly implemented	14	5.3
	Not implemented	5	1.9
	Sub total	254	
	No response	10	3.8
	Total	264	100.0
7	Road Maintenance		
	Fully implemented	4	1.5
	Partially implemented	68	25.8
	Poorly implemented	174	65.9
	Not implemented	4	1.5
	Sub total	254	
	No response	14	5.3
	Total	264	100.0
8	Provision of transit parks		
	Fully implemented	4	1.5
	Partially implemented	6	2.3
	Poorly implemented	47	17.8
	Not implemented	197	74.6
	Sub total	254	
	No response	10	3.8
	Total	264	100.0
9	Enforcement of traffic regulations		
	Fully implemented	99	37.5
	Partially implemented	139	55.7
	Poorly implemented	14	5.3
	Not implemented	2	0.7
	Sub total	254	
	No response	10	3.8
	Total	264	100.0

Source: Fieldwork January 2019.

c) Interview Analysis

The conducted interview aimed at eliciting information relating to policy issues that could not be adequately covered by the questionnaire. When asked about the extent of road transport reform implementation, the interviewed directors said that 'all you have seen about road transport system are the achievement of the extent of road reform

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implementation.' They agreed that the road might have issues, but that was not enough to deny our presence. The road maintenance, rehabilitation, and construction suffered a major setback because of the non existence of parastatals, which incapacitated FERMA and deprived it of funds that could have been paid directly to the National Road Commission, who was to manage and re-distribute the said money. The extent of road transport development is in exhaustive. As new areas developed, new roads are constructed.

On the quality of the job done, the directors said that the foreign contractors have adequate field equipment and technology. The interviewees affirmed that there was an underline corruption when projects awarded to foreigners failed to conform to the specified standard. On the issue of corruption, they agreed that political corruption is the most destructive one, which is incomparable with bureaucratic corruption.

The fieldwork involved having to travel around the three geo-political zones (South-South, South West, and North Central) and in particular, the purposively selected six State capitals (Ibadan, Akure, Lokoja, Ilorin, Benin, and Asaba). The road networks were generally characterized with potholes and failed portions to the extent that in some cases pools of water made it impossible for small cars to pass through. The roads had become worst than as described by Buhari (2000), Sumaila (2013), and other scholars.

d) Analysis of Secondary Data

Since coming on board of the fourth republic in 1999 in Nigeria, the road network has not been given priority as before. The investment profile declined gradually from 1990, which stood at 70.14% for that year allocation to 31.03% for the year 2002 total allocation to the transport sector. It concise with the period when 50% of Federal roads, 20% of the State roads, and only 5% of the Local government roads were in reasonably good condition as claimed by Buhari (2002). But an insider confirmed that since the year 2012 to date, no meaningful allocation came to the transport sub-sector, which informed why road pavements become impassable.

Table 5: Estimated Size of the Road Network in Nigeria.Road Length in Km.

OWNERSHIP	PAVED(Km)	UNPAVED(Km)	TOTAL(Km)
FEDERAL GOVERNMENT	26,500	5,600	32,100
STATE GOVERNMENT	10,400	20,100	30,500
LOCAL GOVERNMENT	2,600	128,000	130,600
TOTAL	**39,500**	**153,700**	**193,200**

Source: Federal Ministry of Works, 2012

Equally related to the funding was the performance on the road activities. Funding dictated the extent of work done, as shown in the estimated size of the road networks in Nigeria in Table 5. The Federal Government-owned 34,100km (17.0%) in which 26,600 km paved when 8,600km remained unpaved, which was the primary concern of this study. As illustrated by the bar chart in figure 1, which compared the activities of the Federal, State, and Local Governments on the national road networks. The estimated size of the roads under the State Government stood at 30,500km (16%) when the Local Government roads constituted over 130,600km (67%). What a lopsided road length arrangement?

e) Discussion of Findings

In the course of this study, many scholars' works reviewed in the area of policy formulation and implementation, as well as the role played by the stakeholders concerning the road transport infrastructural development in Nigeria and the developed countries of the world. This study intends to juxtapose the obtained results with the reviewed literature to draw out the area of convergence or that of divergence.

Reform is a change expected to bring to bear on the course of action. The extent of road transport reform has been within the policy framework, available technology, and financial resources. The 1993 National Transport Policy document at inception recognized and promoted modal development. This document has been reformed in 2003, 2008, and 2010 to address the existing or foreseeable identified gaps. These reformed efforts have manifested in the present number of kilometers of road lengths and its quality (91.6%), which was not contradictory to the position held by Buhari (2000) and CBN (2002). The extent of the road network development was judged (92.8%) as being partially implemented which agrees with that obtained from the secondary data in fig. 1 which are in consonance with position held by McCawley, 2010 & Kingombe, 2011, that infrastructural investment and maintenance can be costly, and the demand for infrastructure surpasses amount invested. The interconnectivity of road with rail, port, air, and waterway was fully implemented although its suitability may be in doubt. Alternative sources of funding were poorly implemented (67.8%) as it has not impacted on the infrastructural provision or maintenance. The above result confirmed Oroleye's

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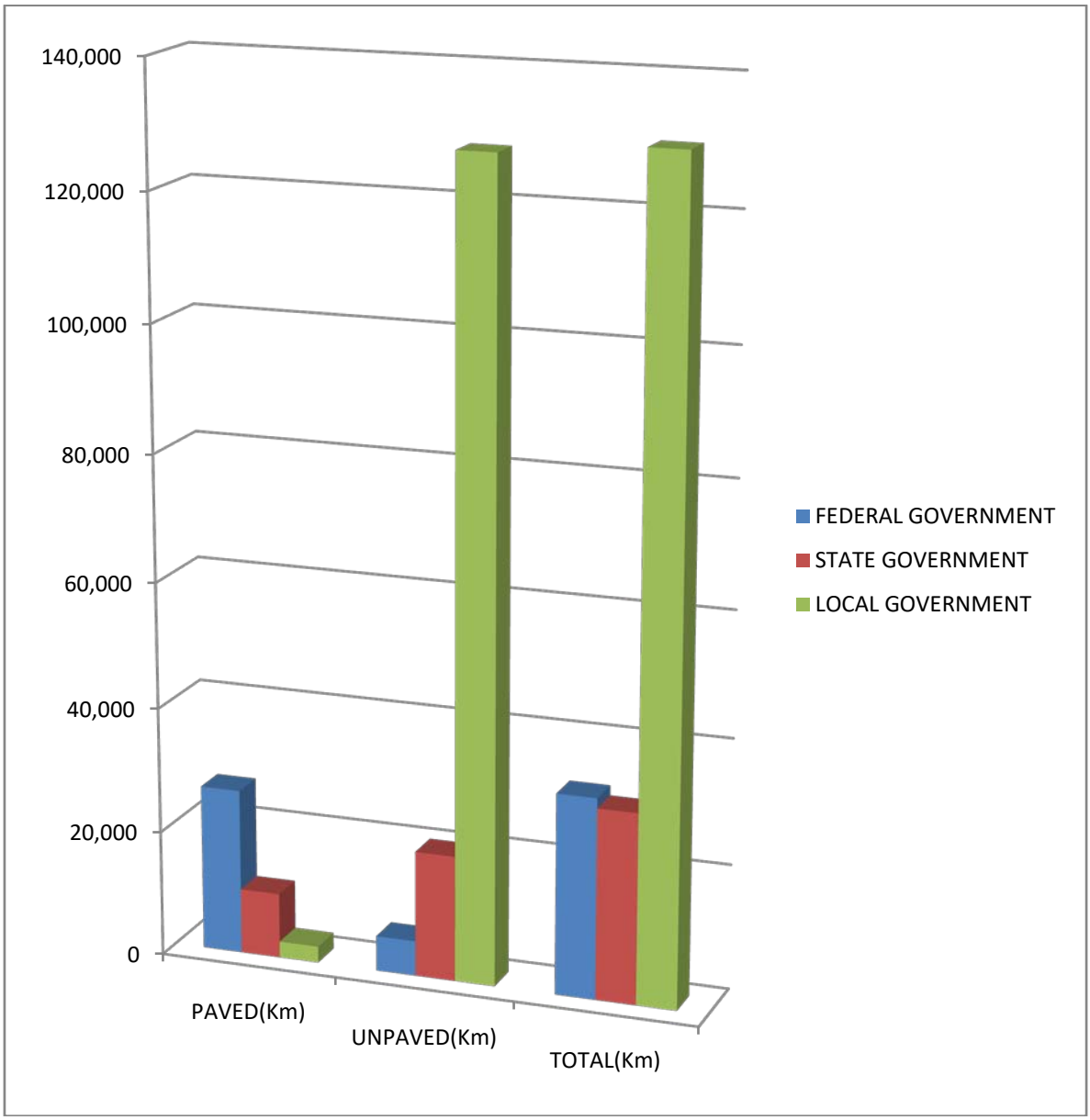
(2019) position on the National Assemblies' failure to establish road institutions that will generate funds. As a result of the inability of the government to bear the full cost of road construction and maintenance, the Public-Private-Partnership reform process was adopted. This program aimed at attracting private organizations to partner with the government to jointly finance road construction. But contrary to expectations, the program has not been implemented (80.3%) probably to justify the position held by Igwe et al. (2013) that the policies of the Nigerian Government constituted a barrier to large scale entrepreneurial success as the government plagued by corruption and greed. As a result it inform why road concessionaire unimplemented, as evident from the study (76.5%). While Nigeria has not benefited from this PPP model, the program has impacted significantly on road network development in South Africa (World Bank Development Indicators, 2010; CIA World Factbook, 2010 & Daramola, 2003). The consequence of state of funding and failure to implement alternative sources, affected the implementation and provision of road maintenance (65.9%), thus creating an infrastructural gap that Olomola (2003) described as initializing incidence of poverty across various Nigerian communities.

Finally, there was conformity in the data generated through the questionnaire administration and those gathered through interview sessions in respect of the extent of road transport reform implementation in Nigeria.



Source: Federal Ministry of Works.

Fig. 1: An Estimated Size of the Road Network in Nigeria. Road length in Km

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V. Conclusion

The study concluded that the country's unimpressive performance on road transport reform implementation attributed to the Federal Government and National Assemblies inability to establish the various agencies and institutions which include National Road Transport Commission, Toll Gate Agency, etc. that will not only execute the reform implementation with the Act of Parliament but generate necessary fund for road infrastructural development through taxes. This gap was responsible for the road infrastructural under development. Hence the extent of activities of road transport reform has fallen short to cope with economic activities and the increasing population of Nigeria.

VI. Recommendations

1. The Federal Government and the National Assembly should expedite action to pass the necessary Act of parliament to establish the agencies (National Transport Commission, Road Transport Commission, Federal Highway Agency, and Road Toll Agency, etc.) that will fast track the activities of road transport reform implementation in the sector.
2. Critical to the infrastructural investment is the establishment of above-named institutions, which will facilitate the implementation of transport policies as well as provide the legal and regulatory framework for private sector (PPP) participation in the sector as alternate sources of generation and funding of roads.
3. As recommended in the National Transport Policy Reform document on roads allocation to the 3-tiers of government, in the ratio 50:30:20, to Federal, State and Local Government according to the resources available at the disposal to each tier, the Federal Government should adopt it now without any further delay as against what is presently obtainable.
4. FERMA should be assisted by the Federal Government to acquire state of the art technology such as GIS that can monitor road damage throughout the road networks nationwide and field equipment with professionals to be able to perform its statutory functions effectively on road maintenance through direct labor instead of contract awarding method.

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The Effects of Access to Finance, Competition, and Innovation on Female Ownership and Employment: Evidence from Bangladesh

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Abstract- This study identifies the effects of firm's access to finance, competition, and innovation on female ownership and employment in the manufacturing and service sector for Bangladesh. We applied IV model to World Bank enterprise survey data on 1180 manufacturing firms and 262 service firms in 2013. The results of the study suggest that overdraft facility significantly increases the possibility of female ownership, top managers and share of workers in the manufacturing sector whereas it reduces the probability of female-owned business in the service sector. Audit of financial statement is a key determinant of female ownership and employment in both sectors. Export-orientated firms are more likely to be owned by female than non-export-oriented firms both manufacturing and service sectors. Informal competition has significant positive association with female ownership and top management in manufacturing sector whereas it does not significantly affect female in service sector.

Keywords: access to finance; competition; innovation; female ownership and employment; world bank enterprise survey.

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The Effects of Access to Finance, Competition, and Innovation on Female Ownership and Employment: Evidence from Bangladesh

Dr. Mohammad Monirul Islam [α] & Dr. Farha Fatema [σ]

Abstract- This study identifies the effects of firm's access to finance, competition, and innovation on female ownership and employment in the manufacturing and service sector for Bangladesh. We applied IV model to World Bank enterprise survey data on 1180 manufacturing firms and 262 service firms in 2013. The results of the study suggest that overdraft facility significantly increases the possibility of female ownership, top managers and share of workers in the manufacturing sector whereas it reduces the probability of female-owned business in the service sector. Audit of financial statement is a key determinant of female ownership and employment in both sectors. Export-orientated firms are more likely to be owned by female than non-export-oriented firms both manufacturing and service sectors. Informal competition has significant positive association with female ownership and top management in manufacturing sector whereas it does not significantly affect female in service sector. Production, logistics, marketing and idea innovation significantly raises the possibility of female-owned business whereas R &D and management innovation decrease the probability of female ownership in manufacturing sector. The effects of these innovations on female top managers and share of workers isquite the opposite in this sector. For the service sector, R&D significantly affects female ownership and top manager whereas the effect of idea innovation is negative. Other innovations do not significantly affect female in service firms.

Keywords: access to finance; competition; innovation; female ownership and employment; world bank enterprise survey.

I. Introduction

Gender disparity is regarded as one of the pervasive phenomena all over the world in recent decades. Women lag behind men in almost all aspects of human society more especially in the developing world. Women constitute half of the world population, and sustainable development is not possible to achieve keeping this share of the population out of the mainstream economic activities. Female entrepreneurship and participation in the economic activities are not only significant force for the world economy but also crucial for achieving other goals of SDGs such as poverty alleviation, food security, wellbeing and health; quality education; and gender equality. Klasen (2002) argued that the consequences of gender inequality could be low wel-lbeing of the female as well as lower economic growth and development. In the business area, gender disparity exists from ownership to participation to the top management level and worker level.

However, in most of the developed and developing countries differences between male and female still exist pervasively in business entrepreneurship and labor market participation in both top and lower level. This significant gender difference is the result of the challenges faced by women. Access to finance; competition and innovation are the critical challenges for female in business and labor market (Caleb Kwong, Jones-Evans, & Thompson, 2012). Women get less financial facilities from the financial institutions than their male counterparts (Kon & Storey, 2003) which may affect female business ownership and participation in the top and low level in the labor market. The challenges of female entrepreneurs and managers are intensified through credit contrasts due to under-performance, lack of innovative capabilities and competitiveness. Financial institutions are reluctant to finance female-owned business due to the underperformance of these ventures which consequently affect the firm's potential profitability and performance.

Competition is another crucial factor responsible for gender difference in entrepreneurship and labor market. Women are perceived to be less risk-taking, assertive and ambitious than their counterparts (Booth & Nolen, 2012; Croson & Gneezy, 2009; Eckel & Grossman, 2008)which consequently lower the performance of the female-owned business as well as female participation in the top and low level. Innovative capabilities which are considered as the heart of an organization is another crucial factor that affects gender differences in entrepreneurship and workforce. In case of innovative capabilities female lag behind the male. Mueller and Van Deusen (2002) recognizedmen as innovators and women as adopters whereas Whittington and Smith-Doerr (2005) argued that men are more intended to create something new than their female counterparts.

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Moreover, men are preserved to be more assertive, risk-taking, and ambitions than the female counterparts Williams and Best (1990). Due to the lack of innovative capabilities female-owned and female-led business usually face greater challenge for pursuing innovation which also consequently causes underperformance and under the competitiveness of these ventures. Moreover, female-owned ventures face assumedly more challenges in promoting new products as well as expanding to new markets that may result in the lower competitiveness of the firms.

However, the significant research question that is not addressed by the previous studies is whether these factors such as access to finance, competition, and innovation have significantadverse effect on female entrepreneurship and participation in top management and low level. Most of the studies in finance-gender linkage focused on gender differences in access to finance. Although female entrepreneurs face several demand-side and supply-side barriers to access to finances, it is also argued that women mainly finance their ventures from personal savings, credit cards and borrows from family and friends rather than taking loans from banks or commercial credits (Bygrave, Hay, Ng, & Reynolds, 2003).Moreover, the financial constraints faced by the female also differs across countries and societies.

In the case of gender-competition and gender-innovation linkage, the studies focused on gender differences in competition and innovation. Although female lags behind in performing in the competitive environment and pursuing innovation in the firms the research question is whether these factors significantly affect female entrepreneurs, managers, and workers in business and labor market, although gender differences exist in competition and innovation, business competitiveness and innovative environment may vary across countries or regions which may have differential effect on female business and labor market. Gneezy, Leonard, and List (2009) found that avoidance of competition of female is higher in the patriarchal society than the matrilineal society. A number of research studies showed gender differences as significant catalyst in creating innovation as man produce a higher degree of patent compared to women (Agnete Alsos, Ljunggren, & Hytti, 2013).Marvel and Lee (2011) identified that educational background inflation network and regional location affect gender differences in innovation. However, whether innovation capabilities act as significant hindrance to female entrepreneurship and participation labor is still a crucial research gap.

Women constitute nearly half of the population of Bangladesh, and no sustainable development is possible without the active participation of women in mainstream economic activities. Although women entrepreneurs contribute significantly to sustainable economic development, their contribution and participation in Bangladesh are still insignificant (Chowdhury, Yeasmin, & Ahmed, 2018). In the case of female participation in top and low-levelemployment, the situation is also alarming. In Bangladesh, women hold position in the business, own companies, and global corporations but the ratio is too small due to several barriers in every sector(Shetu & Ferdous, 2017). Bangladesh is a developing country with a significant share of unskilled and semi-skilled labor and women constitute the majority of this labor. That is why they are employed in the labor-intensive sectors such as readymade garments in Bangladesh and paid low wage. Among the barriers to women entrepreneurship and employment, financial constraints, competition and innovation or lack of technical knowledge are considered as significant factors contributing to small number of female entrepreneur and employment in Bangladesh.

Considering the issues discussed so far, this study identifies the effects of firm's access to finance, innovation, and competition on the ownership and employment (top and low level) of the female based on firm-level data. This paper substantially makes several contributions to the empirical research of gender inequality in ownership and employment. First, the paper addresses the issue of gender inequality in three different of business such as ownership, top management, and owner level thus covers diverse areas of gender-related issues in business ownership and employment. Second, the study uses firm-level stratified survey data of WBES which provides more and robust insight into the gender issues in the firm's level. To measure female ownership in the firm level we focus on the question "Among the owners of the firms, are there any females?" and to measure female participation in top management we take into account to the response of the question "Is the top manager female?" The lower level participation of female is measured by the share of female worker in the firm. Third, the study focuses on three significant factors that may affect female ownership and employment at firm-level such as finance, competition, and innovation. Moreover, the study also identifies how different factors of finance, competition and innovation affect female ownership and participation. Four, we identified the effects separately for manufacturing and service sector to look into whether financial constraints, competition, and innovation have differential effect on female in manufacturing and service sectors.

We focus on single country perspective because gender issues significantly vary across countries depending on the cultural and economic heritage Alesina, Giuliano, and Nunn (2013). We focus on Bangladesh for several reasons. This country lies at an essential stage for economic transition and gets status from low income to developing country very soon. This country substantially improves in women

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empowerment and participation in the workforce. The manufacturing sectors of Bangladesh are very dynamic, and it experiences a substantial and robust growth since the 1990s importantly driven by the readymade garments sector. On the other hand, the service sector of Bangladesh is still lag behind. Thus identifying the effects of finance constraints, competition, and innovation on female ownership and employment can provide significant policy suggestions.

The remainder of the study is arranged as follows. The next section discusses the literature in the related field. Section three describes the variables and research method of the study. The results and discussion of the analysis are provided in section four. The last section makes conclusions and provides policy implications.

II. Literature Review and Hypothesis Development

Access to finance is regarded as one of the major challenges for starting up of a business by the female(Klapper & Parker, 2010). Several studies identified several specific factors of low access to finance for women such as (SL Carter & Shaw, 2006)identified three key factors for gender diffrences in finance such as structural difference of business; discrimination from supply-side; and debt aversion attitude of the female. Women are more likely to start business in small and less profitable projects (Coleman, 2000; Muto & Yamano, 2009); informal or home-based sector (Hallward-Driemeier, Hasan, & Rusu, 2013); and female-type occupations with less capital intensive (D'espallier, Guérin, & Mersland, 2011); and less expections for profit(C Kwong, Brooksbank, Jones-Evans, & Thompson, 2006). These fetaures of the female-owned business make them less creditworthiness. From supply-side perscpective female face more difficulties in accessing cedit dur to credit procedure and criteria against women (Amatucci & Sohl, 2004; Sara Carter, Shaw, Lam, & Wilson, 2007) conventional measures of credit worthiness (Blake, 2006); and competitive force in the market (Cavalluzzo, Cavalluzzo, & Wolken, 2002). Finally risk aversion characteristics of the female affets their access to credit as they are considered more risk avrese that make them less ikely to access to finance (Caleb Kwong et al., 2012).

However, some studies also support neutrality or female favpurism in access to credit. In a recent study Moro, Wisniewski, and Mantovani (2017) found no biasedness of financial institutions against female managers, and they argued that female-managed firms obtain less financing due to the low application as they anticipate being rejected. Wellalage and Locke (2017) found less credit constraints faced by female compared to their male counterparts. Aristei and Gallo (2016) support gender-based discrimination regarding access to finance as credit denial probability between male and female cannot be explained by firms specific characteristics.

In this study, we observe access to finance and gender issue through a different lens. We identified whether access to finance constraints affect female-owned business negatively. The research question here is as follows:

Research Question (RQ) 1a: Financial constraints in different aspects reduce the probability of female-owned business.

Finance constraints also affect female participation in the top management. Top managers are responsible for grasping the profitable opportunities for firm's growth whish require challenging and creative thinking of the top management through utilizing the resources of the firm efficiently. Beckmann and Menkhoff (2008) found that female managers are more averse to competition and they act as market followers in selecting strategy rather than outperforming in the market. Niessen and Ruenzi (2006)support this view by identifying that female fundraisers perform neither very good nor very bad. This risk aversion and low confidence of the female in utilizing the firm's funds affect their access to finance. Our contribution to this strand of literature is that we uncover the research issue that whether firm's access to finance is negatively associated with the female top managers.

RQ 1b: Access to finance is negatively associated with female participation in top management. It means that higher access to finance reduces the probability of female top managers.

Firm's financial constraints also affect female share of worker in the firm. In the developing countries, a large portion of female workers are semi-skilled and unskilled who are paid low wage. The firms facing higher credit constraints will employ more female workers due to low wage paid to female.

RQ 1c: Credit constrains of the firms increases the female share of workers.

Competition is one of the crucial challenges women face in starting new business as well as representing in the top and lower level in the organization. According to Borghans, Heckman, Golsteyn, and Meijers (2009) women are more risk averse than men. Moen are willing to compete while women try to avoid competitionNiederle and Vesterlund (2011) suggest three different reasons for gender differences in competition such as women cannot or do not like to compete; they compete but not against men; and the differences in competition occurs not due to lower performance of women but higher performance of men in the competitive environment. Mobius, Niederle, Niehaus, and Rosenblat (2011) argued that men and women have difference in their beliefs as well as

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updating their beliefs upon receiving information. Women update their beliefs less than men do upon receiving information. Competitive entrepreneurs invest more in their business and have more employees which improves the profitability and potentiality of the business. Amore and Garofalo (2016) identified that female significantly show high performance in low competition whereas they tend to underperform as the competition increases. The literature focusing competition-entrepreneurship linkage is very scarce. The contribution of this study is that it identifies whether competition is negatively linked with female entrepreneurship.

RQ 2a: High competition in the market reduces the possibility of female ownership in the business.

Gender difference in representation in the top managerial positions is also substantial. Niederle and Vesterlund (2007) women do not prefer competitive high profile or technical jobs because of high responsibility associated with these managerial positions and long working hours required for these jobs. He further argued that women remain absent in some professional positions and higher rank positions as they have lower abilities. Moreover, in the competitive environment men and women respond differently and women exhibit more risk aversion than men. Competition improves the performance of men but does not female performance. From the firm's perspective, it would be costly if the high level personnel cannot adjust to competition in the market. Several studies (Faccio, Marchica, & Mura, 2016; Huang & Kisgen, 2013; Tate & Yang, 2015) argued that at the top level of organizations women are significantly different from men in different aspects which may result in different corporate policies and financial returns. As women avoid competition and risk in the market competitive environment may result in low female representation in the top management.

RQ 2b: Competition reduces female participation in the top managerial positions.

Competition may affect the female workers different ways as it affects female top managers. As female underperform in the competitive environment compared to men high competition in the market may reduce the female share of workers in the organization. However, the critical issue is that whether firms compete for low cost or high differentiation and innovation. If competition is based on low cost high competition will result in higher female share of worker in the developing economies as female are paid low wage in these economies due to their low bargain power (Rahman, 2014). If competition is based on differentiation or innovation share of female worker will fall with growing competition as female are less innovative than men.

RQ2c: Competition has mixed effects on the female share of worker in the firm.

Innovation appears to be critical factor for firm's competitiveness and growth(Malerba, 2002). Shane and Venkataraman (2000) argued that entrepreneurial process require some level of innovation as it is considered as the heart of entrepreneurship. According to (Lee, Paik, & Uygur, 2016) innovative capabilities is a generalized issue and can be differentiated by gender andMinniti and Naudé (2010) argued that entrepreneurial phenomenon is also gendered. Thus entrepreneurship and innovation are closely related. Kirton (1976) argued that women are adapters whereas men are innovators. Female-owned firms face greater challenges in pursuing innovation (Estrin & Mickiewicz, 2011; Kelley, Brush, Green, & Litovski, 2011) as men are perceived to be assertive, ambitious, and risk-takers. Moreover, female-owned businesses also face higher challenges in introducing or pushing a new product in a new market that sign for low marketing capabilities of female (Sara Carter et al., 2007; Orser, Riding, & Manley, 2006). However, studies overlooked the effects of innovation on female entrepreneurship. In this study we identified that whether innovation in different aspects significantly reduces female owned business.

RQ3a: Innovation is negatively associated with female ownership at the firm level.

Innovative capabilities also affect gender differences in labor market. As women are more risk averse and thus less innovative, higher innovative environment more suited for men than women. (Niederle & Vesterlund, 2007) identified that women have lower abilities for technical and competitive jobs. Several studies (Bagshaw, 2004; Díaz-García, González-Moreno, & Jose Sáez-Martínez, 2013; Torchia, Calabrò, & Huse, 2011) argued that women improve management abilities decision- making process as well as innovation in an organization. According toBrown, Brown, and Anastasopoulos (2002) women tend to be more people oriented, consultative, democrative and inclined to interpersonal relation. Thus gender diversity in the management helps improve social relations, create open work climate and establish more diversified view of problems which consequently generates more diverse ideas (Milliken & Martins, 1996; Nielsen & Huse, 2010).

RQ 3b, c: Innovation in different aspects has mixed effect on female participation in top and lower level in the firm.

III. Methodology

a) Data

The data for this study has been collected from World Bank Enterprise Survey (WBES) 2013 for Bangladesh. The enterprise survey collected data for around 1180 firms, and they represent the randomly sampled of the registered firms of both manufacturing and service sectors including their subgroups. The survey was designed using uniform questionnaire, and the firms were selected following stratified sampling

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method. The survey data covers almost all aspects of business in a country such as informality, corruption, financing, technology & innovation, gender, crime, firm characteristics, infrastructure, performance, regulation and workforce focusing on the firm level. The survey includes 1442 firms out of which 1180 are manufacturing, and the rest 262 are from service sectors. The survey also stratified the manufacturing and service sectors in different size and sub-sectors. The sample was stratified in three levels such as region, industry, and size of the firms.

b) Dependent Variables

Realizing the significance of gender issue in the business this study aims at identifying the effects of finance constraints, competition, and innovation on female ownership and employment. Based on WBES data, we used three different measures to focus on gender issues at the firm level. The first measure focuses on the ownership issue of gender and is based on the response to the question "Among the owners of the firm, are there any female?" The variables take value of 1 if there is any female owner in the firm and 0 otherwise. The second measure deals with the gender of the top managers in the firm based on the response to the question "Is the top manager female?" The firm with female top manager takes value of 1 and 0 otherwise. The third measure focuses on female employment in the firm by calculating the share of female workers in the firm which is a quantitative measure. The share is calculated by taking the ratio of the total number of female permanent worker and total full-time permanent worker of the firm. However for service sector the data on the number of female permanent worker is not available. So, we cannot calculate the share of female worker for service sector.

c) Independent Variables

We use three sets of variables as the leading independent variables such as access to finance, competition, and innovation. As proxy to firm's access to finance, we use credit purchase, working capital borrowing from banks, overdraft facility, line of credit from financial institutions and external audit of the statements. To represent competition in the market, we take informal competition; technology license; and export orientation of the firms. As proxy to innovation, the study considers product innovation (service innovation for service sector); process innovation or offering innovation for service sector; logistics innovation; management innovation; marketing innovation; idea generation; and R &D of the firm.[1]

d) Other Control variables

We use several firms' specific characteristics as the control variables based on WBES data. They are firm's size; location (business city/capital city/special economic zone); legal status; age; quality certificate; registration; sector dummy for subsectors to strengthen the linkage between the dependent and independent variables.[1]We also divided the firms into two broad sectors such as manufacturing and service to identify the differential linkage between dependent and independent variables for different sectors. However, the survey collected data on 1180 manufacturing and 262 service firms for 2013 in Bangladesh.

e) Methods

As the first two proxies of gender issue are represented by binary outcome which takes value of 1 for the firms with female owner (or female top manager) or value of 0 otherwise a qualitative response model is appropriate. In this study, we applied the probit model which can be derived as follows:

$$y^* = \beta_0 + x'\beta + e_i \quad \ldots\ldots\ldots\

does not affect female ownership or managerial position.

The IV probit model that uses instrument $\check{z}_i$can be written

$$\beta\hat{} = (\sum_{i=1}^{k} \check{z}'_i x_i)^{-1} (\sum_{i=1}^{k} \check{z}'_i y_i) = (\check{Z}'X)^{-1} (\check{Z}'Y) \quad \ldots\ldots(4)$$

Finally, the model is fitted using the iv regression as follows:

$$y_i^* = \beta_0 + y_i\beta_1 + x_i\beta_2 + \varepsilon_i$$

$$y_i = \delta_0 + x_i\eta_1 + z_i\eta_2 + \upsilon_i$$

Here y_i^* is the dependent variable for the ith observation, y_i represents the endogenous regressors, x_i indicates the included exogenous regressors and $z_i$is the excluded exogenous regressors. x_i and z_i are collectively called the instruments. ε_i and υ_i are zero-mean error terms and the correlations between them are presumed to be nonzero.

The consistency and robustness of IV estimator are highly subject to the validity and relevance of the instrument. The use of weak instrument makes the regression results more inconsistent and results in many times larger standard errors compared to OLS. Cameron and Trivedi (2010)argued that the validity and relevance of the instrument rely to some extent on the persuasive argument, economic theory and the results of the prior studies. However different tests are also available to test the validity of the instruments.

In this study, we use three different dependent variables such as female ownership; female top managers; and share of female workers in the firms. Moreover, we also divided the firms into two broad sectors such as manufacturing and service. The main sets of independent variables are access to finance; innovation; and competition which also comprises different indicators. This makes the study difficult to identify the valid instruments. For this reason, we followed step by step procedures to find out the valid instruments. In the first step, we determine the correlation between the probable endogenous regressors and probable instruments to view the gross relation between them as suggested by Cameron and Trivedi (2010). The instrument with very low correlation with endogenous variables can be considered as weak instrument. We applied Durbin-Wu-Hausman test (also known as Hausman specification test) to check the endogeneity of the variables which has a null hypothesis that variables are exogenous. The rejection of null hypothesis indicates the presence of endogeneity.

Another critical issue of IV estimator is overidentified instruments. Adding too many instruments may cause over identified restriction which results in inconsistent regression results. We applied Sargantest to justify the validity of overidentifying restrictions. The test has a null hypothesis that overidentifying restriction is valid and rejection of null hypothesis indicates the absence of overidentifying restrictions.

The last critical issue is the use of appropriate weights while making inference on survey data. For the analysis of stratified random sampling data, we have to use weights to make inference about the population because individual observation may not represent equal shares of the population. When there is separate underlying model for each stratum (also known as stratum-specific coefficient) both weighted and un-weighted estimation will not significantly differ. Under stratified random sampling, unweighted estimates would beunbiased if sample sizes are proportional to the size of each stratum (Cochran, 2007; Deaton, 1997; Lohr, 2009). However, WBES sampling design was stratified and employed differential sampling. In this survey, the selection probability of each unit is not same, and each sample does not have equal weight. So, in the case of WBES data weighted estimate will provide more consistent results as it provides model-biased as well as designed biased estimates (Cochran, 2007). So we determined weighted estimations in all cases[2].

IV. Results and Analysis

Table 1 provides the descriptive statistics of the variables included in the analysis. In the manufacturing sector one-fifth of the firms are owned by the female, and only 6% of the firms have female top manager whereas in service sector female owned and female participated top management firms are 29.4% and 21.7% respectively. Most of the firms in both of the sectors are locatedeither in business city or capital city and around 80% of the firms are registered from startup in both sectors. A negligible percentage of the firms (less than 3%) have foreign ownership whereas almost 20% of the firms have a quality certificate.

[2] We use survey prefix command svy of stata to determine weighted estimate and provide appropriate standard errors.

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Table 1: Descriptive statistics of the variables

	Manufacturing Sector					Service Sector					
Variable	Obs	Mean	Std. Dev.	Min	Max	Variable	Obs	Mean	Std. Dev.	Min	Max
Femaleowner	1180	.203	.402	0	1	Femaleowner	262	.095	.294	0	1
Femalemanager	1180	.059	.236	0	1	Femalemanager	262	.049	.217	0	1
Femaleworker	1177	.152	.225	0	.89						
Capitalcity	1180	.483	.499	0	1	Capitalcity	262	.637	.481	0	1
Businesscity	1180	.653	.476	0	1	Businesscity	262	.725	.447	0	1
Sectordum	1180	.3	.458	0	1	Sectordum	262	.461	.499	0	1
Registration	1180	.851	.355	0	1	Registration	262	.881	.323	0	1
EPZ	1178	.152	.359	0	1	EPZ	262	.057	.232	0	1
Qualitcertificate	1180	.228	.420	0	1	Qualitcertificate	262	.160	.367	0	1
TopMngrExp	1176	19.87	10.52	.5	60	TopMngrExp	257	19.03	11.38	.5	60
Size	1180	2.07	.794	1	3	Size	262	1.41	.635	1	3
Legalstatus	1180	1.61	.778	1	3	Legalstatus	261	1.37	.659	1	3
Foreignown	1180	.027	.162	0	1	Foreignown	262	.011	.106	0	1
Age	1177	21.90	13.51	2	125	Age	260	22.32	14.48	2	74
Lineofcredit	1180	.459	.498	0	1	Lineofcredit	262	.305	.461	0	1
Audit	1180	.474	.499	0	1	Audit	262	.362	.481	0	1
Purchasedoncredit	1176	29.52	29.20	0	100	Purchasedoncredit	255	30.95	29.26	0	100
WCBorrowing	1173	.398	.489	0	1	WCBorrowing	261	.268	.443	0	1
Overdraft	1180	.254	.435	0	1	Overdraft	262	.160	.367	0	1
Exportorientation	1179	.285	.452	0	1	Exportorientation	262	.053	.225	0	1
TechLicense	1180	.148	.355	0	1						
Informalcompetition	1180	.392	.488	0	1	Informalcompetition	262	.358	.480	0	1
ProductInnov	1180	.361	.480	0	1	ProductInnov	262	.248	.432	0	1
ManufacInnov	1180	.422	.494	0	1	ManufacInnov	262	.290	.454	0	1
LogisticInnov	1180	.416	.493	0	1	LogisticInnov	262	.297	.458	0	1
ManagementInnov	1180	.368	.482	0	1	ManagementInnov	262	.278	.449	0	1
MarketingInnov	1180	.344	.475	0	1	MarketingInnov	262	.271	.445	0	1
R&D	1180	.166	.372	0	1	R&D	262	.095	.294	0	1
IdeaInnov	1180	.333	.471	0	1	IdeaInnov	262	.187	.390	0	1

The summary statistics of access to finance variables show that manufacturing firms have higher access to finance than the service firms. 46% of the firms have line of credit, and 40% of the firms have working capital borrowing from banks in the manufacturing sector whereas these shares are 30% and 26% respectively for service firms. One-fourth of the manufacturing firms have overdraft facility whereas only 16% of service forms enjoy this facility. One of the big differences is the audit of financial statements. Almost 50% of manufacturing firms make audit of their financial statements whereas only 36% of service firms have audited financial statements.

In case of competitive factors, 40% of the manufacturing firms and 35.8%of service firms feel that they have to compete with the informal sectors. Manufacturing firms are more export-oriented than the service firms. However, manufacturing firms have higher innovative capabilities than the service firms in almost all aspects of innovation. On an average, around 26% of the service firms make innovation in several aspects whereas this share is around 40% for manufacturing firms. A significant difference also exists in R & D and idea innovation among the employees. 16.7% firms in the manufacturing sector have allocation for R&D whereas only 9.5% of service firms spend on R&D. Moreover, idea generation among the employees is promoted in one-third of manufacturing firms whereas only 18.75% of the service firms promote idea innovation.

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Table 2: Estimation results of access to finance, and female ownership, top manager and share of female worker

Sector→	Manufacturing						Service			
Variables	Female owner		Female manager		Female worker		Female owner		Female manager	
	IV Probit	Marginal Effect	IV Probit	Marginal Effect	IV regress (2sls)	Marginal Effect	IV Probit	Marginal Effect	IV Probit	Marginal Effect
Capitalcity	.341 *** (.122)	.085*** (.030)	.270 (.196)	.035 (.030)	.041 (.036)	.041 (.036)	-.898** (.351)	-.158** .081	-.280 (.900)	-.034 (.078)
Businesscity	-.359*** (.133)	-.090*** (.033)	-.280 (.217)	-.037 (.033)	-.034 (.036)	-.034 (.036)	1.203** (.483)	.212** (.083)	.743 (1.254)	.092 (.077)
Sectordum	-.202 ** (.096)	-.050** (.024)	-.057 (.171)	-.007 (.023)	.153*** (.024)	.153*** (.024)	.721** (.377)	.127*** (.040)	.307 (.518)	.037 (.038)
Registration	-.172* (.0100)	-.043* (.027)	.806* (.436)	.106** (.042)	.039 (.024)	.039 (.024)	1.030 (.656)	.181** (.091)	.098 (.482)	.012) (.055)
EPZ	-.019 (.144)	-.005 (.036)	.316 (.238)	.041 (.026)	-.050 (.044)	-.050 (.044)	-.011 (.467)	-.002 (.0819)		
Qualitcertificate	-.459*** (.162)	-.115** (.046)	-.194 (.240)	-.025 (.035)	-.042 (.054)	-.042 (.054)	.160 (.278)	.028 (.044)	.344 (.345)	.042 (.049)
TopMngrExp	.007 * (.004)	.002* (.001)	-.007 (.008)	-.0009 (.001)	.001 (.001)	.001 (.001)	.023 (.018)	.004 (.003)	-.016 (.014)	-.002 (.002)
Lineofcredit	.012 (.144)	.003 (.036)	.075 (.171)	.010 (.021)	-.032 (.037)	-.032 (.037)	-.348 (.264)	-.061 (.062)	.110 (.487)	.013 (.072)
Audit	.001 (.152)	.0003 (.038)	.383* (.225)	.050** (.022)	.100*** (.030)	.100*** (.030)	.109 (.307)	.019 (.050)	.981* (.556)	.121 (.089)
Purchasedoncredit	.0004 (.001)	.0001 (.0004)	.0009 (.002)	.0001 (.0003)	-.0006* (.0003)	-.0006* (.0003)	-.002 (.005)	-.0003 (.0008)	-.007** (.003)	-.0009 (.0008)
WCBorrowing	-.100 (.145)	-.025 (.036)	-.139 (.169)	-.018 (.0223)	-.016 (.038)	-.016 (.038)	-.397 (.466)	-.069 (.065)	.134 (.300)	.016 (.032)
Overdraft	2.530*** (.082)	.634*** (.060)	1.699** (.721)	.2235 (.145)	.55*** (.114)	.55*** (.114)	-2.00** (.999)	-.352 (.349)	1.358 (2.384)	.168 (.469)
Constant	-.613* (.313)		-2.682*** (.712)		-.061 (.036)		-2.623* (1.452)		-2.196 (1.512)	
Log likelihood Instrumented Instruments DWH endog test Test of Overid	-990.82 Overdraft3 Legalstatus; Foreignown 126.41*** 24.29***		-811.39 Overdraft3 Size Legalstatus 5.868** 3.110*		Overdraft3 Size Age 30.46*** 44.89 ***		-147.8627 Overdraft Size legalstatus 12.99*** 2.58*		-129.19 Overdraft Size 3.3319* No overid	

Note: The table reports the estimated coefficients and their standard error in parenthesis. ***, **; and * indicate significance level at 1%; 5%; and 10% respectively. The table also reports log likelihood; instrumented; instruments as well as robustness check test results such as DWH endogeneity test and test of over identifying restrictions. We used survey prefix command "svy' of stata to determine weighted estimates and provide appropriate standard errors as WBES is a stratified sampling and weights of the samples are different. We applied IV probit for qualitative response dependent variable and IV regression 2sls for quantitative dependent variable.

The results of the study suggest that location has differential effect on female ownership in manufacturing and service sector. Firms located in the capital city have the greater possibility to have female-owned business whereas firms operating in the business city are less likely to have female ownership in the manufacturing sector. The effects are opposite for service sectors. So it can be said that female-owned service firms are more likely established in the business city whereas female-owned manufacturing firms are more likely located in the capital city. In case of both manufacturing and service sectors, the presence of female managers and share of female workers in the firms are not significantly affected by firms' location in Bangladesh.

The sub-sectors of manufacturing and service sectors can be a significant determinant of female ownership and employment. Sector dummy has significant negative association with female ownership for manufacturing sector whereas it has significant positive association with female ownership for the service sector. It infers that garments and textile sectors are less likely owned by the female than other manufacturing sectors whereas retail sectors have higher possibility to be owned by the female than other service sectors. Garment and textile manufacturing firms have 5% less possibility to be owned by female whereas retail sectors have 12.7% more female-owned firms than other service sectors. However, garments and textile sectors have significantly higher share of female workers

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than other manufacturing sectors and it is supported by (Bhattacharya & Rahman, 1999; Rahman, 2014) that a large share of female workers of Bangladesh is employed in the garments sector due to low cost of female labor. Female participation in the top management does not significantly differ by the sector.

Firms' registration is another significant factor of female ownership and management, especially in the manufacturing sectors. Registration has significantly negative association with female ownership whereas its relationship is significantly positive with female managers for manufacturing sector. It indicates that registered manufacturing firms are less likely to have female ownership and have more possibility to have female managers than unregistered manufacturing firms. Moreover, registered firms have 4.3%less possibility to be owned by female whereas they have 6.17% more probability of having top female managers than unregistered firms. This result supports the view that a major portion of female-owned business in the developing countries is operated informally. Firms' registration does significantly affect the share of female workers in the manufacturing sector and female ownership and participation in the top management in the service sector.

Quality certification is found to be a significant hindrance to female ownership whereas top managerial experience can be a significant factor promoting female ownership in the manufacturing sector. Quality certified firms have 11.5% less female ownership than non-quality certified firms whereas one year increase in managerial experience will lead to increase of female-owned business by almost 0.2% in the manufacturing sector. The effect of quality certificate and top managerial experience is insignificant for other cases. However, the association of these firms' specific characteristics with female ownership and employment slightly differ while adding variables for innovation and competition due to the presence of correlation between the variables.

Among the access to finance variables overdraft facility is significant determinant of female ownership and employment in Bangladesh. Overdraft facility has significant positive association with female ownership, top management, and share of female worker in the manufacturing sector. Manufacturing firms with overdraft facility have 63.38% more female-owned firms and 22.35% more female in the top management than the firms without overdraft facility. Overdraft has significant negative association with female ownership in the service sector in Bangladesh which implies that female-owned service firms are more likely to be operated by own finance rather than overdraft. Presence of line of credit and credit purchase does not significantly affect firms' choice to female ownership and employment in both manufacturing and service sectors. Audit of financial statement is positively associated with female ownership and employment in both manufacturing and service sectors, and the association is significant for some cases. Firms with the audited financial statement are more likely to be owned by female and to have female top managers and workers in manufacturing sector. For service sectors the effect of audit on female ownership and employment is insignificant.

Table 3: Estimation results of competition, and female ownership, top manager and share of female worker

Sector→	Manufacturing						Service			
Variable	Female owner		Female manager		Female worker		Female owner		Female manager	
	IV Probit	Marginal Effect	IV Probit	Marginal Effect	IV regress (2sls)	Marginal Effect	IV Probit	Marginal Effect	IV Probit	Marginal Effect
Capital city	-.084 (.121)	-.018 (.027)	.266* (.136)	.07* (.036)	.012 (.045)	.012 (.045)	-.175 (.541)	-.054 (.133)	-1.21*** (.448)	-.222 (.202)
Business city	-.069 (.129)	-.015 (.028)	.202* (.112)	.053* (.029)	-.134 (.046)	-.134 (.046)	.354 (.717)	.110 (.153)	1.308 (.88)	.239 (.119)
Sectordum	-.92*** (.114)	-.205*** (.030)	.009 (.108)	.002 (.028)	.106 (.031)	.106 (.031)	.226 (.351)	.070 (.069)	.311 (.399)	.057 (.040)
Registration	-.197 (.131)	-.044 (.030)	.726 (.475)	.191 (.122)	-.103 .087)	-.103 .087)	.457 (.903)	.142 (.193)	.486 (.636)	.089 (.065)
EPZ	.311* (.169)	.069* (.037)	.170 (.272)	.044 (.071)	-.052 (.037)	-.052 (.037)	-3.2** (1.274)	-1.026 (.647)		
Quality certificate	-.64*** (.191)	-.143*** (.046)	.289*** (.111)	.076*** (.028)	-.085 (.048)	-.085 (.048)	-.980* (.605)	-.305 (.365)	-.004 (.607)	-.000 (.112)
Top Mngr Exp	.005 (.006)	.001 (.001)	.002 (.008)	.0006 (.002)	-.0004 (.001)	-.0004 (.001)	-.006 (.015)	-.001 (.006)	.002 (.022)	.0005 (.004)
Export orientation	2.71*** (.146)	.60*** (.053)	.512* (.286)	.135* (.073)	.167 (.07)	.167 (.07)	8.70*** (1.73)	2.708 (2.099)	-.459 (.576)	-.084 (.155)
Tech License	-.486** .227	-.108** (.05)	.164 (.130)	.043 (.034)	.007 (.036)	.007 (.036)				

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Informal competition	.233** (.117)	.052** (.027)	2.21** * (.346)	.582*** (.10)	-.572 (.293)	-.572 (.293)	.172 (.221)	.053 (.045)	-1.617 (1.33)	-.296 (.507)
Constant	-.837 (.296)		-2.27 (1.16)		.498 (.266)		-1.075 (2.327)		-1.338 (2.295)	
Log likelihood Instrumented Instruments DWH endog test Test of Overid	-883.12 Export orientation Foreign own, Legal stat 310.93*** 8.50***		-960.96 Informal comp Age Size 4.84** 3.51*		Informal comp Age Legal status 18.44*** 2.96 *		23.759 Export orientation Legal status 23.90*** No overid		-188.94 Informal cop Size 2.908* No overid	

Note: see note of table 2

Export orientation of a manufacturing firm is a key determinant of female ownership and participation in the top management. Export-oriented manufacturing firms have 60% more possibility to be owned by the female and 13.5% more probability to have female top manager than the non-exporting manufacturing firms. Export orientation does not have significant association with female share of worker in the manufacturing sector. In case of service sector, export orientation significantly raises the possibility of female-owned business whereas it has negative but insignificant association with female top manager. The probability of female business ownership and female top manager increases by 5% and 58.2% respectively in the manufacturing sector when informal competition exists in the market. Informal competition does not significantly affect female share of worker in the manufacturing sector and female ownership and top manager in the service sector. Technology license has significant negative association with female ownership in the manufacturing sector and firms with technology license have 19.8% less possibility to be owned by female.

Table 4: Estimation results of access to innovation, and female ownership, top manager and share of female worker

Sector→	Manufacturing						Service			
Variable	Female owner		Female manager		Female worker		Female owner		Female manager	
	IV Probit	Marginal Effect	IV Probit	Marginal Effect	IV regress (2sls)	Marginal Effect	IV Probit	Marginal Effect	IV Probit	Marginal Effect
Capital city	-.184* (.111)	-.052* (.031)	.188* (.110)	.044 (.029)	.143 (.166)	.143 (.166)	-.075 (.598)	-.021 (.155)	-.314 (.301)	-.065 (.062)
Business city	-.052 (.119)	-.015 (.034)	.0583 (.1186)	.013 (.029)	.164 (.195)	.164 (.195)	-.011 (.748)	-.003 (.211)	.399 (.299)	.083 (.061)
Sectordum	.390*** (.105)	.111*** (.029)	-.343*** (.099)	-.081** (.036)	-.254 (.316)	-.254 (.316)	.389 (.271)	.109** (.055)	.483** (.215)	.101** (.044)
Registration	-.003 (.119)	-.001 (.033)	.345 (.387)	.081 (.071)	.129 (.138)	.129 (.138)	.639 (.669)	.179* (.107)	.696* (.400)	.145* (.083)
EPZ	.150 (.158)	.042 (.045)	-.0018 (.227)	-.0003 (.054)	-.162 (.209)	-.162 (.209)	-.100 (.347)	-.028 (.092)		
Qualitcertificate4	.076 (.153)	.021 (.043)	-.007 (.150)	-.001 (.035)	.034 (.160)	.034 (.160)	-.086 (.379)	-.024 (.112)	-.070 (.386)	-.014 (.080)
Top Mngr Exp	-.009 (.006)	-.002 (.001)	.006 (.005)	.001 (.001)	.012 (.007)	.012 (.007)	.014** (.007)	.004 (.003)	.005 (.008)	.001 (.001)
Product Innov (service Innovation)	.598*** (.130)	.170*** (.037)	-.517** (.237)	-.122 (.087)	-.751 (.583)	-.751 (.583)	-.401 (.505)	-.112 (.089)	-.304 (.320)	-.064 (.066)
ManufacInnov	-.003 (.147)	-.0009 (.041)	.023 (.133)	.005 (.031)	-.009 (.165)	-.009 (.165)	-.335 (.389)	-.094 (.152)	-.202 (.311)	-.042 (.064)
Logistic Innov (Offering innovation)	.224 * (.124)	.063 * (.035)	-.132 (.140)	-.031 (.038)	-.189 .(230)	-.189 .(230)	-.117 (.500)	-.032 (.1569)	-.123 (.335)	-.02 (.070)
Management Innov	-.270 (.170)	-.077* (.047)	.380* (.213)	.090*** (.034)	.359 (.260)	.359 (.260)	.194 (.399)	.054 (.103)	-.593* (.349)	-.124* (.073)
MarketingInnov	.410*** (.133)	.116*** (.037)	-.439*** (.156)	-.104*** (.032)	-.418 (.351)	-.418 (.351)	-.626 (.453)	-.175 (.177)	-.565 (.453)	-.11 (.096)

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Idealnnov	.373** (.165)	.106** (.048)	-.380*** (.141)	-.090* (.050)	-.459 (.369)	-.459 (.369)	-.476* (.259)	-.133* (.079)	-.026 (.238)	-.005 (.049)
R&D	-2.80*** (.102)	-.799*** (.038)	2.71*** (.306)	.642*** (.246)	3.31 (2.44)	3.31 (2.44)	4.710*** (.869)	1.320 (.97)	4.605*** (.675)	.963*** (.1647)
constant	.135 (.373)		-1.122 (1.087)		-.151 (.095)		-1.28 (1.64)		-1.723*** (.498)	
Log likelihood Instrumented Instruments DWH endog test Test of Overid	-887.5 R&D Age Size 27.807*** 3.52287 *		-622.913 R&D Age Legal 8.05133*** 3.62329 **		R&D Export Age 93.854*** 6.05**		-78.005 R&D Legal status 21.143*** No overid		-64.70 R&D Foreign owner 5.04** No overid	

Note: see note of table 2

Most of the innovations have significant association with female business and employment in the manufacturing sector. Production; logistics; marketing; and idea innovation have significant and positive association with female ownership which infers that firms having innovation in these aspects have greater possibility to have female owner in the manufacturing sector. Firms with R&D expenditure and management innovation have 79.9% and 77%fewer female ownership respectively than the firms without R&D expenditure and management innovation in the manufacturing sectors. However, the effects of these innovation variables on female top manager and share of workers isquite the opposite. Production; logistics; marketing; and idea innovation have significant negative association with female top manager and female share of workers whereas R&D and management innovation is positively associated with female top management and share of worker. The results provide a crucial policy insight. The results suggest that production; logistics; marketing; and idea innovation raises the possibility of female ownership in manufacturing sectors whereas they reduce female participation in top management and lower level in Bangladesh. The results support the view that the dominant share of female labor force is unskilled and semi-skilled in the developing countries and consequently they cannot cope with the changes in the organization. This innovation reduces female participation in both top level and low-level employment. On the other hand, firms with R&D and management innovation have higher female participation in top management and low level although they are negatively associated with female ownership. It supports the gender diversity in the top management which suggest that gender diversity in the firms especially at top level improves problem-solving, creativity, and firms' performanc e (Østergaard, Timmermans, & Kristinsson, 2011; Ruiz-Jiménez & del Mar Fuentes-Fuentes, 2016).

However, except R&D and idea innovation none of the innovation significantly affects female ownership and participation in the top management in the service sector. R&D significantly increases the possibility of female ownership and top management participation of female whereas idea innovation has significantlyadverse effect on female ownership and top managerial position in the service sector.

V. Conclusion and Policy Implications

The purpose of this study is to identify the effects of access to finance, competition, and innovation on female ownership and female participation in top management and low level in manufacturing and service sectors of Bangladesh at the firms' level. We used WBES data of 2013 for Bangladesh on 1180 manufacturing firms and 262 service firms. Due to the presence of endogeneity in the variables we applied IV probit model for qualitative response dependent variable and IV regression 2SLS method for quantitative dependent variables.

This study provides several significant policy suggestions for the policy makers in the related field. Among the finance issues overdraft facility significantly affect the female ownership and top management in manufacturing sectors whereas it does not affect the female in service sector. It suggest that credit facility significantly increases female-owned business and female participation in the top management as these sectors are capital-intensive requiring high investment whereas service firms are more likely operated by self-finance. So, to increase female ownership and participation in top management more overdrafts should be provided for manufacturing firms.

Firm's export-orientation increases the probability of female-owned business in both manufacturing and service sectors and female participation in top management in manufacturing sectors in Bangladesh. So, facilitating export can raise female ownership in both of the sectors. Informality in the market is another critical policy issues for female ownership and employment at the firm level of the country. The presence of informal competition in the market raises female-owned business at firm level and female top managers in manufacturing sectors but does not affect the female in the service sector. On the contrary the effect of intensity of informal sectors competition indicates that high level of informality

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reduces female business in service sectors as well as female participation in top management in both of the sectors. It suggests the policy insights that informality should be kept at tolerable level so that it can raise female business in manufacturing sector and at the same time does not have significant adverse effect on female business in service sectors and participation in top management in both sectors in Bangladesh.

Firms' innovation is another critical policy issue for female ownership and employment in Bangladesh. According to the results, innovation in production, logistics, marketing, and idea raises the probability of female owned business in manufacturing sector whereas they reduce female participation in top m management and lower level. It evidence that like other emerging economies female labor mostly constitute unskilled and semi-skilled labor force in Bangladesh and that is why they cannot cope with the change and innovation of the firms. On the contrary, firms promoting R & D and management innovation have higher likelihood of female top managers and female share of workers although they reduce female ownership in the manufacturing sector. It supports the view that gender diversity in the firms raises management quality in both top and lower level as female thinks differently from men in different aspects. So, special consideration should be given to innovative capabilities of firms to raise female ownership and employment. For the service sector the scenario is different. Except R & D and idea innovation none of the other innovations significantly affects female ownership and top managers in this sector.

VI. Declarations

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Appendices

Appendix 1: Definition of the variables

Symbol	Variable description
Dependent Variables	
Femaleowner	takes value of 1 if there is any female owner in the firm and 0 otherwise
Femalemanager	The firm with female top manager takes value of 1 and 0 otherwise
Femaleworker	The share of permanent female worker to total full time permanent worker of the firm
Firm specific characteristics	
Capitalcity	takes value of 1 if the firm is located in the capital city and 0 otherwise
Businesscity	takes value of 1 if the firm is located in the business city and 0 otherwise
Sectordum	For Manufacturing sector, takes value of 1 for garments and textile sector and 0 otherwise For Service sector, takes value of 1 for retail sector and 0 otherwise.
Registration	takes value of 1 if the firm is registered from start up and 0 otherwise
EPZ	takes value of 1 if the firm is located in an export processing zone or other industrial park and 0 otherwise
Qualitcertificate	takes value of 1 if the firm has An Internationally-Recognized Quality Certification and 0 otherwise
TopMngrExp	
Foreignown	takes value of 1 if the firm has foreign ownership and 0 otherwise
Legalstatus	takes value of 1for sole proprietorship, 2 for partnership and 3 for shareholding companies
Age	Year difference from year of establishment to survey year 2013
Size	takes value of 1for small firms, 2 for medium firms and 3 for large firms
Access to finance variables	
Lineofcredit	takes value of 1 if the firm has a line of credit or a loan from a financial institution and 0 otherwise

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Audit	takes value of 1 if the annual financial statements of the firm are checked and certified by an external auditor and 0 otherwise
Purchasedoncredit	takes value of 1 if the firm has credit purchase and 0 otherwise
WCBorrowimg	takes value of 1 if the firm has working capital borrowing from banks and 0 otherwise
Overdraft	takes value of 1 if the firm has an overdraft facility and 0 otherwise
Competation Variables	
Exportorientation	takes value of 1 if the firm exports and 0 otherwise
TechLicense	takes value of 1 if the firm use technology licensed from a foreign-owned company and 0 otherwise
Informalcompetition	takes value of 1 if the firm compete against unregistered or informal firms and 0 otherwise
Innovation Variables	
ProductInnov (service Innovation)	takes value of 1 if the answer is "Yes" and 0 if the answer is "No"
ManufacInnov	takes value of 1 if the answer is "Yes" and 0 if the answer is "No"
LogisticInnov (Offering innovation)	takes value of 1 if the answer is "Yes" and 0 if the answer is "No"
ManagementInnov	takes value of 1 if the answer is "Yes" and 0 if the answer is "No"
MarketingInnov	takes value of 1 if the answer is "Yes" and 0 if the answer is "No"
IdeaInnov	takes value of 1 if the answer is "Yes" and 0 if the answer is "No"
R&D	takes value of 1 if the answer is "Yes" and 0 if the answer is "No"

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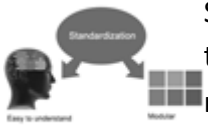

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Techniques for writing a good quality homan social science research paper:

1. Choosing the topic: In most cases, the topic is selected by the interests of the author, but it can also be suggested by the guides. You can have several topics, and then judge which you are most comfortable with. This may be done by asking several questions of yourself, like "Will I be able to carry out a search in this area? Will I find all necessary resources to accomplish the search? Will I be able to find all information in this field area?" If the answer to this type of question is "yes," then you ought to choose that topic. In most cases, you may have to conduct surveys and visit several places. Also, you might have to do a lot of work to find all the rises and falls of the various data on that subject. Sometimes, detailed information plays a vital role, instead of short information. Evaluators are human: The first thing to remember is that evaluators are also human beings. They are not only meant for rejecting a paper. They are here to evaluate your paper. So present your best aspect.

2. Think like evaluators: If you are in confusion or getting demotivated because your paper may not be accepted by the evaluators, then think, and try to evaluate your paper like an evaluator. Try to understand what an evaluator wants in your research paper, and you will automatically have your answer. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

3. Ask your guides: If you are having any difficulty with your research, then do not hesitate to share your difficulty with your guide (if you have one). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work, then ask your supervisor to help you with an alternative. He or she might also provide you with a list of essential readings.

4. Use of computer is recommended: As you are doing research in the field of homan social science then this point is quite obvious. Use right software: Always use good quality software packages. If you are not capable of judging good software, then you can lose the quality of your paper unknowingly. There are various programs available to help you which you can get through the internet.

5. Use the internet for help: An excellent start for your paper is using Google. It is a wondrous search engine, where you can have your doubts resolved. You may also read some answers for the frequent question of how to write your research paper or find a model research paper. You can download books from the internet. If you have all the required books, place importance on reading, selecting, and analyzing the specified information. Then sketch out your research paper. Use big pictures: You may use encyclopedias like Wikipedia to get pictures with the best resolution. At Global Journals, you should strictly follow here.



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6. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

7. Revise what you wrote: When you write anything, always read it, summarize it, and then finalize it.

8. Make every effort: Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

9. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

10. Use proper verb tense: Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

11. Pick a good study spot: Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

12. Know what you know: Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

13. Use good grammar: Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice.

Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

14. Arrangement of information: Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

15. Never start at the last minute: Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

16. Multitasking in research is not good: Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

17. Never copy others' work: Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

18. Go to seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.
Refresh your mind after intervals: Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

19. Think technically: Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.

20. Adding unnecessary information: Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

21. Report concluded results: Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

22. Upon conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

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Informal Guidelines of Research Paper Writing

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

Final points:

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

The introduction: This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

The discussion section:

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear: Adhere to recommended page limits.



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Mistakes to avoid:

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.
- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

Title page:

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

Abstract: This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

Reason for writing the article—theory, overall issue, purpose.

- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

Approach:

- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

Introduction:

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

The following approach can create a valuable beginning:

- Explain the value (significance) of the study.
- Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
- Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
- Briefly explain the study's tentative purpose and how it meets the declared objectives.

Approach:

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

Procedures (methods and materials):

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

Materials may be reported in part of a section or else they may be recognized along with your measures.

Methods:

- Report the method and not the particulars of each process that engaged the same methodology.
- Describe the method entirely.
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- Simplify—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

Approach:

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

What to keep away from:

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings—save it for the argument.
- Leave out information that is immaterial to a third party.



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Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.

Content:

- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

What to stay away from:

- Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

Approach:

As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

Figures and tables:

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

Discussion:

The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an argument should be.

Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully described.

Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."

Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.

- You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
- Give details of all of your remarks as much as possible, focusing on mechanisms.
- Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
- One piece of research will not counter an overall question, so maintain the large picture in mind. Where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

When you refer to information, differentiate data generated by your own studies from other available information. Present work done by specific persons (including you) in past tense.

Describe generally acknowledged facts and main beliefs in present tense.

The Administration Rules

Administration Rules to Be Strictly Followed before Submitting Your Research Paper to Global Journals Inc.

Please read the following rules and regulations carefully before submitting your research paper to Global Journals Inc. to avoid rejection.

Segment draft and final research paper: You have to strictly follow the template of a research paper, failing which your paper may get rejected. You are expected to write each part of the paper wholly on your own. The peer reviewers need to identify your own perspective of the concepts in your own terms. Please do not extract straight from any other source, and do not rephrase someone else's analysis. Do not allow anyone else to proofread your manuscript.

Written material: You may discuss this with your guides and key sources. Do not copy anyone else's paper, even if this is only imitation, otherwise it will be rejected on the grounds of plagiarism, which is illegal. Various methods to avoid plagiarism are strictly applied by us to every paper, and, if found guilty, you may be blacklisted, which could affect your career adversely. To guard yourself and others from possible illegal use, please do not permit anyone to use or even read your paper and file.

Criterion for Grading a Research Paper (Compilation) by Global Journals

Please note that following table is only a Grading of "Paper Compilation" and not on "Performed/Stated Research" whose grading solely depends on Individual Assigned Peer Reviewer and Editorial Board Member. These can be available only on request and after decision of Paper. This report will be the property of Global Journals

Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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