

Volume 1, Number 2

Print ISSN: 2574-0369

Online ISSN: 2574-0377

GLOBAL JOURNAL OF BUSINESS DISCIPLINES

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TABLE OF CONTENTS

THE CHALLENGES OF INTERNATIONALIZATION AND GROWTH OF SMALL AND MEDIUM SCALE ENTERPRISES IN FREETOWN.....	1
--	---

Abdulsalam Kamara, University of Ibadan, Nigeria
Adeolu A. Adedapo, University of Ibadan, Nigeria

ACCOUNTING FOR PROFIT: HOW CRIME ACTIVITY CAN COST YOU YOUR BUSINESS	21
--	----

Linda A. Bressler, Southeastern Oklahoma State University
Martin S. Bressler, Southeastern Oklahoma State University

AM I REQUIRED TO DISCLOSE THIS? AN EXAMINATION OF A LITIGANT'S DUTY TO PRODUCE AN EXPERT'S PREVIOUS REPORTS AND TRANSCRIPTS IN FEDERAL LITIGATION	30
---	----

Diana Brown, Sam Houston State University
Joey Robertson, Sam Houston State University
Jim Squyres, Sam Houston State University

A DELPHI STUDY OF MANUFACTURING COMPLEXITY	40
--	----

T. J. Gabriel, University of North Georgia
Lawrence D. Fredendall, Clemson University

ASSESSING NIGERIAN GRADUATE EMPLOYABILITY	58
---	----

Oluwakemi B. Omoniwa, University of Ibadan, Nigeria
Adeolu A. Adedapo, University of Ibadan, Nigeria

THE LEGAL ASPECT OF FACULTY/STUDENT RELATIONSHIPS IN HIGHER EDUCATION	76
---	----

Susan Shurden, Lander University

SOCIAL MEDIA MARKETING	89
------------------------------	----

Santosh Venkatraman, Tennessee State University, Nashville

THE CHALLENGES OF INTERNATIONALIZATION AND GROWTH OF SMALL AND MEDIUM SCALE ENTERPRISES IN FREETOWN

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ABSTRACT

Small and medium scale enterprises are a critical driver of economic liberation, curbing unemployment and poverty reduction both in developed and developing countries and are uniquely positioned to answer the challenges of an ever-faster international economy. The objective of the study is to examine the challenges of internationalization and growth of small and medium enterprises. The research work adopted a descriptive research design using 313 randomly selected operators of small and medium scale enterprises (SMEs) in Freetown, Sierra Leone. Data collected were primary and secondary sources of data. Descriptive statistics and crosstabulation analysis was used to analyze the data while formulated hypotheses were tested using correlation analysis. From the result, it was found that unstable exchange rate/inflation, rigid government regulations, lack of finance and high custom duties hold a major part in decreasing international activities. Government policy actions have a negative relationship with SMEs development. Some recommendations were made such as the establishment of policies to influence the rate of indigenous industries and the establishment of SMEs hub to serve as incubation stage for business start-ups. The study concludes that small and medium scale enterprise development is a catalyst for economic development.

Key words: SMEs, government policy, unstable exchange rate, entrepreneurship, Sierra Leone.

INTRODUCTION

Sierra Leone is a country situated in West Africa. It is bordered by the Atlantic Ocean in the south-west, Liberia in the south-east and Guinea in the north-east. Sierra Leone has a total area of 71,740 km² (27,699 sq mi) and an estimated population of 7 million (Statistics Sierra Leone, 2015).

Sierra Leone found itself with a severely damaged physical infrastructure and serious socio-economic problems due to the eleven-year civil conflict between 1991 to 2002. In order to restore stability and lead the path to sustainable development the government launched various strategies and policies such as “National Recovery Strategy,” “Poverty Reduction Strategy Paper” and quite recently “Agenda for Prosperity.”

Freetown is the [capital](#) of [Sierra Leone](#). It is located in the [western area](#) of the country and it is the economic and political center of the country. The [city](#) has a population of approximately 1 Million people (2015 census estimate). The city is divided into three municipal regions: the east end, central, and the west end.

More recently, the [2014 ebola outbreak](#) threatens to lead the country into a [humanitarian crisis](#) situation and a negative spiral of weaker economic growth (World Bank, 2015).

This paper examines the challenges of internationalization and growth of small and medium scale enterprises in Freetown, Sierra Leone. Small and medium scale enterprises are critical for developing countries because of their role in economic growth, poverty reduction and curbing of unemployment. Small and medium scale enterprises encompass a broad spectrum of definitions. The definition varies from country to country due to per capita income and probably population. On a general note, the definition of small and medium scale enterprises has to do with asset, turnover, capital, production capability and employees of the company or firm. There is no precise definition of small and medium enterprise throughout the world due to differences in general economic development and the prevailing social conditions within each country.

According to Agwu and Emeti (2014) small business is defined as a business which is independently owned and operated with close control over operations and decisions held by the owners. Practically, most small and medium scale enterprises started as sole proprietorship or partnership.

According to oxford dictionary internationalization is the act of bringing something under international control that is concerning or belonging to all or at least two or more nations. In economics, internationalization is the process or act of increasing involvement of enterprises or businesses in international markets, although there is no agreed definition of internationalization.

Those entrepreneurs who are interested in the field of internationalization of business need to possess the ability to think globally and have an understanding of international cultures.

By appreciating and understanding different beliefs, values, behaviours and business strategies of a variety of companies within other countries, entrepreneurs will be able to internationalize successfully (Wai and Noichangkid, 2012). It is therefore imperative that we recognised the contribution that the entrepreneur makes to our economy and development. In recent years, the primary objective of public policies in Sierra Leone like in many developing countries is to reduce poverty. The small and medium scale enterprise sector has great importance for many reasons such as the high rate of unemployed graduate, high level of illiteracy and the sector's contribution to the formation of national income and employment creation.

It is widely acknowledged that the creation, sustenance and growth of small and medium enterprises is a key ingredient for the sustainable development of any nation.

Sierra Leone, in toying the line of developed nations of the world, has initiated a number of sector reforms on small and medium enterprise aimed at transforming its economy from its present prostrative statue to a highly industrialized one (UNDP, 2012).

Statement of the problem

There are lots of challenges of SMEs development such as capital to start business. Sandy (2003) noted that the financing in most cases is normally provided by the owners through personal savings or borrowing. The owners fail to realize the importance of external source of capital in order to effectively expand the business in the long run. Others such as lack of infrastructure, unstable exchange rate, corruption, high tax rate and lack of management skills are major

challenges of small and medium scale enterprises when they want to engage in the international market.

Furthermore, government policies are so rigid that it does not create a fair platform for SMEs especially when competing in the international market.

Another problem is the process of transitioning of small scale enterprises from the local market to the international market. An internationalizing firm faces heightened political risks as well as operational risks stemming from the new business environment.

And this in one way or the other influences the output of small and medium scale enterprises in Sierra Leone economy.

The higher levels of risk small enterprises face when entering a foreign market, relative to domestic expansion, reinforces the internationalization mechanism. The literature on internationalization has revealed a number of barriers that small businesses face in their attempt to enter foreign markets. These include language barrier, cultural shock, poor knowledge of foreign market information, financing problems, technical roadblocks, and clumsy export processes (Abdullah and Zain, 2011).

Research questions

1. *What are the challenges of internationalization of small and medium scale enterprise?*
2. *What policies can government implement to upsurge small and medium scale enterprise?*
3. *How does internationalization and growth influences the output of small medium enterprise in Sierra Leone economy?*

Objectives of the study

1. *To determine the challenges of small and medium enterprises when competing in the international market.*
2. *To ascertain policy actions in which small medium enterprise output could be improved through entrepreneurship development.*
3. *To examine how internationalization and growth influences the output of small medium enterprises in Sierra Leone economy.*

Hypothesis of the study

- H1.** *H₀: The challenges of internationalization and growth have no significant impact on small and medium scale enterprise in Freetown.*
H_a: The challenges of internationalization and growth have significant impact on small and medium scale enterprise in Freetown.
- H2.** *H₀: There is no significant relationship between government policy actions and small and medium scale enterprise development in Freetown.*
H_a: There is significant relationship between government policy actions and small and medium scale enterprise development in Freetown.
- H3.** *H₀: Internationalization and growth does not influence the output of small medium enterprises in Sierra Leone economy.*

Ha: Internationalization and growth influences the output of small medium enterprises in Sierra Leone economy.

LITERATURE REVIEW

Egbuogu (2003) noted that definitions of small medium enterprises vary both between countries and between continents. This is as a result of resource endowment, population and government laws. The major criteria use in the definition according to Carpenter (2003) could include various combinations of the following: number of employees, financial strength, sales value, relative size, initial capital outlay and types of industry. Small and medium-scale enterprises are defined variously as stated above. Some of the criteria employed in defining these enterprises include: number of workers, value of assets or annual turnover, nature of premises, status of registration or legality of business and sustainability. Let us look at other countries definition of small and medium scale enterprise.

The Ghana Statistical Service (GSS) considers firms with less than 10 employees as Small Scale Enterprises and their counterparts with more than 10 employees as Medium and Large-Scale Enterprises. Chosniel et al, (2014) stated that an alternative criterion used in defining small and medium enterprises is the value of fixed assets in the organization.

In Nigeria, the Federal Ministry of Industry has adopted a somewhat flexible definition especially as to the values of installed fixed cost. The definition of micro enterprises as an industry whose total project cost excluding cost of land but including working capital is not more than N500,000:00 (i.e. US\$50,000). Small scale enterprises on the other hand is defined by the council as an industry whose total project cost excluding cost of land and including working capital does not exceed N5m (i.e. US\$500,000) (CBN, 2011).

In Sierra Leone just like in other part of the world the definition of SMEs is complicated in structure. However, according to Statistics Sierra Leone there is certain parameter used to determine the definition of SMEs such as the number of employees.

Statistics Sierra Leone defines small medium scale enterprises as micro enterprise having 1-4 employees, small enterprise having 5-19 employees and medium enterprise having 20-49. From the survey conducted of over 300 SMEs in Freetown, we cannot expunge the importance of revenue into the definition of SMEs in Sierra Leone. Micro enterprise boost of less than Le1,000,000 while the revenue of small enterprises is between Le1,000,000 to Le 10,000,000. The revenue of medium enterprises is between Le10,000,000 to Le 100,000,000. In Sierra Leone, small medium scale enterprises contribute over 95% of employment, 54.8% of the gross domestic product as well as knowledge enrichment (IMF, 2005).

Challenges of internationalization of small medium scale enterprises

Despite the catalytic role of small medium scale enterprise in the economic emancipation of developing countries particularly Sierra Leone some of the major operational challenges include:

Financial problems

Fatai (2011) stated that about 80% of Small and medium enterprises are stifled because of poor financing and other associated problems. The problem of financing small medium scale enterprises is not so much the sources of funds but its accessibility. Factors identified inhibiting funds accessibility are the stringent conditions set by financial institutions, lack of adequate collateral and credit information and cost of accessing funds.

A study carried out by Özlem and Ece (2014) on challenges facing entrepreneurs in accessing credit: a case of youth entrepreneurs in Makuyu, Kenya found out that most of youth entrepreneurs faced challenges in accessing credit due to high cost of credit evidenced in high loan processing fees, high rate of legal fee, high rate of interest, high cost of credit insurance and high expenses incurred in travelling in the process looking for credit.

Corruption

Kanu (2015) in his results from the study “the effect of corruption on small and medium enterprises: perspective from a developing country,” indicated that corruption is positively related with price. As predicted, corruption is negatively associated with growth, productivity and employment. But it shows no significant statistical relationship with wages and profit.

In addition, the descriptive survey analysis reveals that corruption reduced SMEs owner/managers access to finance. Another interesting finding was that a large number of respondents perceived corruption as a practice that leads to extortion by government officials.

Corruption is an enemy that attacks all countries and its harmful impact is clearly evident. It affects markets and competition, causes mistrust amongst the citizenry of a country, erodes the rule of law, destroys government legality and compromise the integrity of SMEs. Corruption is a disease similar to cancer which impedes economic and political development of any country and destroys the functioning of several organs of the governments (Wei and Noichangkid 2012).

Management problems

Lack of trained manpower and management skills also constitute a major challenge to the survival of small medium scale enterprises in Sierra Leone. According to West et al (2006), 90% of all these business failures result from lack of experience and competent management.

Inadequate basic infrastructure

Agwu and Emeti (2014) observed that government has not done enough to create the best conducive environment for the striving of small medium scale enterprises.

The problem of infrastructures ranges from shortage of water supply, inadequate transport systems, lack of electricity to improper solid waste management. Sierra Leone underdeveloped physical and social infrastructures create a binding constraint to small medium scale enterprises growth, since they heavily rely on the inefficiently provided state infrastructures and cannot afford the cost of developing alternatives.

Socio-cultural problems

Most Sierra Leonean entrepreneurs do not have the investment culture of ploughing back profits. Kanu (2015) stressed that the attitude of a typical Sierra Leonean entrepreneur is to invest today and reap tomorrow. Also, the socio-political ambitions of some entrepreneurs may lead to the diversion of valuable funds and energy from business to social waste. The problem of bias against “made in Sierra Leone goods” is significant.

Most Sierra Leoneans have developed a high propensity for the consumption of foreign goods as against their locally made substitutes. Hence, this act of non patronage discourages local entrepreneurs.

Theoretical review

Uppsala model

The Uppsala model is a theory that explains how firms gradually intensify their activities in foreign markets, and it is being introduced by Jan-Johansson and Jan-Erik Ahlen. Their model emphasized the gradual and incremental character of international expansion. Organizations could best reduce their risk level by adopting this approach. Incremental growth also suggests that companies begin internationalization process in markets that have less psychic distance. Psychic distance can be defined as the individual’s perceived differences between the home and the foreign country (Sousa and Lages 2011).



Source: Adopted from Johanson and Vhalne (Johanson et al., p.26)

Figure 1: The Uppsala model

Johansson et al (1977) stated in the theory that the firms with no exporting activity will start by exporting via an agent. Firms may also use other entry modes such as joint venture, licensing or franchising and it depends on the nature of the firm. Gradually, firms will gain more market knowledge and use more intensive and demanding operation modes such as sales subsidiaries and followed by wholly owned subsidiaries. The first stream focuses on internal organizational factors, especially during the incremental process of learning in the earlier stages of internationalization. According to the model, the process of internationalization is understood as a causal cycle in which a firm's knowledge is posited as an explanatory variable (Yusof and Aspinwall 2000).

Network approach

Johanson and Mattsson introduced the network approach to internationalization that highlights the importance of relationship with suppliers, customers and market that can stimulate or help a firm to go abroad.

Development in technology especially in information and communication sector help firms achieve a faster internationalization through the experience and resources of network partners. Mitgwe (2006) expressed that the establishment of financial, technological and commercial relations with the other actors of the network makes it possible for firms to extend their connections and to gradually widen their activities apart from their own territory until becoming international. For small and medium size firms, the network approach is seen as a feasible route towards internationalization as their membership to the network will help firms positioned itself in a foreign country (Abdullah and Zain, 2011).

Empirical review

Özlem and Ece (2014) supported public policy initiatives and call for creating and enabling environment for the development of small business. World Bank report (2008) stated that despite the success of small medium scale enterprises strategies in some countries, the majority of developing countries have found that the impact of the small medium scale enterprises development programs on enterprise performance has been less than satisfactory.

Osotimehin et al (2012) observed that despite government institutional and policies support to enhancing the capacity of small and medium scale enterprises, small and medium scale enterprises have fallen short of expectations. This, then, generated serious concern and skepticism on whether small medium scale enterprises can bring about economic growth and national development. Small medium scale enterprises are faced with significant challenges that compromise their ability to function and to contribute optimally to the economy.

Annie et al (2003) examined that it is estimated that the failure rate of micro, small and medium enterprises is between 70% and 80% in South Africa. Millions of Rands is being lost on business ventures because of essentially avoidable mistakes and problems. It is maintain that often the ideas are good and the people behind them are competent, but “they do not have a clue of how to run a business” and have no underlying appreciation of business fundamentals. Problems encountered by small businesses are numerous and can be described amongst others as being environmental, financial or managerial in nature.

Rodriguez and Sandee (2002) posited that SMEs in the Asia Pacific Region contribute significantly to the local economy.

Indonesia as one of the countries in Asia also feels the benefits derived from the development of SMEs. It must be realized that the presence SMEs as an integral part of national development could not be ignored. SMEs currently represent more than 90 percent of Indonesia's business and accounted for 57 percent of the Gross Domestic Product (GDP) of Indonesia.

Kawai and Urata (2002) in studying Japanese SMEs noted that cost disadvantages owing to small scale and the shortage of technical resources are significant deterrents to entry. They also

noted that the availability of government-directed credit deters entry which suggests that, in their current form, such credit programs protect incumbents.

METHODOLOGY

Research design

The study employed a cross-sectional data collection process to look at the challenges of internationalization and growth on the performance of small and medium enterprise in the three regional municipalities in Freetown.

With reference to the research questions, the study employed mixed research methods, which according to Johanson and Mattsson is an approach that permits researchers to combine both qualitative and quantitative methods in order to capitalize on the strength and reduce the weakness of each method.

The overwhelming majority of the data was collected by means of primary and secondary data. One comprehensive set of questionnaire was designed to collect primary data from the presumptive small and medium enterprise owners/managers. This would enable the researcher to competently collect significant amount of information (Kawai and Urata, 2002).

For the purpose of this study correlation analysis is the statistical tool used to measure the dependent and the independent variables in order to test whether there is positive, negative or zero relationship between the variables.

Population and sampling

Though there were lots of micro small and medium scale enterprises but this study focused on small and medium scale enterprise owners in Freetown as the population of the study. Freetown has a population of approximately 1,000,000 people (Statistics Sierra Leone, 2015).

A purposive sampling method was used, where three hundred and thirteen (313) small and medium scale enterprise owners were administered with questionnaires for the purpose of the study in which participants were requested to fill a well-structured questionnaire on a voluntary basis.

Methods of data collection

Primary data was collected using questionnaire to obtain the required data from small and medium scale enterprise owners in Freetown, Sierra Leone. A total of three hundred and thirteen (313) small and medium scale enterprise owners were administered with questionnaire in western region municipality, central region municipality and eastern region municipality of Freetown.

Secondary data was collected from different sources such as article, newspapers, magazine, periodicals and report. Also from government ministries, departments and agencies such as: Ministry of Finance and Economic Development, Statistics Sierra Leone, Sierra Leone Export and Import Promotion Agency and others were collected for the purpose of this study. Secondary data specifically helped with this research because it complemented primary data. Secondary data filled the qualitative data by reducing the weakness of primary data.

The research instrument that was used for the purpose of this study was a well-structured questionnaire. This was administered by the research assistance to the participants and collected personally in order to gain the trust of the participant and get their honest answers.

The questionnaires were distributed by hand and it consists of various sections which include the personal bio-data of the participants and questions relating and testing the dependent and independent variables.

Methods and data analysis

Small and medium scale outputs were measured base on primary data using correlation analysis. A five point interval scale which was adopted in this research to specify the extent to which internationalization and growth impacts small medium enterprises performance were 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree.

This study employed probability sampling techniques including random sampling, systematic sampling and stratified sampling.

The data was analyzed using SPSS version 20. Various statistical tools like mean, standard deviation and correlation were employed.

Validity and reliability of research instrument

The validity of an instrument refers to whether or not a study is well design and provides results that are appropriate to be generalized to the population of interest. The validity of the scales utilized in this study was assessed for content and construct validity. The correlation among the components of the performance scale provides evidence of convergent validity to the extent that they are high, that is they are converged on a common underlying construct. After administration of the questionnaires had been completed the reliability of the scales was further examined by computing their coefficient alpha. All scales of measurement were ascertained to be higher than the lower limit of 0.7 suggested by (Osotimehin et al, 2012).

RESULTS AND DISCUSSIONS

Descriptive Analysis: General demographics

Table 1: Distribution of participants by socioeconomic characteristics

Variable	Frequency	Percentage
Gender		
Male	194	62.2
Female	118	37.8
Education background		
Primary	10	3.3
Secondary	86	28.5
Tertiary	206	68.2
Nationality		
Sierra Leonean	225	72.3
Non Sierra Leonean	86	27.7
Company's activity		

Manufacturing	27	9.1
Distribution	73	24.6
Service	197	66.3
International business activity		
Yes	117	40.6
No	171	59.4

Source: Field survey, 2017

Table 1 shows the distribution of respondents by socioeconomic characteristics. A total of 312 people participated to the item of gender in the questionnaire, out of which there were 194 (62.2%) males and 118 (37.8%) females. Participants were grouped base on their educational background as well. Only 3.3% of participants stopped at primary education, while 28.5% stopped at secondary school level and 68.2% attained tertiary education. The participants were grouped according to their nationality. Exactly 72.3% of participants are Sierra Leoneans while only 27.7% are Non Sierra Leoneans. Also, participants were grouped according to their various companies' activity. Only 9.1% of participants are into manufacturing while the highest proportion of participants (66.3%) is into the service sector and 24.6% participants are into distribution.

Results of crosstabulation analysis

Table 2: Crosstabulation analysis

Company's activity * Number of employees crosstabulation

			Number of employees				Total
			Below 10	11-20	21-30	Above 30	
Company's activity	Manufacturing	Count	6	6	7	4	23
		% within Company's activity	26.1%	26.1%	30.4%	17.4%	100.0%
		% within Number of employees	5.3%	8.8%	13.7%	10.3%	8.5%
		% of Total	2.2%	2.2%	2.6%	1.5%	8.5%
	Distribution	Count	29	18	13	7	67
		% within Company's activity	43.3%	26.9%	19.4%	10.4%	100.0%
		% within Number of employees	25.4%	26.5%	25.5%	17.9%	24.6%
		% of Total	10.7%	6.6%	4.8%	2.6%	24.6%
	Services	Count	79	44	31	28	182
		% within Company's activity	43.4%	24.2%	17.0%	15.4%	100.0%

	% within Number of employees	69.3%	64.7%	60.8%	71.8%	66.9%
Total	% of Total	29.0%	16.2%	11.4%	10.3%	66.9%
	Count	114	68	51	39	272
	% within Company's activity	41.9%	25.0%	18.8%	14.3%	100.0%
	% within Number of employees	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	41.9%	25.0%	18.8%	14.3%	100.0%

Source: Field survey, 2017

Based on the company activity, SMEs that engage in service activity tops the list with a total of 66.9% (182) while the distribution activity has a total of 24.6% (67). The manufacturing has the least with a total of 8.5% (23).

From the participant responses, the service sector has the highest number of employees with a total of 182 employees. The second highest was the distribution activity with a total of 67 employees and this was followed by the manufacturing activity with just 23 employees.

From Table 2, most of the participants' engage into service base businesses such as: marketing, education, media and communication, finance/insurance, hospitality and others. A total of 66.9% of participants' company activity is in the service sector. And the service sector employs more people than other business activities such as: manufacturing and distribution. From participant responses only 8.5% (23) that there business activities are manufacturing. This support the fact that Sierra Leone is yet to be an industrialized nation. Despite government effort in putting policies in place like the agenda for prosperity that will see Sierra Leone becomes an industrialize nation by 2035, the country is still disenabled in terms of manufacturing companies. Also, 24.6 (67) of participants are into distribution business activity. The service and distribution business activities are related because people do not produce tangible products which the manufacturing business activity does.

Answering research questions

How significant is internationalization on small and medium scale enterprises?

Table 3: Descriptive analysis on the significance of internationalization of small and medium scale enterprises.

S/N	Particulars	N	Percent					X	SD
			Sd	D	N	A	Sa		
1	It will increase foreign direct investment	307	10.7	10.7	13.7	43.6	21.2	3.54	1.240
2	More job opportunities would be created	306	8.5	6.9	16.0	51.0	17.6	3.62	1.113
3	There will be improvement in the standard of living	305	7.2	6.6	14.8	46.2	25.2	3.76	1.121
4	Increase in gross national product	306	9.2	9.8	19.6	43.1	18.3	3.52	1.168
5	It encourages innovation and creativity	306	8.5	8.5	16.7	43.1	23.2	3.64	1.174
6	It facilitates the peaceful co-existence between nations	306	7.8	6.5	9.8	42.2	33.7	3.87	1.180
7	It improves a country terms of trade	306	8.5	6.5	7.5	48.0	29.4	3.83	1.171
Grand mean = 3.68									

Where Sd means strongly disagree, D stands for disagree, N stands for neutral, A means agree, and Sa means strongly agree and SD stands for standard deviation. Weighted average is 3.0. Grand Mean is 5.74. *It facilitates the peaceful co-existence between nations* had the highest mean, 3.87, with a standard deviation of 1.180. *Increase in gross national product* has the lowest mean, 3.52, with a standard deviation of 1.168. The mean for each of the items are greater than the weighted mean.

Table 3 is satiated with facts that according to participant opinions, internationalization is significant for SMEs development. The overall mean of responses to all items are above the weighted average. Participants were of a high impression that if SMEs are well developed they can favourably compete in the international market and they would not only compete favourably but they will develop sustainably.

The implication of this is that SMEs would not have the required capital to trade in the international market. Internationalization of SMEs would facilitate cordial relationship between nations.

To what extent do policy actions influence the development of small and medium scale enterprises?

Table 4: Descriptive analysis of policy actions and the development of small medium enterprises

S/N	Particulars	N	Percent					X	SD
			Sd	D	N	A	Sa		
1	Government policies do not favor SMEs	307	12.4	18.9	11.4	41.7	15.6	3.29	1.283
2	Government policies are most times not implemented	308	5.8	11.0	15.9	46.1	21.1	3.66	1.106
3	Government does not protect infant industries	307	8.5	14.3	14.1	40.1	22.5	3.54	1.224
4	Foreign industries undermines indigenization	307	11.7	18.6	16.3	30.6	22.8	3.34	1.327
5	Government policies mostly favor the wealthy	303	11.2	14.5	13.9	32.0	28.4	3.52	1.337
6	Government does not enforce laws	302	9.9	21.5	15.6	36.4	16.6	3.28	1.251
7	Government does not encourage entrepreneurship development	308	14.0	18.5	14.6	35.7	17.2	3.24	1.319
8	Foreign companies are a threat to the survival of SMEs	305	15.7	19.3	12.1	35.4	17.4	3.19	1.357
9	The exchange rate negatively affect the growth of SMEs	308	5.5	7.1	9.1	43.8	34.4	3.94	1.104
10	The current exchange rate discourages international trade	308	6.2	4.9	5.5	44.2	39.3	4.01	1.095
Grand mean = 3.50									

Where Sd means strongly disagree, D stands for disagree, N stands for neutral, A means agree, Sa means strongly agree and SD stands for standard deviation. Weighted mean is 3.0. Grand mean is 3.50. *The current exchange rate discourages international trade* had the highest mean, 4.01, with a standard deviation of 1.095.

Foreign companies are a threat to the survival of SMEs had the least mean of 3.19, with a standard deviation of 1.357. The mean for each of the items are greater than the weighted mean. Therefore, government policy actions affect small and medium scale enterprise development.

The results shown on Table 4 revealed that participants' opinions on government policy actions affect the development of small medium enterprises. The item *the current exchange rate discourages international trade* had the highest mean, 4.01, with a standard deviation of 1.095.

The item *foreign companies are a threat to the survival of SMEs* had the least mean of 3.19, with a standard deviation of 1.357., which implies that majority of participants believe that the current exchange rate discourages small and medium scale enterprises to compete in the international market. This could be as a result of the fact that they view the Leones currency too weak with foreign currencies such as dollars and pounds. From the result, most participants that engage in international business are importers. And this invariably undermines Sierra Leone terms of trade and balance of payment.

Furthermore, the current exchange rate is a major challenge for internationalization of small and medium scale enterprises. Out of the 288 participants that filled “*Is your company engaged in international business activity*”, 117 (40.6%) said yes and 171 (59.4%) said no and most of those that said yes engage in service 197 (66.3%) and distribution 73 (24.6%) business activities. Only 27 (9.1%) are into manufacturing. Majority of the participants that engage in international business activity are importers. Compensious, Sierra Leone economy is import dependent. And this undermines the government aspirations of industrialization by 2035.

What are the challenges of internationalization of small and medium scale enterprises?

Table 5: Descriptive analysis of the challenges of internationalization of small and medium scale enterprises.

S/N	Particulars	N	Percent					X	SD
			Sd	D	N	A	Sa		
1	Shortage of labour	307	12.1	26.4	12.4	42.0	7.2	3.06	1.206
2	Lack of finance	306	5.9	8.5	9.5	47.1	29.1	3.85	1.112
3	Rigid government regulations	307	6.2	14.7	16.6	47.9	14.7	3.50	1.101
4	Rising cost of inputs	303	5.3	7.9	8.3	52.1	26.4	3.86	1.060
5	Increasing competition	302	4.0	14.9	20.2	39.1	21.9	3.60	1.103
6	Lack of knowledge of export/import procedures	304	10.9	16.8	14.8	40.8	16.8	3.36	1.248
7	High customs duties	306	7.5	7.5	9.8	43.8	31.4	3.84	1.169
8	Language problems	305	6.6	16.1	22.3	41.0	14.1	3.40	1.114
9	Lack of knowledge of foreign markets	305	6.6	18.4	16.1	40.0	19.0	3.47	1.181
10	Cost of transportation	305	5.9	6.6	12.8	51.5	23.3	3.80	1.057
11	Unstable exchange rate/inflation	307	4.6	4.2	6.6	40.1	44.3	4.15	1.035
	Total							36.42	
Grand mean = $36.42/11 = 3.31$									

Where Sd means strongly disagree, D means disagree, N means neutral, A means agree, Sa means strongly agree and SD stands for standard deviation. The weighted mean is 3.0. Grand mean is 3.31. Items in Table 5 above showed the descriptive analysis of the challenges of internationalization of small and medium scale enterprises.

Each item was described with its mean and standard deviation. The item *unstable exchange rate/inflation* had the highest mean, 4.15, with a standard deviation of 1.035, while the item *shortage of labour* had the lowest mean, 3.06, with a standard deviation of 1.206. All items have means greater than the weighted mean. And also, the overall mean of all the items is greater than the weighted mean, implying that in the opinion of participants, the above items are challenges of small and medium scale enterprises when they want to engage in the international market.

It was found that, on the whole, participants' opinions agreed that the items in table 5 are major challenges of internationalization of small and medium scale enterprises. This is evident in the results from the descriptive analysis of the challenges of internationalization of small and

medium scale enterprises. The mean of responses to every item on the table is greater than the weighted mean. The current exchange rate subverts the import and export dependent small and medium scale enterprises in Freetown. And this has a negative spiral effect on economic development. However, according to the opinion of participants, shortage of labour is the least item they consider as a challenge for internationalization of SMEs. This support the fact that Sierra Leone has excess of labour force that is either unemployed or underemployed.

TESTING THE HYPOTHESES

Criteria for decision making

The criteria for decision making are as follows:

If the significance level is less than 0.05, the hypothesis is rejected

If the significance level is greater than 0.05, the hypothesis is accepted

Correlation $-1 \leq r \leq +1$.

$R = -1$ signifies very strong negative relationship

$R = 0$ signifies no relationship

$R = +1$ signifies very strong positive relationship

Hypothesis 1. The challenges of internationalization and growth have no significant impact on small and medium scale enterprise in Freetown.

Table 6: Correlations

		International business activity	Cost_int
International business activity	Pearson correlation	1	-.036
	Sig. (2-tailed)		.560
	Sum of squares and Cross-products	69.469	-31.981
	Covariance	.242	-.119
	N	288	269
Cost_int	Pearson correlation	-.036	1
	Sig. (2-tailed)	.560	
	Sum of squares and Cross-products	-31.981	13071.010
	Covariance	-.119	44.611
	N	269	294

Correlation is significant at the 0.05 level (2-tailed)

The items on challenges of internationalization towards small and medium scale enterprise development are computed as cost of internationalization and correlated with international business activity (dependent variable) using Pearson correlation. Results in the table presented above are given as follows:

- Correlation value (r) = -.036 and
- Significance = .560

The “r” value of -.036 implies both variables are negatively related, and the relationship which exists is very weak. The significant level of .560 is greater than 0.05 implies the challenges of internationalization and growth have no significant impact on international business activity.

Decision

Hypothesis 1 “The challenges of internationalization and growth have no significant impact on small and medium scale enterprise in Freetown,” is therefore upheld.

Drawing from results of findings presented in the previous section, it was found that, on the whole, participants’ opinions agreed that the items in section B are major challenges of internationalization of small and medium scale enterprises. This is evident in the results from the descriptive analysis of the challenges of internationalization of small and medium scale enterprises. The mean of responses to every item is greater than the weighted mean. This supports the fact that participants believe that there are lot of challenges of small and medium scale enterprises when they want to engage in the international market (Okpara, 2010). Therefore, small and medium scale enterprises in Sierra Leone have their own local market; there is cheap labour, cheap local raw materials and favorable weather condition especially for those in the agriculture sector. Hence, the challenges of internationalization and growth have no significant impact on small and medium scale enterprise in Freetown

Hypothesis 2. There is no significant relationship between government policy actions and small and medium scale enterprise development in Freetown.

Table 7: Correlations

		International business activity	Govt_action
International business activity	Pearson correlation	1	-.101
	Sig. (2-tailed)		.097
	Sum of squares and Cross-products	69.469	-112.881
	Covariance	.242	-.420
	N	288	270
	Pearson correlation	-.101	1
Govt_action	Sig. (2-tailed)	.097	
	Sum of squares and Cross-products	-112.881	20117.854
	Covariance	-.420	68.662
	N	270	294

Correlation is significant at the 0.05 level (2-tailed)

After running a Pearson correlation between entrepreneurs’ international business activity and government policy actions items, the table above presented the results which are interpreted as follows: Correlation value (r) of -.101 exists between international business activity and government policy actions at .097 level of significance A very weak, negative and insignificant relationship exists between international business activity and government policy action.

Decision

Hypothesis 2 is hereby accepted.

When been tested for participants' opinion on government policy results from their responses showed that government policies are rigid and most times not implemented. Hence, it does not favour SMEs development. This is evident in the mean of responses shown. Each item responses mean is higher than the weighted mean and supported with the fact that a higher percent of the participants see government policy actions undermining the development of SMEs. This could be supported with the fact that even with the inefficient and non-implementable government policy such as the local content policy, SMEs are incapacitated as a result of the practically non-existence of enabling business environment (Osamwonyi and Tafamel, 2010). Government should not just articulate policies but should implement, monitor and evaluate these policies to have a positive impact on the people and SMEs development.

Hypothesis 3. Internationalization and growth does not influence the output of small medium enterprises in Sierra Leone economy.

Table 8: Correlations

		International business activity	Expansion_int
International business activity	Pearson correlation	1	-.065
	Sig. (2-tailed)		.283
	N	288	271
Expansion_int	Pearson correlation	-.065	1
	Sig. (2-tailed)	.283	
	N	271	295

Correlation is significant at the 0.05 level (2-tailed)

After items were been analyzed for correlation between international business activity and the influence of small medium enterprises output in Sierra Leone economy (expansion of internationalization) using Pearson correlation, results given in the table above are interpreted as follows: Correlation value (r) of -.065 exists between international business activity and expansion of internationalization at .283 level of significance. There is an insignificant relationship between international business activity and expansion of internationalization. Also, the relationship is negative and weak between the dependent and independent variables.

Decision

Hypothesis 3 is hereby consented.

Internationalization and growth does not influence the output of SMEs in Sierra Leone economy. Although a negative relationship exists between internationalization and growth and SMEs output ($r = -.065$), the result showed that the relationship is insignificant with $r = -.065$ at .283 level of significance. A negative r value implies a negative relationship i.e. as

internationalization and growth increases the output of SMEs decreases. Therefore, this leads to the rapid influx of foreign products in the market. This will further weaken the local currency (Leones). Therefore, the local infant SMEs would be forced to exit the market or sell substandard products that cannot compete favourably with their international counterpart.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The aim of this study is to contribute to the literature on internationalization and growth of small and medium scale enterprises by investigating the challenges of SMEs in Freetown. In addition to this, many factors influence firms' internationalization, including government policy, access to new market, entrepreneurial intention, access to finance and business skill. The findings from this study were believed to give an insight into the effect of the challenges of internationalization and growth on small and medium scale enterprises performance in Freetown.

The correlation analysis shows an insignificant negative relationship between government policy action and internationalization of SMEs. An implication of this research is that government policy action is not an important factor that affects the export and import orientation of SMEs. This is as a result of the practically non-existence of cadaver business laws. Internationalization, which was once thought of as the demon corporate, is now considered as a permeative and permanent force that will have both positive and negative effects on a significant portion of SMEs development. It is a major driver that has impact on nearly every business. The internationalization of markets for sales and purchasing at least indirectly influences every business. With the help of local governments, large corporations, and international organizations, entrepreneurial enterprises are able to confront the challenges posed by internationalization and economic liberalization, to improve their competitiveness in the international market.

Recommendations

1. Sierra Leone government should not only articulate policies to influence the rate of small and medium scale enterprise development but government should implement, monitor and evaluate policies that protect infant industries within her administrative and economic capability to encourage indigenous industries.
2. Governmental and private efforts should be expanded to accelerate trend towards small and medium scale enterprise development and a sense of individual responsibility towards society, as government cannot do it alone.
3. Sierra Leone government, banks, angel investors, trade creditors should introduce soft loans for small and medium business with singly digit interest rate and moratorium period.
4. The government should reduce the inflation rate via inflation targeting so that SMEs would be able to borrow sufficient money from commercial banks and sell their goods at a reasonable price. Also, through macroeconomic policies, the exchange rate should be stable and favourable to accelerate international trade.

5. Development of SMEs hub is fundamental to revitalize small and medium scale enterprise development. The Sierra Leone government should develop SMEs hub that would serve as an ecosystem for innovation, technology and entrepreneurship development.

Suggestions for further study

The study centres on the challenges of internationalization and growth of small and medium enterprises using Freetown as a case study with a population of 1 million. Future researchers should further their research to validate the findings of the study and to determine its reliability as well using other methodology and to add any other more explanatory variables that are theoretically inclined toward economic development. The scope of the study should be expanded for effective analysis of the subject matter.

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ACCOUNTING FOR PROFIT: HOW CRIME ACTIVITY CAN COST YOU YOUR BUSINESS

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ABSTRACT

Starting a new business venture and still being in operation after five years can be a significant challenge. According to the U.S. Small Business Administration (SBA), half of all small businesses fail within the first five years, and according to the U.S. Chamber of Commerce, as many as 30% of small business failures can be attributed to crime.

Today, small business owners are subject to assault by many different types of criminal activities ranging from shoplifting and vandalism to fraud, embezzlement, money laundering and of course, cybercrime. Crimes committed against businesses fall into two broad categories—internal and external. Internal crimes include crimes such as theft and embezzlement, while external crimes include activities such as robbery and cybercrime. Each type of crime has its unique characteristics, and each calls for a different approach to prevent and detect criminal activity, along with various remedies to criminal acts.

Accountants can play a significant role in these activities including development of comprehensive audits, utilizing specialized computer software, and vigilance in looking for suspicious activity by employees, customers, suppliers, and others. In this paper, the authors provide an introduction to criminal business activity, and a variety of counter-measures businesses can employ to safeguard their profits.

INTRODUCTION

Small and medium-sized enterprises (SME's) can be considered to play an essential role in a country's economy (Chakraborty, 2015). Effective internal controls can help these companies be successful in reducing fraud in their organizations. SME's will most likely put into place a few controls, but these entrepreneurs probably will not be trained in the latest fraud prevention techniques and internal controls that would benefit small businesses (Oseifuah, 2013). Small companies will often be targets of fraud and theft as they lack the means, experience, proficiency to set up security systems to protect their businesses (Stone, 2016). The author also indicated that the informality of how many small businesses operate could cause havoc regarding the implementation of access and authorization internal controls. Jackson, et al. (2010) noted that small companies often expect employees to function in various jobs within the business and that can be almost impossible to create an adequate segregation of duties. The authors told of an owner of a small trucking company who was very confident that his employees could not steal from him because he only had the authority to write checks. The owner seemed to forget that he gave his bookkeeper the responsibility to reconcile his checkbook as well as a wide-variety of accounting and financial responsibilities.

Also, a small business may not know to keep essential transaction records or may not know how to hire/find ethical employees through the use of credit checks, police records, etc. Another important point could be how employees at a small business may be able to access records they need not be viewing. So, the inherent risk of small business could make it easier for employees to steal, sell company information and commit fraud (Jackson, 2010). Joseph (2009) spoke of an employee at a local pawn shop caught loading merchandise into his truck after hours. Now, this employee's behavior was particularly brazen, but fraud can be considered more commonplace in recent years.

Can there be a fraud profile for which entrepreneurs can be aware of when hiring employees? Eaton & Korach (2016) indicates that one exists. The authors suggest that criminal profiling can be helpful when noting attitudinal and personality aspects of prospective employees. The first trait will be a classic use of power for personal or company gain. Now, not all leaders should be considered unethical, and many do indeed have integrity and behave honorably. Two types of authority dealing with fraud profiling can be traditional and charismatic. Traditional power can be noted in family-owned businesses or private businesses and subordinates working for a manager or owner with traditional power will not oppose the authority figure previously established as the boss or the son or daughter of the boss. Charismatic power comes from the manager's personality which should not be considered a negative attribute, but can decrease or eliminate an established internal control environment.

It would be natural for an entrepreneur who will usually be capable, ambitious, focused, and self-confident with a passion for success to possibly pressure their employees to look away when the entrepreneur chooses to act unethically (Eaton & Korach, 2016). The authors noted that specific industries are correlated with being more likely to employ unethical practices. Also, studies indicated (Daboub, 1995) that specific industries follow the norms and trends of fraudulent activity. Also, (Simpson, 1986) noted that certain industries demonstrate certain cultures and norms and in (Dalton & Kesner, 1988) and Ramamoorti's (2009) study the authors provided ABC's to aid individuals with sociological perspectives on how culture may facilitate crime. The authors' theory described: A: (individuals), B: bad Bushels (subgroups), and C: bad Crops (overall group) and that "with opportunity, a firm's culture can facilitate the creation of bad bushels or bad crops that influence unethical or even criminal behavior on an individual level" (Eaton & Korach, p 135, 2016).

As a business matures, survival rates drop to about half within five years (U.S. Small Business Administration, Small Business Facts). After years of gathering information and intensive study, two meaningful conclusions can be drawn from the Small Business Administration (SBA) data. First, business survival rates have not changed much over the last twenty years or so. Second, survival rates are similar across various industries. This suggests that both downturns and upturns in the economy have little effect and that certain types of new business ventures are not necessarily riskier than others to start.

Small businesses are victims of many types of crimes. One of the most significant studies of small business crime, Kuratko et al. (2000) found annual cost of crime prevention to be \$7,805 and the yearly average crime loss to be \$9,010. Despite crime being a factor in small business survival, many small business owners appear to be reluctant to report crime. Kennedy & Reilly

(2014) found only 16% of small business owners who had victimized by employee theft reported the incident to the police. In their study, the researchers also found that most theft occurs over time, in some cases as many as twenty years. The researchers also found that on average, employee theft took place over a period of 16 months.

Of course, this is not a problem only in the United States but rather a global issue. According to the National White Collar Crime Center, in 2013 losses worldwide are reported to be \$3.7 trillion. Corporate security experts also estimate employee theft to be as high as 25-40 percent of all employees stealing from their employers. An estimated 30 to 50 percent of business failures are attributed to employee theft, making employee theft two to three times more costly than all crimes combined. Security experts also estimate that as many as three-quarters of all employees steal from their employers at least once (National White Collar Crime Center).

Table 1. Crimes committed against businesses

EXTERNAL	INTERNAL
Robbery	Theft
Burglary	Embezzlement
Shoplifting	Fraud
Counterfeiting	Customer Identity Theft
Piracy	Sabotage
Money laundering	
Vandalism	
Cyber-crimes	
Ponzi schemes	

DISCUSSION

Crimes from within

Internal crimes are those committed by employees, including family members. The most common crime committed by employees is fraud and for fraud to occur, Marten and Edwards (2005) state that employees can commit fraud when three conditions are present. The incentive is the first condition, that is, an employee might be motivated to commit fraud due to *financial pressures* resulting from costly medical bills or some form of addiction, or even an adulterous relationship. The second condition is *opportunity* which exists when there is a lack of safeguards or preventive measures, oftentimes resulting from too much trust of their employees. The third condition, *rationalization*, occurs when an employee believes their actions to be justified as the employer “owes them.” These conditions are described in Cressey’s Fraud Triangle in Figure 1 below.

The Association of Certified Fraud Examiners (ACFE), reports fraud losses in small businesses to be 100 times greater than larger companies. According to the ACFE's "2006 Report to the Nation on Occupational Fraud and Abuse," "The median [fraud] loss suffered by

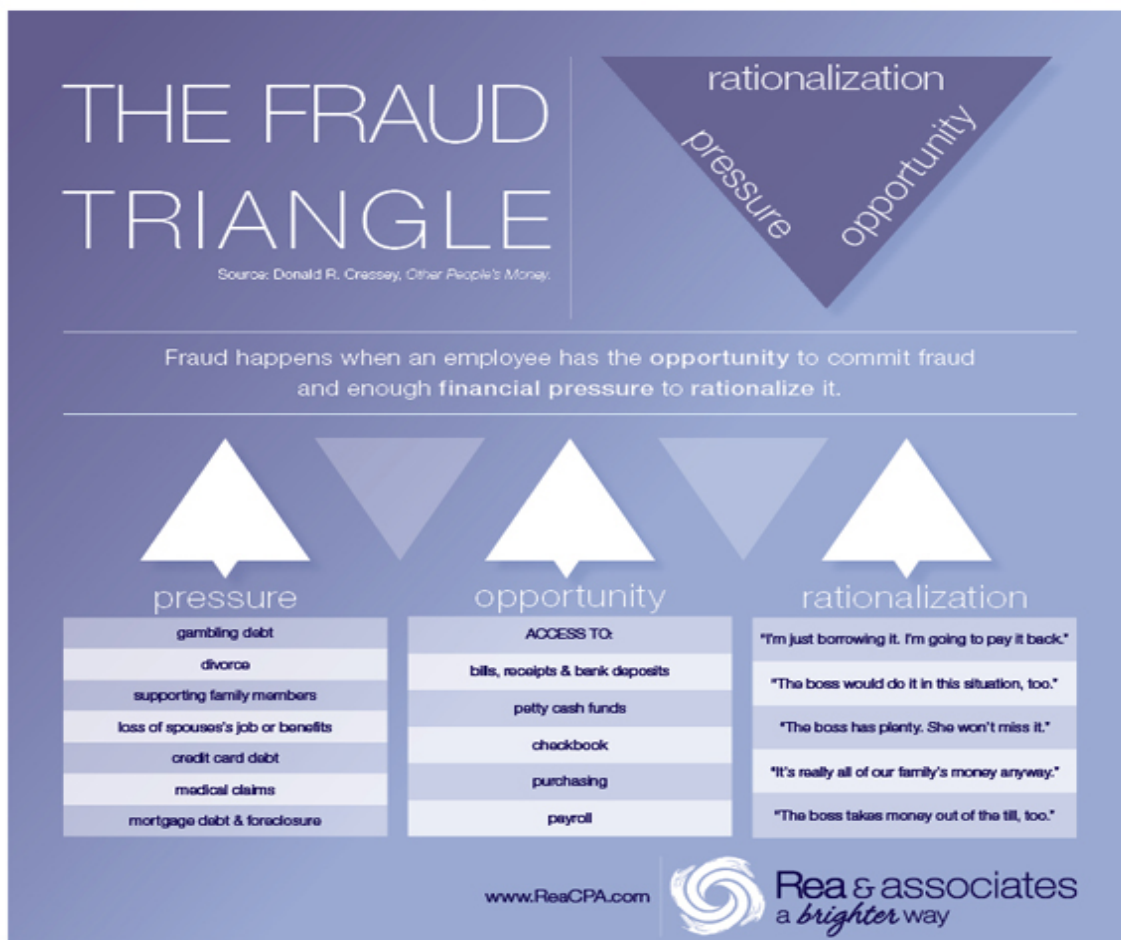
organizations with fewer than 100 employees was \$190,000 per scheme...higher than the median loss in even the largest organizations. Small businesses continue to suffer disproportionate fraud losses."

According to the National Insurance Crime Bureau, by 2008, workers' compensation fraud exceeded \$5 billion per year (cited in Workers' compensation fraud and the small employer). Workers' compensation fraud impacts not only the insurer, but also the business in the form of higher insurance premiums, which are based primarily on claim experience. As with many crime incidents, the best approaches to fight fraud are preventive measures. Employers can begin with better screening procedures when hiring employees to include a thorough examination of the candidate's background, work history, and references.

Typically, crimes from within also include theft, embezzlement, fraud, sabotage, and customer identity theft. Many of these crimes can be prevented by establishing good policies and procedures. Locks, passwords, and security cameras are low-cost to the small business owner, but are proven ways to reduce crime. Also, employees may be involved in pharmacy fraud or payroll fraud. Sometimes, small businesses are also involved in money laundering, knowingly or unknowingly by the owner. Clarke (2017) offers that many forms of white collar crime can be prevented through sound management practices.

White collar crimes are becoming more sophisticated and crossing national boundaries. Hendricks (2013) reports that environmental schemes are ranging into the billions of dollars targeting credits for carbon emissions and other environmental activities. Telemarketing fraud and kickbacks

Figure 1-the Fraud Triangle



Fraud can be addressed through leadership, management controls, and culture. Effective leadership includes not exerting excessive pressure on business units to meet performance targets and developing rewards systems that do not encourage employee fraud. The second aspect of the approach, management controls, including accounting procedures designed to promote compliance assurance and preventing fraud. The third means to address fraud is through an established culture where employees understand acceptable and unacceptable behaviors, thereby reducing rationalization.

Among the most critical management controls that serve as preventive measures are employee background checks and employee drug testing. Background checks should include both arrest records and credit check. Unfortunately, many small business owners fail to prosecute employees as some are family members or long-time friends. In fact, Larimer (2006) reports that only 30% of small business owners pursue instances of fraud committed by employees. In a more recent study, Reilly (2014) found that although 64 percent of small businesses reported employee theft, only 16 percent of those companies reported the incidence of employee theft to the police. Reilly's study (2014) further found that employee theft occurs over time, sometimes over a period

of years and the average theft amount to be \$20,000. Theft of money accounts for 40% of employee theft, followed by theft of products and materials.

Preventive measures should begin with employee background checks and drug testing but should also include key control, computer firewalls, secure websites, secure passwords, alarm systems, and surveillance cameras. Again, a necessary means to address fraud is through an established culture where employees understand acceptable and unacceptable behaviors, thereby reducing behavior rationalization.

Embezzlement

According to Carniello (2008), embezzlement differs from fraud in that fraud is “a deception made for personal gain”. Embezzlement, in contrast, is defined as “the act of dishonesty appropriating goods, usually money, by one whom they have been entrusted.”

Table 1: Cost of Selected Crimes Committed Against Businesses, 2007

Type of Crime	Number of Incidents	Cost	Cost per Incident
Embezzlement	15,151	\$20.9 Billion	\$1,379,447
Burglary	700,239	\$1.4 Billion	\$1,991
Shoplifting	785,228	\$1.6 Billion	\$205

Source: Crime in the United States, 2007

External Crimes

Many crimes are committed by others outside the business organization and consist of a wide range of criminal activities including shoplifting, vandalism, robbery, burglary, piracy, and cargo theft. In 2015, businesses reported more than 1.1 million shoplifting incidences totaling \$293 million (Crime in the United States, 2015). Even a relatively minor crime can have a significant impact on small business. The SBA reports that the average incidence of vandalism costs the small business \$3,370 (http://www.nfib.com/object/IO_31210.html). More severe crimes can range from cargo theft to theft of intellectual property or trade secrets.

Cyber-attacks on the rise

With cyber attacks costing small businesses \$86 billion in losses averaging \$188,000 per incident, small business owners need to develop sophisticated defenses to protect against these threats. According to the U.S. House of Representatives Committee on Small Business report *Protecting Small Business*, 20% of cyber-attacks are directed toward small businesses with fewer than 250 employees and that 60% of those companies will close their doors within six months of a cyber attack. Further, 77% of small business owners consider their business safe from a cyber-attack, despite 87% of those businesses not having a written security policy in effect (Protecting Small Business, 2013).

The Bureau of Justice Statistics (2008), reported that sixty-eight percent of the cyber-attack thefts resulted in a monetary loss of \$10,000 or more (Cybercrime against Businesses, 2008). In fact, Experian reports that small businesses experienced a 300% increase in cyber-attacks from 2011 to 2012 (2014 Data Breach Industry Forecast).

RECOMMENDATIONS FOR SMALL BUSINESS CONTROL

Piskunov, et al. (2016) noted that small businesses many times will be innovators in their fields and should be aware of inherent risks of entrepreneurial endeavors. The authors indicate small companies could benefit from a risk-oriented control arrangement which would entail implementing controls through systematic and situational methodology. Jena (2016) suggested that corporate governance might not only improve internal controls, but also provide a stronger system of internal control and accountability. Aldehayyat, et al. (2016) noted that corporate governance should include procedures such as internal control system, policy manuals and budgets which affect the actions of top management. How senior management deals with controls currently in place would be a component of “Tone at the Top” (Schwartz, 2005).

Stone (2016) suggested several recommendations for small business control. The author first mentions the importance of understanding the small business environment. The entrepreneur should identify any high-risk fraud areas in his company. As cash is an inherent risk in itself, a small business owner should carefully review the procedures dealing with cash, accounts receivables, and inventory. Secondly, the author strongly suggests that the entrepreneur implement internal controls, especially segregation of duties which can be very difficult to achieve in a small business with limited staff. Job sharing was one of the ways Stone (2016) indicates could be helpful, and cross-training was another suggestion and very important, yet simple to establish would be enhanced supervision of staff members.

Another control deemed necessary by the author would be adequate security and compliance software for the small business. If manual tasks can be automated, staff members can spend their time on more critical tasks and the risk of error decreases (as long as the computer programs are checked/audited for accuracy). Perhaps Bressler (2009) stated the best recommendation when he noted that there are more means to prevent crimes than methods of detection or remedies, and that prevention methods cost significantly less than the cost of crime.

SUMMARY & CONCLUSION

In this paper, the authors have presented the current situation regarding crimes against small businesses. The article highlights the major types of crimes and their sources, and the authors offer strategies for detecting and resolving crime issues. However, the authors stress the importance of crime prevention as the most effective approach to reducing crime. Prevention has been found to be significantly less expensive than the costs resulting from criminal activity.

The authors also pointed to a critical issue. In many cases, small business owners do not report crimes or fail to press criminal charges as the illegal activity is committed by a family member or long-service employee. In fact, Kennedy (2014) found that despite 64% of small businesses surveyed experienced theft, only 16% of those reported the theft to the police.

Small businesses can be considered the underpinning of our nation’s economy. When small businesses survive and thrive, the economy is stronger as the business expands and jobs are created. Small business owners can increase their chance of success by developing sound management processes and controls.

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AM I REQUIRED TO DISCLOSE THIS? AN EXAMINATION OF A LITIGANT'S DUTY TO PRODUCE AN EXPERT'S PREVIOUS REPORTS AND TRANSCRIPTS IN FEDERAL LITIGATION

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ABSTRACT

Even the most seemingly mundane commercial litigation cases often require an expert's testimony. Thus, the question faced by litigators is usually not whether an expert is needed, but rather how many experts are needed in a given case and how early in the litigation process they should be retained. Just as important as retaining your own experts, and perhaps more so, is obtaining information from your opponent concerning the experts they have retained. This information is obtained through discovery, and in federal courts is controlled by Federal Rule of Civil Procedure 26. Presently, the federal courts do not uniformly interpret a litigant's obligations under FRCP 26. Motions to Strike/Exclude Expert Testimony, heard under the Court's responsibility as a gatekeeper of information, are common, despite the federal courts' disdain for handling discovery disputes. The courts' conflicting opinions, and lack of uniformity and guidance serves to exacerbate discovery disputes between the parties. Given the current difficulty reconciling the courts' differing opinions, estimating a party's chances of prevailing in discovery disputes is difficult at best. This article explores the differing interpretations of Rule 26 as it relates to courts' rulings on discovery disputes involving experts, particularly on disputes centered on requests for production of an expert's reports and testimony proffered in previous cases.

THE DISCLOSURE OBLIGATION IMPOSED BY FRCP 26(A)(2)

Rule 26(a)(2) sets forth the requirements of expert disclosures. The rule requires a party to disclose to the opposing parties the identity of any expert witness it may use at trial to present evidence. Additionally, under Rule 26(a)(2)(B), each expert must produce a report that contains:

- (i) a complete statement of all opinions the witness will express and the basis and reasons for them;
- (ii) the facts or data considered by the witness in forming them;
- (iii) any exhibits that will be used to summarize or support them;
- (iv) the witness's qualifications, including a list of all publications authored in the previous 10 years;
- (v) a list of all other cases in which, during the previous 4 years, the witness testified as an expert at trial or by deposition; and
- (vi) a statement of the compensation to be paid for the study and testimony in the case.

The rule, however, does not explicitly include any requirement for a party to produce the actual reports previously written and used in other cases. Nor does it require the production of the transcripts of testimony given in earlier cases in which the expert provided testimony. Rather, all that is required to be produced is a list of cases in which the expert has testified in the previous four years and a list of all publications authored in the previous ten years. (The complete text of FRCP 26 is included in Appendix A.)

**SOME COURTS CONSTRUE FRCP 26 NARROWLY AND HOLD THAT
PRODUCTION OF EXPERT REPORTS AND TRANSCRIPTS FROM PRIOR CASES IS
NOT REQUIRED BY THE PLAIN TEXT FEDERAL RULES**

Interpreting Rule 26, some federal courts have held that expert disclosure requirements do not extend beyond what Rule 26 requires, and have accordingly rejected requests for reports or testimony given by experts in prior cases. For example, in *Roberts v. Printup*, 02-2333-CM, 2007 WL 1201461 (D. Kan. Apr. 23, 2007), the plaintiff moved to exclude defendant's expert because defendant refused to provide the expert's testimony from a prior, unrelated case. *Id.* at *1. The court denied the motion, holding that as a matter of law, "Rule 26(a)(2)(B) does not require disclosure of the testimony an expert gave in a prior case." *Id.* See also, *In re Air Crash Disaster*, 720 F.Supp. 1442, 1444-45 (D.Colo.1988) ("[T]he limited scope of a Rule 26(b)(4)(A) inquiry into the background and experience of an expert witness does not include the production of every deposition or trial transcript given by the expert in any litigation."); *Trunk v. Midwest Rubber & Supply Co.*, 175 F.R.D. 664, 665 (D.Colo.1997) (holding that Rule 26 does not require an expert to produce reports from unrelated litigation).

Further, in *All W. Pet Supply Co. v. Hill's Pet Prods. Div., Colgate-Palmolive Co.*, 152 F.R.D. 634, 639 (D. Kan. 1993), while deposing plaintiff's testifying expert, counsel for the defendants requested copies of the expert's reports, depositions, and trial transcripts provided during the course of his previous engagements. *Id.* The expert agreed to produce the materials, subject to approval of his attorney. *Id.* The requested materials were ultimately not produced, and the defendants then sought an order compelling their production. *Id.* In considering the situation, the court stated:

The defendants did not submit a request for production of the documents in question to the plaintiffs as provided by Fed.R.Civ.P. 34. In fact, the defendants do not even assert that the plaintiff has possession of any of the requested materials, which were prepared by [] plaintiff's expert witness, for purposes of other litigation. The defendants are therefore not entitled to an order compelling the plaintiff to produce these documents.

* * *

Although the parties were ordered to comply with the proposed revision to Rule 26 with regard to expert disclosure, the new language of Rule 26(a)(2) requires the expert to include in the report only "a *listing* of any other cases in which the witness has testified as an expert at trial or in deposition within the preceding four years." (Emphasis added.) ... The fact that the proposed rules require the expert to provide a list of other cases in which the expert witness has testified does not mean that the expert must produce copies of his reports and transcripts of his testimony. To the

extent that such materials are a matter of public record, the listing may be used by the adversary to obtain its own copies of these materials.

Id. at 639-640.

Similarly, in *Cartier, Inc. v. Four Star Jewelry Creations, Inc.*, 01 CIV.11295(CBM), 2003 WL 22227959 (S.D.N.Y. Sept. 26, 2003), the court denied the plaintiff's request for the defendant's expert's past testimony, stating that "[t]he plain language of Rule 26 directs parties to provide a *list* of cases, not the *expert reports* relied upon in those cases." *Id.* at *3 (emphasis in original). Further, the court held that so long as the expert has complied with Rule 26(a)(2)(B)(v) listing prior cases, "defendants' obligation extends no further under Rule 26." *Id.*

SOME COURTS CONSTRUE FRCP 26 NARROWLY AND HOLD THAT PRODUCTION OF EXPERT REPORTS AND TRANSCRIPTS FROM PRIOR CASES IS NOT REQUIRED WHEN THE MATERIALS ARE NOT RELEVANT TO THE CURRENT MATTER

Previous Version of Rule 26

Some courts routinely decline to enforce requests for expert materials from prior cases, citing the relevance standard of Rule 26. Federal Rule of Civil Procedure 26(b), in its previous version, which was effective until 2015, permitted "discovery regarding any matter not privileged, which is relevant to the subject matter in the pending action." This analytical framework holds that discoverable information is not limited to admissible evidence, but includes anything "reasonably calculated to lead to the discovery of admissible evidence." F.R.C.P. 26(b); *Dunbar v. United States*, 502 F.2d 506, 509–10 (5th Cir.1974). Traditionally, at the discovery stage, relevancy is broadly construed. *Coughlin v. Lee*, 946 F.2d 1152, 1159 (5th Cir.1991). Evidence is relevant and thereby discoverable if it "encompass[es] any matter that bears on, or that reasonably could lead to other matter that could bear on, any issue that is or may be in the case." *Id.* (citing *Oppenheimer Fund, Inc. v. Sanders*, 437 U.S. 340, 351, 98 S.Ct. 2380, 57 L.Ed.2d 253 (1978)). However, "practical considerations dictate that the parties should not be permitted to roam in shadow zones of relevancy and to explore matter which does not presently appear germane on the theory that it might conceivably become so." *Munoz v. State Farm Lloyds*, No. 04-141, 2008 WL 4533932, at *2, (5th Cir. Oct. 9, 2008) (citing *Broadway & Ninety-Sixth St. Realty Co. v. Loew's Inc.*, 21 F.R.D. 347, 352 (S.D.N.Y.1958)).

These courts find requests for expert materials from prior cases to be violative of the relevance standard when such an objection is made. For example, in *Surles v. Air France*, 50 Fed. R. Serv. 3d 983 (S.D.N.Y. 2001), an employment discrimination suit, the defendant's expert voluntarily produced reports from past matters in which he opined on the standards for employment discrimination. *Id.* at *6. The court, however, rejected the plaintiff's request for past reports from the defendant's expert in cases involving unrelated subjects (such as wrongful death or breach of contract), holding that Rule 26 "does not mandate the disclosure of any additional reports that the expert may have prepared," especially "reports in prior unrelated actions." *Id.* at 7. See also *Cartier, Inc.*, 2003 WL 22227959 at *3 (denying motion to compel the production of prior, unrelated expert reports in order to eliminate the threat of introducing evidence that is only "tangentially related" to the primary legal questions in the case); *In re Air Crash Disaster at Stapleton Int'l Airport, Denver, Colo.*, 720 F. Supp. 1442, 1443 (D. Colo. 1988) (denying motion to compel prior expert reports of plaintiff's expert because "[d]efendants' request for all of a

deponent's past testimony as an expert in all types of aircraft litigation is simply overbroad and beyond the scope of Rule 26," and would only serve to distract from the core issue of "weather-affected air crashes similar to the case at hand").

To the same effect, the court in *Trunk v. Midwest Rubber & Supply Co.*, 175 F.R.D. 664 (D. Colo. 1997), granted the defendant's motion to quash the plaintiff's subpoena for the defendant's expert's prior reports. In analyzing the scope of Rule 26, the court held that it "does not require an expert to produce any reports from unrelated litigation." *Id.* at 664-65. The court went on to note that "conclusions and opinions offered in unrelated litigation do not fall within the scope of Rule 26 discovery and would unnecessarily burden litigation with pre-trial inquiry into facts and issues wholly irrelevant to the case at hand." (internal quotation marks omitted) *Id.* at 665.

Current Version of Rule 26

The 2015 amendment to the Federal Rules of Civil Procedure seemed, at cursory glance, to dramatically narrow the scope of discovery. Federal Rule of Civil Procedure 26(b) now now allows "discovery regarding any nonprivileged matter that is relevant to any party's claim or defense and proportional to the needs of the case, considering the importance of the issues at stake in the action, the amount in controversy, the parties' relative access to relevant information, the parties' resources, the importance of the discovery in resolving the issues, and whether the burden or expense of the proposed discovery outweighs its likely benefit."

Discussing the effect of the new amendments, which was predicted to represent a "seachange," Michele Hangley, who is co-chair of the Rules Amendments Roadshow and member of the ABA's Section's Federal Practice Task Force, explained:

The biggest change will be proportionality and getting rid of the phrase 'reasonably calculated to lead to the discovery of admissible evidence' in Rule 26. Previously, the 'reasonably calculated' phrase had been moved to a less prominent place. Now it has been removed from the rule entirely. Removing the 'reasonably calculated' phrase will make a difference in how parties justify the discovery that they are seeking.

(Kennedy, 2015.)

However, in practice, not much has changed since the amendment. As noted by the advisory committee's note to the 2015 amendment, the amendment should "not change the existing responsibilities of the court and the parties to consider proportionality." And this is largely what has come to pass. Indeed, most of the courts to apply amended Rule 26(b)(1) have noted that proportionality in discovery has always been a part of the Federal Rules through the old Rule 26(b)(2)(C)(iii), which allowed courts to limit discovery when its burden outweighed its benefits, and the old Rule 26(g)(1)(B)(iii), which required lawyers to certify that discovery served was not unduly burdensome. (Miles, 2016). For this reason, courts have continued to cite and rely on pre-amendment cases. *Id.*

SOME COURTS ALLOW FOR THE DISCOVERY OF PRIOR EXPERT REPORTS AND TRANSCRIPTS WHEN THE EXPERT HAS OPINED ON THE SAME OR EXTREMELY SIMILAR SUBJECTS OR WHEN THE NONMOVING PARTY DID NOT CONTEST RELEVANCE

In *S.E.C. v. Huff*, 08-60315-CIV, 2010 WL 228000 (S.D. Fla. Jan. 13, 2010), the court ordered the production of the defendant's damages expert's prior testimony because the movant had successfully shown that the same expert had opined on the *same evidence* in a prior case and had come to a different conclusion. *Id.* at *2 (emphasis added). The procedural posture was unusual in this case. Rather than filing a Motion to compel, the government argued during motions *in limine* that defendant's expert's testimony should be excluded because of the expert's failure to produce expert materials from other cases which he was requested to produce by a *subpoena duces tecum*. Neither the expert nor counsel for the defendant filed a timely Motion for Protective Order in response to the subpoena. Thus, the court found that any objections that might have been available had been waived by the failure to file an appropriate motion relieving the expert of his obligation to comply with the subpoena. The court went on to hold that the requested materials ("[a]ll documents reflecting sworn testimony given by [the expert] in the last four years") were reasonably calculated to lead to admissible evidence in that, at the very least, the materials constituted possible impeachment evidence. *Id.* at *5. The court, however, refused to exclude the witness' testimony, reasoning that the proper avenue of complaining about the failure to produce requested documents was a Motion to Compel, pursuant to which exclusion of evidence is not a remedy.

In *Jenks v. N.H. Motor Speedway, Inc.*, No. 09-cv-205-JD, 2011 WL 4625705 (D.N.H. Oct. 3, 2011), the plaintiff's expert opined on the sufficiency of warnings on golf carts, and upon motion by the defendant, the court ordered the production of the expert's prior reports from two matters in which he had opined on the sufficiency of warnings on ATVs (which are similar, four-wheeled, open-air vehicles). *Id.* at *1, *3. The plaintiff made the frivolous assertion that the reports served in prior litigation were privileged because the expert's previous clients had not authorized the disclosure of the reports, which the court rejected. *Id.* at 4-5.

The court reached a similar conclusion in *Brown v. Overhead Door Corp.*, 06C50107, 2008 WL 1924885 (N.D. Ill. Apr. 29, 2008). There, the court ordered the plaintiff to produce transcripts of prior testimony of its experts following motion practice in which the plaintiff did not contest the relevance of the reports. *Id.* at *1-2. Rather, the plaintiff asserted that the past testimony was protected from disclosure by the provider-patient privilege and the Health Insurance Portability and Accountability Act (HIPAA), a position the court rejected. *Id.*

Similarly, in *Duplantier v. Bisso Marine Co., Inc.*, 2011 WL 2600995, at *2-*3 (E.D. La. June 30, 2011), the defendant issued a *subpoena duces tecum* to plaintiff's expert. The subpoena requested that the expert produce: "... all of your expert reports for the last five years in which you have used a person's wage history instead of a single year's earnings to calculate wage loss, redacting from those reports each claimant's personal identifying information." *Id.* at *1. The expert did not object to the subpoena before his response was due, instead opting to file a Motion to Quash and a Motion for Protection after the deadline for his response had passed. *Id.* at *3. These motions argued that the subpoena was unduly burdensome and sought information not relevant to the matter at issue in the case. *Id.* Finding his motions untimely, the court ruled that the requested information be produced, but limited the timeframe from five years to two years. *Id.*

SOME COURTS ALLOW FOR THE DISCOVERY OF PRIOR EXPERT REPORTS AND TRANSCRIPTS FOR IMPEACHMENT PURPOSES

Some courts have allowed the discovery of prior expert reports and transcripts where the moving party has presented evidence that the prior materials may be used for impeachment purposes, *i.e.* to demonstrate the experts' inconsistency, prejudice or bias. For example, in *S.E.C. v. Huff*, 2010 WL 228000 at *5, the court granted a motion to compel the production of an expert's past reports in part because the expert's prior report, considering the same accounting records, had reported a significantly different result. Specifically, in a prior case, the expert opined that the amount of money paid to the insurer was \$6.8 million. *Id.* at *2. Less than a year later, based upon the same accounting records, the expert testified that amount in question was \$8.3 million.

Other courts considering these requests have held that parties cannot request prior expert reports and transcripts for impeachment purposes as a way to circumvent the relevance requirements of Rule 26. See, e.g., *Cartier, Inc.*, 2003 WL 22227959 at *3 ("Rule 26 does not tolerate discovery requests based on pure speculation or conjecture") (internal quotation marks omitted); *In re Air Crash Disaster*, 720 F. Supp. at 1444 (holding that the "discovery of material relevant to the impeachment of an expert envisioned by courts construing Rule 26(b) is limited to materials possessed by an expert and related to the case at hand" and noting that rule 26 "was designed to prevent abusive, costly 'fishing expeditions' into the background of a testifying expert"). Similarly, the U.S. District Court in *Colorado in Carol Von Schwab v. AAA Fire & Casualty Ins. Co.*, 2015 held, where Plaintiffs sought discovery of an expert witness' previous reports involving unrelated cases and parties on the basis that the reports were needed to demonstrate the expert's bias (*i.e.*, for impeachment purposes), that because Rule 26 requires production of a "list", it follows that, "by implication, [a party] is not entitled to disclosure of the reports in those [prior] cases, regardless of their subject matter." *Id.* at *2.

SOME COURTS CONSTRUE FRCP 26 BROADLY AND REQUIRE PRODUCTION OF DEPOSITION TESTIMONY AND OPINIONS OF AN EXPERT GIVEN IN OTHER CASES

Some courts have required parties to produce deposition testimony and opinions of an expert given in other cases to assess the consistency of the expert's opinions and methodologies. See, e.g., *Duplantier v. Bisso Marine Co., Inc.*, 2011 WL 2600995, at 3 (E.D. La. June 30, 2011) (requiring production of expert reports for the previous five years in which a specific wage loss calculation was utilized).¹ Similarly, in *Expeditors Int'l of Washington, Inc. v. Vastera, Inc.*, 2004 WL 406999, at *2 (N.D.Ill. Feb. 26, 2004), the court, considering an action for trade secret misappropriation based on the damages opinion proffered by an expert, noted as an initial matter that a subpoena *duces tecum* issued pursuant to Rule 45 is an appropriate discovery mechanism against nonparties such as a party's expert witness. Fed.R.Civ.P. 34(c). *Id.* at *3. In this case, though, as in *Duplantier v. Bisso Marine Co.*, discussed *supra*, the expert failed to make timely objections to the production requests, failed to timely seek a protective order if one was needed, and ignored the response date of the subpoena. *Id.* The court ultimately held that the defendant was "entitled to explore the purported factual and legal bases of [plaintiff's] damages opinions as well as potential inconsistencies between the views he intends to express in the underlying case

¹ As discussed above, however, it appears that no proper objection was lodged to the discovery request in that case.

and the testimony and opinions he has given, and the damages theories and methodologies he had adopted” in his prior cases. *Id.* Accordingly, the expert was ordered to produce all documents responsive to the following requests:

All transcripts of the deposition testimony, trial testimony, and/or expert reports of [the expert], in any matter involving allegations of trade secret misappropriation during the past ten years.

All transcripts of the deposition testimony, trial testimony, and/or expert reports of [the expert], in any matter involving allegations of patent infringement during the past five years.

Id. See also *Western Res., Inc. v. Union Pac. R.R. Co.*, No. 00-2043-CM, 2002 WL 1822428, at *3 (D.Kan. July 23, 2002) (ordering testifying expert to produce prior testimony from other litigations, administrative proceedings, and arbitrations that related to the subject matter or his opinions in the underlying action, as well as documents considered in forming those prior opinions); *Ladd Furniture, Inc. v. Ernst & Young*, No. 2:95CV00403, 1998 WL 1093901, at *10-11 (M.D.N.C. Aug.27, 1998) (compelling production of prior expert reports and prior deposition and trial testimony dating back six years); *Spano v. Boeing Co.*, 2011 WL 3890268, at *1 (S.D.Ill. Sept. 2, 2011) (agreeing that by the letter of the law, discovery from third parties should occur by way of Rule 45, and accepting plaintiff’s argument that “that the opinions expressed by [the expert] in the other cases relate directly to the testimony [the expert] is likely to present in the instant case”); *Brown v. Overhead Door Corporation*, 2008 WL 1924885 (N.D.Ill. Apr.29, 2008) (finding prior testimony of a party’s expert relevant for evaluating consistency between an expert’s opinion expressed in a case and his opinions expressed in other cases and determining that the Federal Rules of Civil Procedure contemplate such inquiries.)

At least one court has denied a protective order and allowed discovery, reasoning that the discovery is probative of the expert’s qualifications. *United States Surgical Corp. v. Orris, Inc.*, 983 F.Supp. 963, 967–968 (D.Kan.1997). The court explained

Plaintiff relies on Ms. Reichert’s opinions in its motion for partial summary judgment. Thus, her experience as a consultant is directly relevant to her qualifications as an expert. By relying on her consulting experience as the basis for her expertise, plaintiff and Ms. Reichert bring her consulting experience into issue and they cannot now be heard to object to discovery of such experience on the basis of confidentiality.

CONCLUSION

The federal courts differ greatly in their interpretations of Federal Rule of Civil Procedure 26. This difference in interpretation and application of Federal Rule of Civil Procedure 26 has led to uncertainty in litigation and a proliferation of discovery disputes. This uncertainty has also led to increased litigation expense, as savvy litigators now find themselves obligated to comb through voluminous testimony and reports provided by their experts in previous matters as part of their expert-vetting process.

When a party fails to comply with Federal Rule of Civil Procedure 26(a), a variety of potential sanctions are provided by Federal Rule of Civil Procedure 37(c)(1), the harshest of which

is possible exclusion and a ban of the expert witness' testimony. Rule 37(c)(1) states, in pertinent part:

If a party fails to provide information or identify a witness as required by Rule 26(a) or (e), the party is not allowed to use that information or witness to supply evidence on a motion, at a hearing, or at a trial, unless the failure was *substantially justified* or is *harmless* (emphasis added).

Rule 26 was designed to encourage full disclosure among litigants and to prevent trial by ambush. Compliance with the disclosure requirements eliminate the potential for unfair surprise at trial and serve to reduce costs by allowing attorneys to conduct expert depositions only after the expert's reports are produced, allowing for a more efficient discovery process. For now, it is clear that any decision on whether expert transcripts and reports from other matters must be produced in response to subpoenas is highly dependent upon the particular facts and circumstances of the case. However, given the recent amendment to Federal Rule of Civil Procedure 26, which proscribes a balancing of interests through a proportionality test, and the plain language of Rule 26(a)(2)(B)(v), which specifies the production of a "list," the best path forward would appear to be to not require production of reports and transcripts of testimony, absent exceptional circumstances.

REFERENCES

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APPENDIX A

Rule 26(a)(2): Disclosure of Expert Testimony.

(A) In General. In addition to the disclosures required by Rule 26(a)(1), a party must disclose to the other parties the identity of any witness it may use at trial to present evidence under Federal Rule of Evidence 702, 703, or 705.

(B) Witnesses Who Must Provide a Written Report. Unless otherwise stipulated or ordered by the court, this disclosure must be accompanied by a written report—prepared and signed by the witness—if the witness is one retained or specially employed to provide expert testimony in the case or one whose duties as the party's employee regularly involve giving expert testimony. The report must contain:

- (i) a complete statement of all opinions the witness will express and the basis and reasons for them;
- (ii) the facts or data considered by the witness in forming them;
- (iii) any exhibits that will be used to summarize or support them;
- (iv) the witness's qualifications, including a list of all publications authored in the previous 10 years;
- (v) a list of all other cases in which, during the previous 4 years, the witness testified as an expert at trial or by deposition; and
- (vi) a statement of the compensation to be paid for the study and testimony in the case.

(C) Witnesses Who Do Not Provide a Written Report. Unless otherwise stipulated or ordered by the court, if the witness is not required to provide a written report, this disclosure must state:

- (i) the subject matter on which the witness is expected to present evidence under Federal Rule of Evidence 702, 703, or 705; and
- (ii) a summary of the facts and opinions to which the witness is expected to testify.

(D) Time to Disclose Expert Testimony. A party must make these disclosures at the times and in the sequence that the court orders. Absent a stipulation or a court order, the disclosures must be made:

- (i) at least 90 days before the date set for trial or for the case to be ready for trial; or
- (ii) if the evidence is intended solely to contradict or rebut evidence on the same subject matter identified by another party under Rule 26(a)(2)(B) or (C), within 30 days after the other party's disclosure.

(E) Supplementing the Disclosure. The parties must supplement these disclosures when required under Rule 26(e).

A DELPHI STUDY OF MANUFACTURING COMPLEXITY

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ABSTRACT

The purpose of this study is to identify the types and sources of internal manufacturing complexity and to define each type of manufacturing complexity. A Delphi study was performed including 81 experts from a variety of industries and job-positions in small to large businesses. The study conducted 5 rounds to reach consensus. When consensus was achieved, there was overwhelming support for four sources of complexity with a total of 11 sources being identified and defined. The most strongly supported sources of manufacturing complexity were process variability (in quality or quantity), product variety, non-standard product designs, and product design. This study used non-academic experts, anonymous to each other to identify sources of complexity familiar to them from their industrial experience. The results of the study can be used to begin the process of identifying what the sources of complexity are so that managers can consider how to avoid and reduce complexity when they make operations decisions.

INTRODUCTION

The adjectives simple and complex are often used when describing things like organisms, mechanisms, and organizations. In the area of management, one of the principles of the lean operations philosophy is to “simplify” systems in order to increase productivity and throughput, and to shorten cycle times. Simplifying implies that production systems have a level of complexity, one that might be altered by actions taken by the organization’s management. Some research has been conducted on aspects of a manufacturing system that were believed to be part of the complexity of a system. Examples of this include, Smunt and Ghose (2016), Song and Zhao (2009), Frizelle and Woodcock (1995), Kekre and Srinivasan (1990), and Benton and Srivastava (1985, 1993). However little has been done to identify a group of factors that create or add to the complexity in a manufacturing system. This is the first logical step needed to give direction for further study of manufacturing complexity. This study seeks to understand the sources of internal manufacturing complexity and whether manufacturing complexity can possibly serve as a fundamental construct that can be used to develop theories in many research streams in operations management.

Complexity has been examined in many different fields but it has not been a central research topic in operations management possibly because it is not clearly defined and it is not clear how the concepts of complexity can increase our understanding of operations. Complexity is often treated as important environmental variable in management strategy (e.g., Kim and Lee, 1993) and supply-chain management (e.g., Bozarth, 2009; Wan et al., 2012) research.

This research study focuses on internal manufacturing complexity since this area is most affected by decisions made by plant managers. It does not examine external manufacturing complexity (i.e., the complexity due to the firm's environment). For example, managers may elect to purchase one large machine instead of five smaller machines, which can change the internal manufacturing complexity of their facility. Managers cannot control the changes in demand for products nor the enactment of new legislation imposing new regulations, both of which can affect external manufacturing complexity.

This study uses a Delphi panel to examine manufacturing complexity to create a basic understanding of the internal sources of complexity in manufacturing. The purpose of the study was to create a basis for further studies of how managerial decisions contribute to manufacturing complexity. This will allow researchers to determine what elements of internal manufacturing complexity actually exist in practice; to determine how practitioners define each element of manufacturing complexity; to compare practitioner's definition of complexity to that of academics; and to rank the importance of the different types of complexity as perceived by practitioners. By understanding what things makes a system more or less complex, then future research can occur investigating their impact on performance and how changing them affects performance. This will provide managers with rationale for why reducing complexity helps performance and what things to change.

The next section reviews the literature to identify existing conceptual definitions of the various types of internal manufacturing complexity. The third section discusses the research methodology providing details about the Delphi study. The fourth section presents the findings and suggests different avenues for future research. The fifth section discusses the implications of the results. The final section concludes by identifying limitations to the study and future research opportunities.

BACKGROUND

Complexity

For any theory to provide clear insights and allow conclusions, it must be built with clear formal conceptual definitions (Wacker, 2004). Here relevant definitions regarding complexity and manufacturing complexity are presented.

To help define complexity Simon (1962) stated is that complex systems have a large number of parts, whose relationships are not simple. Gell-Mann (2002) defines effective complexity as the "length of a highly compressed description of the regularities of the entity under description." (p. 1) These definitions are similar. If a system has many parts, but all of them are arranged in a repeating sequence, then according to the first definition the complexity is low because the relationships are simple and the second definition agrees that the complexity is low because it takes few words to describe the regularities (e.g., 10 identical machines arranged in a sequence). Pippenger (1978) points out that a system with simple parts may be complex if the relationships are not simple. This also agrees with Gell-Mann's definition since non-simple relationships require longer descriptions of their regularities. In his discussion of measuring complexity, Lofgren (1977) identified numerosity, the number of items in a system, and intricacy,

the relationships of the parts that make up a system, as two elements of complexity. According to Klir (1985), the *states* that a system element can attain is a third element of the definition of complexity. The state of a system element is the condition or mode of that element, e.g. on or off. System elements can relate to each other through its state and the states of the other system elements at a given point in time, thereby contributing to the complexity of a system.

Manufacturing Complexity

Based upon these definitions we recognize that manufacturing's systems are complex. They have many parts or elements and the relationships of these elements are not simple. Manufacturing systems can have many products, materials, machines, employees, and departments. These "parts" of a manufacturing system also have non-simple relationships. For example, one set of relationships may be that employee A cannot process certain materials on machine 1 unless they have first been processed on another machine. We also find that the parts with the system also change states, as according to Klir's definition. Even when there is regularity (i.e., an established sequence) in the use of these resources, the description will be long if the sequence differs even slightly for the different items produced and system elements (machines, personnel) change states irregularly.

Table 1, summarizes what the literature has identified as potential sources of manufacturing complexity. In most instances, these elements were theorized as to their role in complexity of manufacturing systems, but a few did attempt to include some of the elements in a measure of system complexity. For example, Frizelle & Woodcock (1995) incorporated the number of machines, product mix, queue lengths, and machine status in their proposed entropic measure of static manufacturing complexity. Orfi et al. (2011), proposed number of components, component commonality, routing commonality, and product structure complexity are key factors of complexity.

Other research used these elements of manufacturing complexity to study its effect on system performance. As one example, Park and Kremer (2015) studied the manufacturing complexity caused by product variants. They found that manufacturing complexity had a negative impact of lead-time and cost for systems that make-to-stock but not for those that were made-to-order. Smunt and Ghose (2016) found that routing commonality, something they viewed as alleviating manufacturing complexity, affected mean flow time and flow time variability. From this review, we find several potential items that may instigate or add to the complexity in manufacturing system. We are curious to the overlap that will occur from elements from our literature review and what this study of practitioners will reveal.

METHODOLOGY

The Delphi Technique

A Delphi method was selected to help identify the sources of manufacturing complexity in an effort to create a basis for future studies. It provides a way to have an iterative group process that leads to consensus regarding a topic or situation that is not well-defined (Okoli and Pawlowski,

2004; Linstone and Turoff, 2002). It is a structured, scientific approach for study opinions from a group of experts. The interactions are controlled and anonymous so that deeper reflective thinking occurs and peer-pressure and group-think is avoided (Martino, 1983).

It is appropriate because this is an exploratory study where this issues cannot be directly analyzed (Meredith et al, 1989) due to the very nature of complexity. The Delphi Techniques was developed by the RAND Corporation in the 1940s and has been used in a vast number of research studies (McKenna, 1994).

Table 1 Studies using Elements of Manufacturing Complexity

Complexity Element Proposed/Studied Author (Year)	
Product variety	Park & Kremer (2015), Wan et al. (2012), Huang & Inman (2010), Bozarth, Warsing, Flynn & Flynn (2009)
Product mix	Khurana (1999), Deshmukh Talavage & Barash (1998), Calinescu et al. (1998), Bozarth & Edwards (1997), Anderson (1995), Frizelle & Woodcock (1995), Cooper Sinha & Sullivan (1992), Kekre & Srinivasan (1990), Kotha & Orne (1989)
Number of components	Orfi, Terpenney, & Sahin-Sariisik (2011), Huang & Inman (2010), Bozarth, Warsing, Flynn & Flynn (2009) , Calinescu et al. (1998), Frizelle & Woodcock (1995), Foster & Gupta (1990)
Component commonality	Orfi, Terpenney, & Sahin-Sariisik (2011), Huang & Inman (2010), Song & Zhao (2009), Wacker Miller (2000), Vakharia, Pamenter, & Sanchez (1996), Guerrero (1985), Collier (1981)
Product structure complexity	Orfi, Terpenney, & Sahin-Sariisik (2011), Fry, Oliff, Minor, & Leong (1989)
Product complexity	Khurana (1999), Ittner & MacDuffie (1995), Kotha & Orne (1989)
Queue length	Frizelle & Woodcock (1995)
Rounting Commonality	Smunt & Ghose (2016) , Orfi, Terpenney, & Sahin-Sariisik (2011), Monahan & Smunt (1999), Bozarth & Edwards (1997)
Number of machines	Deshmukh Talavage & Barash (1998), Calinescu et al. (1998), Frizelle & Woodcock (1995)
Number of operations	Deshmukh Talavage and Barash (1998)
Set-up time	Calinescu et al. (1998)
Layout	Calinescu et al. (1998)
Lot Sizes	Calinescu et al. (1998)
Machine status	Frizelle & Woodcock (1995)

Selection of Experts

The value of a Delphi study is that it uses experts, so selecting the experts is crucial to success of the Delphi study. The validity of the opinions received is directly related to expertise of the panel (Turoff, 1975). The experts for this study were operations managers, plant managers, manufacturing managers, industrial engineers, quality managers and production planners working in a cross section of industries selected to assure comprehensive coverage of the concepts of internal manufacturing complexity.

An email list of MBA graduates who took employment in manufacturing was obtained from the MBA office of southeastern university. Another group of individuals employed in manufacturing throughout the U.S. were also contacted. These contacts were garnered through

prior business relationships with the researchers or membership in organizations having manufacturing professionals. These individuals were contacted via e-mail and invited to either participate in the study or to nominate another individual who would be knowledgeable about manufacturing complexity at their plant. To reduce bias two sets of individuals were contacted, some from each list.

The emails solicitation provided the names and email addresses of 146 individuals considered to be experts about manufacturing complexity. These individuals were then contacted via email. The first email sought demographic information about the experts and confirmation that they would participate in the Delphi study. Of those contacted, 81 agreed to participate in the study. As is shown in Table 2, there was a substantial diversity in the participants' job, education, and experience as well as differences in their organization's size and manufacturing process type. The job functions represented clearly support that the participants can be considered experts. Their expertise is further supported since most participants having substantial career experience, meaning the context and understanding of operations is demonstrated to be mature. The breadth of organization size and process type will permit the results to be more generalizable because they represent a range of manufacturing organizations.

Table 2 Demographics of Participants

Job Function		Education		Experience	
Industrial Eng.	10	High School	1	Less than 5 years	5
Engineering Mgr	9	Tech. School	2	5 to 10 years	18
Manufacturing Mgr	13	College	33	More than 10 years	34
Operations Mgr	6	Masters	18		
Plant Mgr	7	Ph.D.	1		
Prod. Control Mgr	1	No Response	2		
Other	11				

Employees		Process Type	
< 100	8	Assembly Line	8
100 – 4999	22	Batch	12
500 – 1,000	14	Continuous	6
> 1,000	11	Flow Line	8
Unknown	2	Group Technology	12
		Job Shop	11

The Study Procedure

The Delphi procedure used in this study was based on Scheibe et al.'s (1975) work. There are four distinct phases in this Delphi process. The first phase is exploration. The second phase is understanding how the experts view the issue. The third phase explores any disagreements by bringing out the reasons for the disagreements. The fourth phase feeds back the analyzed evaluations to the experts.

The Delphi study was conducted entirely using the internet which has been a supported methodology, e.g. in Lummus et al. (2005). All contact was via e-mail. Questionnaires were posted on a non-public webpage. The only way to access the page was with a coded hyperlink to that page included in the e-mail. There was a unique access code for each participant so that multiple submissions could not happen. The codes were generated and assigned randomly so that the identity of the participant was anonymous.

At the beginning of each round, an e-mail soliciting participation was sent with the hyperlink to the webpage for that round. The first page contained instructions and any definitions that were deemed critical for the participant to understand prior to starting the questionnaire. After a designated amount of time had elapsed, follow-up e-mails were sent to the participants who had not responded asking them to consider participating in that round. After each round, the results were analyzed and summarized. The results were shared with the participants along with a new questionnaire that solicited further response from participants after they introspectively consider the response from the group. Five rounds were conducted. Participation in the five rounds is shown in Table 3.

Table 3 Participation by Delphi Round

Round	Total Contacted	Total Participating	Total Withdrawing
1	81	57	-
2	81	47	2
3	79	54	-
4	79	49	-
5	76	41	3

Questionnaire Development

Although a list of sources of manufacturing complexity and definitions already existed in the literature, it was not provided to the participants in advance so as not to influence their opinions (Scheibe et al., 1975). The first round of the study was to explore the concept of internal manufacturing complexity and to allow time for a variety of opinions to emerge (Linstone and Turoff, 2002). This exploration helps prevent the loss of information that might otherwise occur if there was a push to consensus.

The first round consisted of two sections. The first collected the demographic information summarized in Table 2. The second section began with a guiding definition of complexity and then asked the experts to name and describe the sorts of things that create manufacturing complexity in their facility. This open-ended question was used hoping to produce a long list of the types of complexity encountered in manufacturing operations (Dalkey, 2002).

The questionnaires for subsequent rounds were developed after analyzing the results of the previous round. The objective was to provide participants with meaningful feedback so that group can move to consensus on the elements of manufacturing systems that cause complexity.

RESULTS

Round 1

The list of elements of *internal* manufacturing complexity received from the open-ended question was then reviewed by the researchers, and content analysis was used to objectively, systematically and quantitatively consolidate the information (Holsti, 1969). Formal rules and procedures were developed and employed to allow another analyst using the same data to develop similar conclusions. The researchers attempted to apply these rules consistently to all content (e.g., the researchers do not favor comments with which they themselves agreed) in order to achieve theoretical relevance.

First, the researchers independently developed a list of keywords to describe each statement submitted by the Delphi panel. Interpretation of the actual words was allowed. For example, one expert may have talked about batch size, while a second expert talked about order quantity rules for production. Initially, each researcher chose whether to identify these comments using the key word batch size or order quantity rules. If the researcher feels that there was more than one thought in an expert's comments, more than one key word was listed for the comment. While doing this, each idea was categorized by the researcher as being either associated with internal or external complexity. The researchers then reviewed these keywords together and discussed differences and similarities in their lists. The descriptions provided by the Delphi panel were then used to create formal definitions for each type of manufacturing complexity as shown in Table 4.

Round 2

The creation of Table 4 was the end of the exploratory phase of the Delphi study. The second phase was to develop an in-depth understanding (Linstone and Turoff, 2002) of how the experts viewed *internal* manufacturing complexity. In the e-mail opening Round 2, the researchers explained their decisions in refining the Delphi panels' responses in Round 1. The participants were given the definitions of internal manufacturing complexity in Table 4 and they were asked to review and revise the definitions as appropriate and finally to select the top 10 types of the sources of internal manufacturing complexity. To prevent presentation bias in the rankings, the internal complexity list was randomized for each participant. This review and ranking process is similar to other uses of the Delphi study (e.g., Jolson and Rossow, 1971). The suggestions for changes to the definitions were analyzed using content analysis as described in Phase 1.

The definitions that were revised are shown in Table 5. The summarized results of Round 2 of the top 10 sources of complexity are given in Table 6. Twenty definitions were presented to the Delphi panel, so the median was 10.5. The percent selecting the median was 42.6%. The median less 15% was selected to remain in the study, resulting in having 15 types of internal manufacturing complexity retained for Round 3 of the study.

During the content analysis of Round 2 responses, it was noted that there was a point of disagreement among the Delphi experts concerning scheduling. Three distinct views about scheduling emerged among the experts. One group suggested that choosing an inappropriate

scheduling system created complexity. The second group viewed the scheduling task itself as complex. The third group emphasized that a good schedule reduced complexity.

Table 4 Initial Elements of Internal Manufacturing Complexity with Definitions

Term	Definition
Business Management	<p>Business Management creates internal manufacturing complexity by:</p> <ul style="list-style-type: none"> • lacking accountability of personnel in all/some positions • requiring a process change or program implementation without sufficient resources or infrastructure • having corporate policies that prevent investment in required technology • failing to update standards that are used for budgeting and control • lacking communication and coordination among functional groups
Workforce Management	<p>Workforce Management creates internal complexity due to:</p> <ul style="list-style-type: none"> • the need to train the workforce • insufficient communication between multiple shifts • the difficulty of having to schedule workforce • the difficulty of determining the size of the workforce required to support manufacturing.
Traceability	<p>There is an internal or external requirement to identify material and processing history of the products produced. This creates complexity because of the need to gather, record, and save information.</p>
Work Flow Disruption	<p>This occurs when the planned workflow is changed because:</p> <ul style="list-style-type: none"> • rework is required • scrapped production necessitates the starting of new, expedited orders • equipment failure, material shortages, etc. creates delays
Set-up Time	<p>Creates internal complexity when long-setup times or the need for frequent setups either:</p> <ul style="list-style-type: none"> • consume excessive amounts of capacity, or • necessitate large batch sizes
Process Variability in either quality or quantity of output	<p>Process variability can be due to the lack of standard operating procedures, tolerance stacking, or machine variation. It is often difficult to find the root cause of the process variability.</p>
Variety of the internally produced components	<p>Creates complexity by affecting material handling, capacity scheduling and workflow management</p>
Inventory Management	<p>Creates complexity when the inventory records are inaccurate and when the inventory has special storage requirements (e.g., product segregation), limited shelf life and when it is hard to set good target levels.</p>
Scheduling	<p>Creates complexity when limited resources (e.g., bottlenecks) have to be allocated to multiple needs to meet due dates.</p>

Product Variety	The number of end products (product line breadth). It creates complexity by increasing the number of items to manage (i.e., inventory control and scheduling) in the shop and/or in the supply chain. Product variety results in an increased number and variety of manufacturing processes that must be managed.
Maintenance Management	The scheduling of preventive maintenance, the stocking of the tooling and spare parts, the management of breakdown repairs and equipment upgrades.
Non-standard Product Design	The use of different components or raw materials to perform the same function within the product. This creates complexity in inventory control of raw material and components, and in processing.
Number of Routings	The total number of flow paths in the facility. This creates complexity for scheduling and workflow management.
Number of Steps in the Routing	The number of operations and their sequencing. This creates complexity in the scheduling of labor and equipment and the tracking of inventory
Number of Processes	The total number of processes in a facility. This creates complexity, since a larger number of manufacturing processes require more technical knowledge.
Process design	Decisions such as the number and type of machines, the level of machine standardization, the sophistication of the control and monitoring systems, and the assignment of tasks and/or labor to work centers. Process design creates complexity when there is a mismatch between the machine and process capability, flexibility and capacity and the market demands and other requirements. Process design can also affect material flow.
Process Type Variety	Significant differences between equipment that performs similar functions. This creates complexity by requiring increased training, maintenance and quality procedures to be in place.
Product Design	Decisions about tolerance specifications, tolerance stacking, standardization of components, choice of raw materials, function of components and degree of process difficulty. Product design creates complexity by making products hard to assemble and affecting the degree of difficulty of the processes.
Non-standard Product Design	Use of different components or raw materials to perform the same function within the product. This creates complexity in inventory control of raw material and components, and in processing.
Number of Routings	The total number of flow paths in the facility. This creates complexity for scheduling and workflow management.
Number of Steps in the Routing	The number of operations and their sequencing. This creates complexity in the scheduling of labor and equipment and the tracking of inventory.
Process design	At a high level this consists of decisions that match the process type to the market requirements (e.g., volume and variety). The choice of process type leads to a choice of facility layout, and technology selection. Also, the environmental requirements (e.g. temperature and humidity) for the selected processes are important.

Table 5 List of Elements of Internal Manufacturing Complexity from Round 2

Term	Definition
Business Management	<p>Business Management creates internal manufacturing complexity by:</p> <ul style="list-style-type: none"> • Not requiring accountability of personnel in all/some positions • requiring a process change or program implementation without sufficient resources or infrastructure • having corporate policies that prevent investment in required technology • failure to update standards that are used for budgeting and control • failing to facilitate communication and coordination among functional groups • Difficulty of determining the size of the workforce required to support manufacturing.
Workforce Management	<p>Workforce Management creates internal complexity by:</p> <ul style="list-style-type: none"> • not properly managing the need for training and cross-training • not ensuring that there is sufficient communication among multiple shifts • the procedures and work • rules used to schedule the workforce
Process Variability in either quality or quantity of output	<p>Process variability can be due to the lack of standard operating procedures, tolerance stacking, or machine variation. It is often difficult to find the root cause of the process variability.</p>
Variety of the internally produced components	<p>Creates complexity by requiring different processes which may affect material handling, capacity scheduling and workflow management.</p>
Inventory Management	<p>Creates complexity when:</p> <ul style="list-style-type: none"> • the inventory records are inaccurate • when the inventory has special storage requirements (e.g., product segregation) • when the inventory has limited shelf life • when it is hard to set good target levels.
Scheduling	<p>Is the advance planning of capacity consumption at each work center, workstation or machine. A poor quality schedule increases shop floor complexity, by affecting material handling, capacity scheduling and workflow management of limited resources (e.g., bottlenecks), which have to be allocated to multiple needs to meet due dates.</p>

Round 3

As suggested by Linstone and Turoff (2002), the third phase explored the experts' disagreements and sought to understand why the experts disagreed and to create consensus definitions. To do this, the participants were sent the revised definitions along with a list of the 15

types of internal manufacturing complexity that were retained from Round 2. The participants were asked to select the top eight types of complexity and to review the definitions again and to suggest any changes they felt were appropriate.

Table 6 Round 2 Selection Results

% Selecting	Source of Complexity
68.1	Process Variability
63.8	Workforce Management
63.8	Work Flow Disruption
57.4	Product Design
51.1	Business Management
51.1	Scheduling
48.9	Product Variety
46.8	Facility layout (Process Design)
42.6	Inventory Management
42.6	Non-standard Product Design
42.6	Number of Processes
38.3	Process Type Variety
36.2	Set-up Time
34.0	Technology selection (Process Design)
27.7	Variety of the internally produced components
23.4	Maintenance Management
23.4	Number of Routings
23.4	Number of Steps in the Routing
8.5	Traceability
4.3	Environmental requirements (Process Design)

The cover page for Round 3 also addressed the issue of scheduling since it was not clear why so many participants felt that scheduling was a major cause of complexity. According to the Delphi process, participants reading the perceptions of all three groups about why scheduling might or might not be a source of complexity may lead them to reconsider their understanding of the relationship between scheduling and manufacturing complexity.

All of the participants accepted the definitions provided at the beginning of Round 3. The summary of the participant's votes about the top eight sources of complexity is given in Table 6. Note that the participants did not rank the sources of complexity (i.e., 1, 2, 3...) but simply selected the top eight sources of complexity from the list of 15. The lists presented to the participants were randomized to avoid bias. Comparing Table 6 to Table 5 shows that seven of the top eight from Round 2 remained in the top eight most selected sources of complexity Round 3. This was interpreted as an indication that consensus was emerging among the participants.

The bottom four complexities in Round 2 were the same four that were on the bottom of those retained from Round 3. These four sources of internal manufacturing complexity (i.e., set-up time, variety of internally produced components, technology selection or process design and process type variety) were eliminated from further Rounds.

Table 7 Round 3 Results

%	Source of Complexity
Selecting	
78.7	Process Variability
59.6	Non-standard Product Design
57.4	Work Flow Disruption
57.4	Scheduling
57.4	Product Design
55.3	Workforce Management
49.0	Business Management
48.9	Product Variety
40.4	Facility layout (Process Design)
38.3	Inventory Management
38.3	Number of Processes
31.9	Set-up Time
31.9	Variety of the internally produced components
29.8	Technology selection (Process Design)
27.7	Process Type Variety

Round 4

In Round 4 the experts were asked to rank the 11 remaining sources of complexity. To help a consensus emerge, the experts were given the results from Round 3 (Table 7). The experts were also asked to explain why they selected their first and second choices.

The results from the Delphi experts are summarized in Table 8. The mean ranking of the sources of internal manufacturing complexity were used to measure the degree to which consensus was being achieved. After sorting the sources by the mean ranking, the percent of responses ranked in the top five was calculated. From this it appeared that there was consensus on the most important sources. Process variability, product variety, non-standard product design, scheduling and product design all appeared in the top five over 50% of the time. There was a substantial difference between the fifth ranking source, product design (55%), and the sixth rank source, work flow design (39%).

Table 8 Round 5 Results

Source	Mean	Rank	% of Time Ranked in Top 5
Process Variability	4.00	1	69%
Product Variety	4.76	2	61%
Non-standard Product	5.35	3	57%
Scheduling	5.31	4	59%
Product Design	5.49	5	55%
Work Flow Disruption	5.84	6	39%
Number of Processes	6.67	7	33%
Business Management	6.86	8	39%
Inventory Management	6.92	9	31%
Workforce			
Management	7.35	10	27%
Facility layout	7.47	11	31%

A content analysis was conducted of the expert's reasons for selecting process variability as either the 1st or 2nd greatest cause of internal complexity. The experts indicated that process variability creates complexity because it means key output parameters are not predictable (e.g., yield, quality, lead time) and the source of the process variance may be difficult to identify and/or eliminate.

According to the experts, product variety was selected either as the 1st or 2nd cause of internal complexity because product variety increases the number of things (e.g., inventory) and activities (e.g., setups) that must be managed.

The content analysis revealed that nonstandard product design was selected as the 1st or 2nd source of internal complexity because nonstandard product designs contribute to or create some of the other sources of complexity. For example, nonstandard product designs increase the number of activities (e.g., setups, tools) to be managed and they create nonstandard work processes which leads to waste through mistakes and rework.

There was a single expert comment regarding product design. That expert indicated that the simplicity or complexity of the design determined whether the manufacturing process would be more or less complex.

Round 5

To achieve consensus, Round 5 provided the ranked listing the 11 sources of *internal* manufacturing complexity. Participants were also shown a summary of the rationale provided by the panel for the top four complexity elements from Round 4. The remaining complexity elements were presented in the order they were ranked in Round 4. Participants could voluntarily view the rationale for the ranking of the last seven elements by "clicking" on the source of complexity. In this way, the experts were given two types of feedback: 1) a detailed rationale for the top four complexity elements and 2) the current consensus about the relative ranking of the complexity elements. This was done to achieve closure in the ranking of the complexity elements.

Table 9 Comparison of Rounds 4 and 5

Complexity Element	Round 4			Round 5			Δ		
	Rank	Mean	Std. Dev.	Rank	Mean	Std. Dev.	Δ Rank	Δ Mean	Δ Std. Dev.
Process Variability	1	2.30	1.94	1	4.00	2.52	0	(1.70)	(0.58)
Product Variety	2	2.70	1.99	2	4.76	3.17	0	(2.06)	(1.18)
Non-Std Prod. Design	3	3.78	2.35	3	5.35	3.56	0	(1.57)	(1.21)
Product Design	4	4.78	2.57	5	5.49	2.84	+1	(0.71)	(0.27)
Scheduling	5	5.08	1.66	4	5.31	2.68	-1	(0.23)	(1.02)
No. of Processes	6	6.23	1.99	7	6.67	3.20	+1	(0.45)	(1.20)
Workflow Disruption	7	6.65	2.03	6	5.84	2.91	-1	0.81	(0.88)
Inventory Mgmt.	8	7.48	2.24	9	6.92	2.66	+1	0.56	(0.42)
Business Mgmt.	9	8.58	2.26	8	6.86	3.28	-1	1.72	(1.02)
Plant Layout	10	8.75	1.80	11	7.47	2.97	+1	1.28	(1.17)
Workforce Mgmt.	11	9.70	1.87	10	7.35	2.77	-1	2.35	(0.89)

After analyzing the results of Round 5, the researchers felt that the expert's opinions have converged. Table 9 presents a comparison of the results from Rounds 4 and 5. The rankings of the elements of complexity changed very little. Additionally, the mean rankings were all lower for the top five, especially for the top three – process variability, product variety and non-standard product design. Also, the variation in rankings also decreased for every element, signifying a move towards consensus.

In order to resolve the rankings further, the percentage of times that a source of complexity was ranked first or second was calculated as reported in Table 10. In both cases, the top five complexity elements by mean rank (Table 9) matched the complexity ranked order in Table 10. Process variability was ranked as the 1st or 2nd largest source of internal manufacturing complexity by 70% and was ranked as one of the top five by 95% of the respondents. Product variety was ranked as the 1st or 2nd source by 56.5% of respondents and in the top five sources of complexity by 92.5% of the respondents. Nonstandard product design was ranked as the 1st or 2nd source by 37.5% and in the top five by 80% of respondents, while product design was ranked 1st or 2nd source by 17.5% and in the top five by 67.5% of respondents. Scheduling remained in the top five sources of complexity, but was only ranked as the 1st or 2nd source by 5% of respondents.

Table 10 Rank Order by percentages for Round 5

Complexity Element	% ranking as 1 or 2	% ranking in top 5
Process Variability	70.0%	95.0%
Product Variety	57.5%	92.5%
Non-Std Prod. Design	37.5%	80.0%
Product Design	17.5%	67.5%
Scheduling	5.0%	60.0%
Workflow Disruption	5.0%	27.5%
Business Mgmt.	5.0%	7.5%
Inventory Mgmt.	2.5%	22.5%
No. of Processes	0.0%	37.5%
Plant Layout	0.0%	5.0%
Workforce Mgmt.	0.0%	5.0%

DISCUSSION

This Delphi study of internal manufacturing complexity identified the most critical sources of internal manufacturing complexity, that is, complexity that results for decisions made within the operation. Definitions were developed for each element of complexity from a content analysis of the Delphi expert's feedback. Eleven sources of complexity remained from an initial list of 22 with five of these having strong support by the end of the study. The top five, in order, are process variability (in quality or quantity), product variety, non-standard product designs, product design, and scheduling.

The results of the research lead to several practical implications. The top source was process variability, which leads to poor quality that impacts subsequent processes or unpredictability in the quantity that will be yielded from processes. In either case, the unplanned

results of these necessitate some additional effort by the system to alleviate or rectify the situation. This finding corresponds to emphasis on reducing variation advocated in the lean manufacturing philosophy. Managers should plan investment to study and improve their manufacturing processes to avoid the unpredictability due to this variability which leads to rework, scrap, initiation of new manufacturing orders to fulfill requirements, or overproduction (unneeded use of capacity) all of which are recognized as waste in lean manufacturing.

The second source of complexity is product variety. Our experts indicated this increases the number of end-products and materials that need to be managed with regards to inventory control and production scheduling, and can increase the number of processes that must be managed. Managers are advised to carefully consider adding new products to the product line. The impact of these additions can add more than the accounting cost of production in that there may be a non-proportional increase in the management needed to mitigate the unpredictability brought on by the added complexity in these areas. This also supports the use of focused factories or workcells.

Non-standard product designs, the third-rated complexity element, results from having one product having a design where equivalent components are not identical, thus necessitating a different processing method. The different process requirements for a manufacturing order is not known or accounted for during planning and scheduling, but becomes evident only in the midst of the processing of the production order. It is surprising that this is an item that resounded so strongly within the group. It must be more common than one would expect that there is an impactful difference between components being functional equivalent and being interchangeable. Management should carefully consider the tradeoff between the cost savings or supply flexibility gained and the complexity added when accepting non-identical components as equivalent.

Product Design increases complexity by either having more parts to assemble, or requiring processes that are more difficult to perform. Here we find a connection to technological complexity as purported by Khurana (1999). This points to the need to develop new processes together with new products. As products become more complex in the sense of requiring greater manufacturing difficulty using current processes, new or improved processes must be born to mitigate the added complexity. If the complexity from the product design is due to number of components and materials to assemble, this recommends the application of subassembly or modules within the product design which can be produced outside of the product assembly process, perhaps even outsourced.

An important objective of this study was to identify sources of internal manufacturing complexity are controlled to some degree by management decisions. This was clear from the definitions developed from the Delphi expert's feedback. Issues like workforce management and business management were ideas that have not been included as complexity factors in the literature as identified Table 2.

As with most studies, the conclusions must be contemplated with restraint. Although the pool of experts represented a variety in sizes of operations, levels of personal experience, professional background, and process type, there were only approximately 50 representatives (experts) all from a single country. It is also a study that is a "snapshot" at one point in industrial history. A different group at a different time (20 years from now) may yield different results.

Certainly we cannot claim that the list of the sources of internal manufacturing complexity are absolute or complete.

CONCLUSION AND FUTURE RESEARCH

A Delphi study was conducted to discover the sources of manufacturing complexity that are under the control of management. Definitions for the initial list of 22 sources of complexity were developed from a content analysis. In subsequent rounds, according to the Delphi process, the list was reduce to 11 with clarified definitions. Four of these sources of complexity achieve substantial support. These were:

1. process variability (in quality or quantity)
2. product variety
3. non-standard product designs
4. product design.

Manufacturing scheduling garnered strong support for it causing complexity, something that doesn't stand logically. The study attempted to determine the expert's rationale for this results and explain the incongruous finding without success.

Future research is needed to determine whether complexity may be a useful concept to use in examining manufacturing decisions and to classify these sources of complexity. Measurement of complexity may be beneficial as a tool for evaluating the relative performance of a manufacturing system and when making decision that can have either a positive or negative effect on the business.

Another challenge is how to measure some of these elements. For example, how is product design complexity to be measured? The definition indicates this is not only a function of the number of items to be assembled, but also the technical complexity of the processes necessary to assemble or fabricate the product.

Manufacturing complexity must play a role in operations performance. This study begins the process of identifying what the sources of complexity are so that managers can consider how to avoid and reduce complexity when they make operations decisions.

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ASSESSING NIGERIAN GRADUATE EMPLOYABILITY

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ABSTRACT

Popular opinion is that Nigerian graduates are generally not employable because they lack the required skills needed by the employers. Hence, the shortage of highly skilled personnel to meet employers' needs and the high rate of youth unemployment in the country. Meanwhile, various factors like unqualified lecturers, inadequacy of study facilities, employer discrimination and preference, poor funding and irrelevant curricula have been blamed as the reason for this anomaly.

This study is a descriptive survey of the perceptions of graduates and employers across fields of work on the employability of Nigerian graduates. The target population for the study included all Nigerian graduates of tertiary institutions in Ibadan North Local Government Area. A purposive sampling technique was used to select graduate job seekers, graduate employees and employers of labour across major sectors who had interviewed and employed Nigerian graduates. Findings revealed that substantial percentage of the sampled respondents believed that the graduates were employable. Meanwhile, 35.9% actually disagreed that average interviewed employee had the needed skill to be employed. This paper therefore, concludes that Nigerian higher institutions, the private sector and government need to collaborate on a system to intensify exposure of Nigerian undergraduates to job- training schemes, the world of work, practical trainings and entrepreneurship education.

Keywords: Employability, Nigerian Graduates

INTRODUCTION AND STATEMENT OF PROBLEM

The term employability has remained a terminology that is increasingly gaining ground in the globe owing to the high level of unemployment among the people (labour force). According to Kazilan, Hamzah and Bakar (2009), they described employability in terms of employability skill. They stressed further that employability is a group of important skills instilled in each individual in order to produce productive workforce.

The word "graduate" is used broadly in this study to refer to individuals with any form of post matriculation qualification or tertiary diploma or certificate (Pauw et al., 2008). In all modern economies, universities are places where specialized human resources are developed. Therefore, they play a crucial role in generating human capacities for leadership, management and the technical expertise. In the present day knowledge based economies that have emerged following globalization and information technology revolution, universities are expected to play a pivotal role by generating, harnessing and transmitting knowledge for sustainable development and improved standard of living. Unfortunately, it does appear that universities in Nigeria are yet to be equipped to carry out these responsibilities effectively due to limited access to university education and human capacity deficiencies. For example, Nigerian Institute of Personnel Management,

NIPM, (cited in Anho, 2011) noted that the quality of graduates from Nigerian Universities is declining rapidly. Anho also cited the report of National Employers Consultative Association (NECA) which decried the quality of Nigerian University graduates who they argue “do not meet the demands of industry”.

The problem of graduates’ employability remains a continuing policy priority for higher education (HE) policymakers in many economies. These concerns have been given renewed focus in the current climate of wider labour market uncertainty. Policymakers continue to emphasise the importance of ‘employability skills’ in order for graduates to be fully equipped in meeting the challenges of an increasingly flexible labour market. This study reviews some of the key empirical and conceptual themes in the area of graduate employability over the past decade in order to make sense of graduate employability as a policy issue. The current education system does not appear to be producing graduates with generic and essential skills, hence the continuous increase in the rate of youth unemployment. (Phillips Consulting, 2014)

It is against this backdrop that this paper examines the employability of Nigerian graduates of tertiary institutions. This would help to further illuminate the views of employers and employees on the issue of graduate employability, factors that affect employability and how to address the issue to enhance employability. This paper is organized into four parts. The first describes why the issue of graduate employability is relevant in the world of work. The second is a review of the literature. The third is methods of research and tools used in the study. The last section provides concluding remarks based on the research, and areas for further study in the field.

RESEARCH QUESTIONS

- What factors determine the employability of graduates of tertiary institutions in Nigeria?
- What are the employers’ perceived skills required of graduates of tertiary institutions in Nigeria?
- What is the extent to which possessed skills of Nigerian graduates differ from the required skills by employers?
- In what ways can the employability of Nigerian graduates be enhanced?

OBJECTIVE OF THE STUDY

The broad objective is to assess the employability of Nigerian graduates, using Ibadan North Local Government Area as a case study.

The specific objectives are:

- Identifying the factors that determine the employability of Nigerian graduates.
- Assessing the perception of graduate employees/job seekers and employers of labour on graduate employability.
- Analysing the extent to which Nigerian graduates are unemployable.

RESEARCH HYPOTHESIS

Hypothesis 1:

H₀: The employability level of Nigerian Graduates is not significantly below standard.

H₁: The employability level of Nigerian Graduates is significantly below standard.

Hypothesis 2:

H₀: Possessed skills of Nigerian Graduates do not significantly determine their level of employability.

H₁: Possessed skills of Nigerian Graduates significantly determine their level of employability

SIGNIFICANCE OF THE STUDY

Employers of labour often complain that some of these graduates though professionally or technically qualified are unemployable, in that they lack the requisite, essential skills or competencies needed in the job for sustainable employment. These skills create a gap in their knowledge which must be filled to make them suitable to compete for few, existing vacancies that crop up from time to time. While most people view employability in absolute terms, focusing on the need for individuals to obtain credentials, knowledge and social status; the concept of employability can also be seen as subjective and dependent on contextual factors. Employability not only depends on whether one is able to fulfil the requirements of specific jobs, but also on how one stands relative to others within a hierarchy of job seekers (Brown and Hesketh, 2004).

In Nigeria, indications from past studies show that the high rate of unemployment experienced by university graduates is not only as a result of the unavailability of jobs, but also because of a dearth of candidates with employable skills that employers are looking for (Emeh et al. 2012; Pitan 2010, 2015). Taking the viewpoints of some employers of labour and Human Resources Managers, this study will also provide an insight into the needs of the employers, that is, what they want from their employees, identify and discuss the gaps in their knowledge with a view to recommending possible solutions to this problem. Also, the study will contribute to existing empirical knowledge.

LITERATURE REVIEW

Employability: An Overview

As the interest in promoting graduate employability has increased, several studies have produced detailed breakdowns and taxonomies of particular skills and attributes required to promote graduate employability such as core skills; key skills; common skills; transferable skills; essential skills; functional skills; skills for life; generic skills and enterprise skills. This study encourages us to think of employability as an ongoing developmental process that doesn't stop once the graduate is employed. It is argued that employability is much more than the acquisition

of key skills or getting a job - it is about developing graduates as critical, empowered learner. Employability tends to have a variety of meanings in use, ranging from the employment rates of graduates from an institution to a characteristic of an individual graduate.

The topic of employability was discussed very much in detail by Baker & Henson (2010). They posit that employability skills have been explicitly addressed in university curricula within a form of regular classes or standalone courses; effectively an 'add-on' or 'bolt-on' component of educational programmes. In 2002 Glover described employability as an enhanced capacity to secure employment, to be familiar with theories on development. Later on as more research was conducted Kruss (2004) argued that employers expected that graduates be prepared for not only employment but employability. A shift was seen to be moving away from employment to employability (Harvey, 2001).

However, for McQuaid & Lindsay (2005) employability is much more complex phenomenon that reflects individual characteristics, personal circumstances and external factors, each of which may affect access to jobs. It was found that a range of factors – individual factors (employability skills and attributes, health and wellbeing, job seeking ability, demographic characteristics, adaptability and mobility), personal circumstances (household circumstances, access to resources, work culture) and external factors (demand factors in the labour market, policies on employment) determine employability. McQuaid and Lindsay (2005: 209-10)

Another school of thought argued that, employability is better understood as a social construct and stressed that to see it as only an individual issue was to miss important aspects of the concept (Rothwell & Arnold, 2007). Therefore, it is believed that employability is a responsibility shared more equally between: individuals who must be responsible for accepting the consequences of choices they make; businesses which, in employing a workforce and serving customers, inculcate particular values and attitudes as well as shaping behaviours. In many senses what makes "employability" is determined by employers.

According to Schreuder & Coetzee (2011:48) employability refers to an individual's capacity and willingness to become and remain attractive in the labour market, also the individual's capability to be successful in a wide range of jobs. It is about being capable of getting and creating and keeping fulfilling work and having the knowledge, understanding, skills, experience and personal attributes to move self-sufficiently within the labour market and to realise one's potential through sustainable and fulfilling employment experiences throughout the course of one's life. Employability is having a set of skills, knowledge, understanding and personal attributes that make a person more likely to choose and secure occupations in which they can be satisfied and successful. If employability is measured in the simplistic terms of whether or not a graduate has managed to secure a job within six months of graduating, it only provides a very vague and imprecise indication of what the student has gained. Questions need to be asked about whether or not the graduate is using the skills, knowledge and understanding gained in their degree studies in a "graduate level job", which in turn opens up a whole new debate about what exactly a "graduate level job" entails. There is so much more to employability than gaining employment, statistics often do not take into account the fact that some graduates may have taken lower level jobs in order to deal with financial pressures, particularly after incurring debts through their studies. Hillage and Pollard (1998, p. 2) suggest that: In simple terms, employability is about being capable

of getting and keeping fulfilling work. More comprehensively employability is the capability to move self-sufficiently within the labour market to realise potential through sustainable employment. They propose that employability consists of four main elements. The first of these, a person's "employability assets", consists of their knowledge, skills and attitudes. The second, "deployment", includes career management skills, including job search skills. Thirdly, "presentation" is concerned with "job getting skills", for example CV writing, work experience and interview techniques.

Factors Affecting the Employability of Nigerian Graduates.

Graduate capacities are influenced by learning experiences outside the university, particularly in the family and previous schooling. Second, a range of factors beyond one's employability attributes affect entry into employment, such as the availability of jobs, graduates' social networks, and possible discrimination. The interaction between these influential factors is not sufficiently well understood. Whether a graduate gets employed in six months from graduation depends on a range of factors including the graduate's age, gender and ethnicity as well as external economic factors, which may be sector- or region-specific, including the somewhat quirky recruitment practices of many employers.

Research shows that employers' perceptions about the quality of the graduates they employ, their employability and general work readiness continue to influence graduate transition into employment and their sustained ability to secure job in a turbulent and uncertain employment context (Brown & Scase, 1994; Cranmer, 2006; Griesel & Parker, 2009).

The problem of graduate employability and 'skills' may not so much centre on deficits on the part of graduates, but a graduate over-supply that employers find challenging to manage. Employers' propensities towards recruiting specific 'types' of graduates perhaps reflects deep-seated issues stemming from more transactional, cost-led and short-term approaches to developing human resources (Warhurst, 2008). Thus, graduates' successful integration in the labour market may rest less on the skills they possess before entering it, and more on the extent to which these are utilised and enriched through their actual participation in work settings.

Employers highlight the importance of previous work experience as a means for the student to mature and gain real life experience that only work can provide (Sleap & Reed, 2006). Work experiences were noted typically as internships, part time employment during college years, or summer jobs. The integration of experiential learning methods and work-related programs had a significant impact on the development of competencies resulting in a more "work ready" and a "more balanced graduate" (Coll & Zegwaard, 2006, p. 30).

Conceptual Nexus between Graduate Employability Skills and Labour Market Requirements

A skill is the ability to perform a task to a predefined level of competence. Skills are often divided into two types: transferable or generic skills which can be used across large numbers of different occupations, and vocational skills which are specific occupational or technical skills needed to work within an occupation or occupational group (Proctor & Dutta, 1995). Skills

mismatch is generally understood as various types of gaps or imbalances referring to skills, knowledge or competencies that may be of a quantitative or qualitative nature (Proctor & Dutta, 1995). It is the difference between the competence of the graduate and employers' expected competence needs. The various skills (generic skills) that employers now demand for in addition to academic skills are analytical, critical thinking, communication, entrepreneurial, decision making, IT (information technology), interpersonal, problem-solving, self-directed and numeracy skills.

In Coleman (2000:12) skills are broken down into three categories. There is Job skills which are the skills needed for a specific job. For example a mechanic needs to know how to fix faulty brakes and an accountant should be able to draw up a balance sheet. There are also adaptive skills, these skills help you function in a new situation, for example flexibility. They are enthusiasm, honesty and getting along well with people. Employers usually look for certain qualities and skills before hiring any staff member. These qualities and skills include punctuality, efficiency, and willingness to follow supervisor instructions, ability to get along with fellow workers, hard work and honesty.

Lastly there are transferable skills, these are personal abilities, characteristics or skills that transfer or can be used from one job or situation to another. For example interpersonal communication skills used in group work in class can be used to function effectively in a team in a work situation. In the workplace transferable skills are important. If you want to receive greater levels of responsibility and pay, having these transferable skills are crucial, meeting deadlines, supervising others, accepting responsibility, public speaking, solving problems, efficient planning, good budgeting and improving sales output. It will be beneficial to every job seeker in every profession to possess a balanced mix of these skills in order to succeed in the job market and to be employable and remain employable (Coleman.2000:12).Employability skills are sometimes referred to as professional, core, generic, key, and non-technical skills and are inherent to enhancing graduate work-readiness (Yorke & Knight, 2004). Employability skills typically considered important in developed economies are team working, communication, self-management, and analysis and critical thinking. (Jackson.2013:271)

Robles (2012:457) describes soft skills as character traits that enhance a person's interactions, job performance, and career prospects the greatest feature of soft skills is that they are intangible and are not discipline specific, that is the application of these skills is not limited to one's profession. Soft skills are continually developed through practical application during one's approach toward everyday life and the workplace, teachable graduates develop their soft skills quicker. Soft skills are not easily measurable like hard skills they are more of who we are than what we know and hard skills are those achievements that are included on a résumé, such as education, work experience, knowledge, and level of expertise. Examples of hard skills include job skills like typing, writing, math, reading, and the ability to use software programs.

Pop and Barkhuizen (2010: 76) suggest that the lack of soft skills, workplace readiness and practical experience are some of the challenges associated with employability. Soft skills, in particular, are the main reason why many graduates are unsuccessful in the recruitment phase. Examples of soft skills include friendliness, team spirit, team cohesiveness, understanding of different cultural and historical differences, motivation, observance of rules, procedures and

company etiquette, showing interest, problem solving skills, politeness, concise language, solid relations with diverse personality types, sociability, good interpersonal communication skills and similar traits. Hard skills are the technical expertise and knowledge needed for a job. Soft skills are interpersonal qualities, also known as people skills, and personal attributes that one possesses. The value of soft skills has been highlighted by a growing body of research and evidence over the past three decades. Soft skills have become an essential quality for managers to effectively manage their team and job in the corporate world irrespective of the sector. Along with professional qualification and domain knowledge, today's professionals need to possess a high soft skills quotient in order to succeed in this competitive era (Jessy, 2009). Hard skills contribute to only 15% of one's success, while the remaining 85% is contributed by soft skills (Watts and Watts, 2008). Research shows that individuals with good interpersonal and self-management abilities have better career success and contribute far more to their organizations rather than people with only excellent technical skills (Bush, 2012). (Samta, J. & Syed, A.A. 2013:32). Most employers value graduates who are willing to learn and the ability of a graduate to display this in the early days of their careers give them better chances at success than those who are not willing to learn. A graduate can be very intelligent and actually pass their degree with distinctions but if they do not display a fair amount of the necessary soft or generic skills they can jeopardise their chances of employability. Both sets of skills are essential for success, the only difference is hard skills or discipline specific skills can be learnt as opposed to soft skills that have been referred to as character skills, they are to an certain extent dependent on the personality types of individuals. Soft skills are very crucial and much research has shown that 75% of long-term job success depends on people skills, while only 25% is dependent on technical knowledge (Klaus, 2010). Another study indicated that hard skills contribute only 15% to one's success, whereas 85% of success is due to soft skills (Watts & Watts, 2008, as cited in John, 2009). As employers are progressively looking for employees who are mature and socially well adjusted, they rate soft skills as number one in importance for entry-level success on the job (Wilhelm, 2004).

Graduates especially those from university have high expectations after completion of their studies, the view is that their degrees should be able to open employment doors for them and they should not struggle like those who have lesser qualifications whereas employers feel that the return to employing a graduate is low, given that graduates require substantial on-the job training before they provide any returns to the firm. It is necessary for graduates to have a more realistic view of what they can offer and what they can expect from their first jobs, given their limited experiential training (Pauw, Oosthuizen & Van Der Westhuizen.2008:56). The reality is that university graduates mostly have text book theoretical knowledge which is not supported by sufficient practical work experience in a country where the economy is not growing at a speed that allows for massive job creation projects, graduates find themselves faced with extended periods of unemployment.

Theoretical Framework

1. Human Capital Theory

The theoretical framework of this study can be explained by the Human Capital theory. This theory according to Schultz (1963) emphasizes the role of investment in education to boost economic and social achievement. Human capital theory equally suggests that education or training raised the productivity of workers by imparting useful life skills on the individuals. In line with the above, Becker (1962; 1964) believed that the height of workforce production have positive relationship with the educational and training form in which the higher the educational and training form a person gets, the higher the productivity/achievement of an individual. According to Lange and Topel (2004), a person with great skills will be able to increase employers or the workplace productivity. It is believed that by virtue of this theoretical framework, students need to possess employability skills that will enable them to function effectively and efficiently in the world of work.

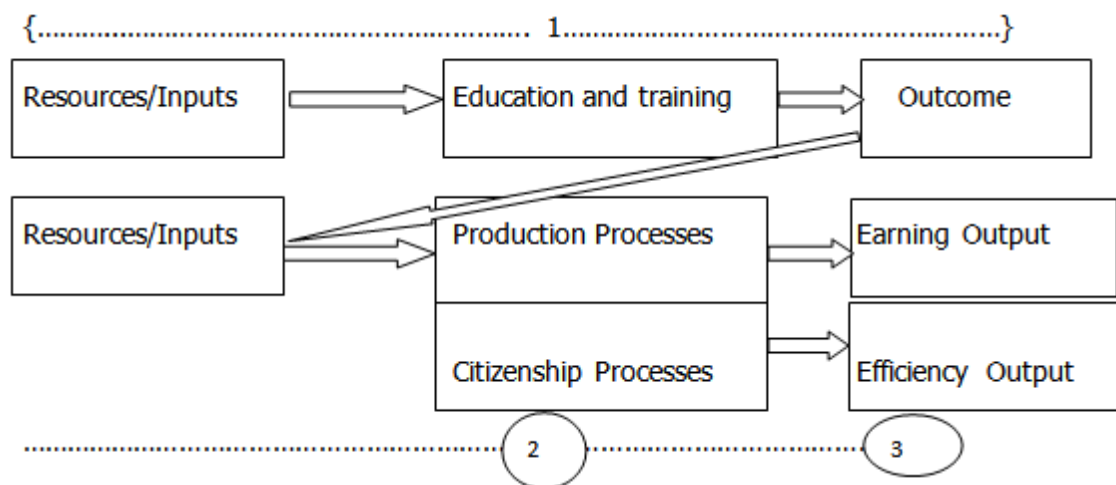


Figure 2. A model of Human Capital Theory (Swanson, 2001)

The diagrammatic representation of the human capital theory above presents the key relations in human capital theory. The first relationship 1 represents the concept of production as applied in education and training. This relationship means that investment in education and training results in increased learning (Imeokparia & Edigbonya, 2012). The relationship 2 presents the relationship between learning and increased productivity. This means that increased learning can result to an increased productivity. This relationship emphasizes the human capital relationship that exists between increased productivity and increased wages and business learning. This relationship 3 pointed out that an increased productivity does result in increased waged for individuals. The human capital theory is a replicate of the human resource development theory which places emphasis on the investment in the training and development of human resources, therefore according to human capital theory, it can be concluded that when adequate resources are

committed to the development of human capital which is the stock of competencies, knowledge, habit, social and personality attributes of the society, the nation will witness growth and development. This theory is of relevance because when governments at all level are committed to the development of human capital through provision of qualitative education, the employability of Nigerian universities output will improve.

2. Conflict Theory

It emphasizes the fact that different groups, namely employer, academia, employees, have varying access to power and opportunities (Brown et al. 2003). In the capital-labour conflict there has been a continuous debate in terms of the employer's role in imparting generic skills and employees not acquiring adequate skills through training offered by employers. Meanwhile, there is the employer-academia conflict where the employers feel that the academia have not been providing adequate acquisition of generic skills to the graduates. The Conflict Theory argues for the employers to take responsibility in providing work place experience to the graduates and not directing the responsibilities to the universities alone. The consensus theory and the conflict theory have their own limitations in view of the historical evolution of generic skills acquisition, where not only university environment provides avenue for such skill development but it also entails pre-university environment such as school, family, social, neighbourhood and workplace (Selvadurai, et.al. 2012:296)

Empirical Review

Boateng and Ofori-Sarpong (2002) and Akerele and Opatola (2004) in their respective studies on the labour market for tertiary graduates in Ghana and Nigeria, found out that apart from the qualifications that graduates may possess, there are other attributes (non-academic skill requirements) which employers emphasize, such as good personal and social skills, analytical skills, good communication skills, technical and managerial skills, etc. Employers want workers who are already made to perform, because markets are becoming more competitive and because cost of on-the-job training is becoming prohibitive. They found out that about 50% of all jobs requiring university education and 30% of all jobs requiring at least, polytechnic diploma; they also require computing and analytical skills. Other researchers such as Dabalén, Oni and Adekola (2000) and National University Commission (2004), have also revealed that apart from the qualifications that graduates possess, there are other attributes (non-academic skill requirements) which employers of labour emphasize. Employers of labour force are not only interested in those having higher education but also practical skills appropriate for job fulfilment (Abiodun, 2010).

Asuquo Austin Effiong & Agboola Bolapeju Mary (2014) examined the employability of Nigerian Universities Outputs in the Labour markers in South-South, Nigeria. The findings revealed that the employability of Nigerian Universities outputs is low and the rating of these Universities outputs were insignificantly different with respects to their sex, type of organization where they work (public or private) and their educational qualification. By implication, regardless of the demographics of the respondents, the employability of Nigerian Universities Outputs was recorded to be low. This result is so because graduate employability which is a measure of skills,

knowledge acquired is based on their ability, quality of instruction and type of curriculum rather sex, type of organisation or academic qualifications.

Adebakin, Azeez B, Ajadi, O. Timothy & Subair, S. Tayo (2015) revealed in their study that skills required of university graduates as perceived by employers were analytic and problem solving (98%), decision-making (98.3%), risk management (96.7%), leadership (98%), information and communication (97.7%), team-work (99%), official communication (97.7%), and English proficiency and literacy skills (97%) while skills possessed by university graduates were English proficiency and literacy (58%) and information and communication skills (53%). These results showed disparity in both the employers required skills and those possessed by the university graduates.

Malaysian Today (2005) revealed the result of a survey conducted by Malaysian government on university graduates' employability skills and found that about 60,000 Malaysian graduates were unemployed because of lack of experience, poor English communication skills and study of courses that are not relevant to the market needs. In the same vein, Pauw, Oosthuizen and Westhuizen (2008) found that in South Africa, many university graduates were not employed because they lack soft skills and work place readiness. So also in Ghana, Boateng and Ofori-Sarpong (2002) found that employers often reject university graduates who lack the basic skills to complete simple routine assignments.

METHODOLOGY

Design of the Study

The study is a descriptive survey research designed to examine the employability of Nigerian Graduates in Ibadan Metropolis. This design was adopted because the researcher intends to get information as well as the expression of opinion of the target interest group from the sample of the population by the use of questionnaire. This is in line with Olayiwola (2007) who stated that survey research design is used to describe a given state of affairs. The research will therefore seek the views of selected employers of labour and graduates on employability in some selected sectors of the economy.

Area of the Study

Area of the study covered Ibadan Metropolis. Ibadan North Local Government Area of Ibadan was the focus for the purpose of the study. The choice of the area was because it houses academic institutions, banks, health institutions, research organisations, hotels, media houses, telecommunication companies and manufacturing industries; which all fall into the dominant sectors of the economy and are suitable for the purpose of this study.

Participants

The participants of the study comprised of 45 selected employers of labour from dominant sectors in the Nigerian economy. They are: Health, Education, Banking, Agriculture and Agro allied services, Manufacturing/Production, Oil & Allied Companies, Hospitality, I.T & Related

Services, Media & Communication, Human Resources Management, Engineering, Insurance, and Event Management. These are the most prominent sectors for recruitment of graduates. It also comprised of 157 Graduates who fall into the category of working class or currently job seeking or have previous work experience; to incorporate the views of the employees on employability. Therefore, population of the study was (202).

Sampling Method

In order to achieve the research objectives, purposive sampling technique also known as judgmental, selective or subjective sampling was employed. It is a type of non-probabilistic sampling that relies on the judgement of the researcher when it comes to selecting the units that are to be studied. Therefore, the sampling technique was used to draw one hundred and fifty-seven (157) sampled employees who were administered with the employee questionnaires and forty-five (45) sampled employers were administered with the employer questionnaires. The group was chosen because they are all in the labour market whether employed or unemployed and so will be better poised to supply answers to the questionnaire. This will also help to proffer response and justification to the employability questions on Nigerian graduates from a broad perspective.

Sources of Data

Two sets of well-structured questionnaire, a primary source of data collection were employed for the purpose of this study. The questionnaire was targeted at knowing both the employees' and employers' views on the employability of Nigerian graduates thus, the questionnaires will be administered to the targeted sample. Meanwhile, a pre-test of the questionnaire was carried out in order to have a robust set of questions to get the anticipated result.

Method of Data Collection

The researcher administered the questionnaire electronically through the online google forms. The emails of the respondents were obtained after pre-notifying them about the questionnaire with a brief description of the researcher's objective. This process was straightforward and user friendly because the respondents only require internet connection to fill the questionnaire and could be done using their individual smartphones.

Data Analysis

This study was analysed using SPSS statistical instrument. Descriptive statistics such as frequency count, percentage, graph, correlation analysis and chi-square statistics were employed. This method of analysis helped the researcher to present the data in a more meaningful way, which allows simpler interpretation of the data for easy assimilation for people without the knowledge of statistics.

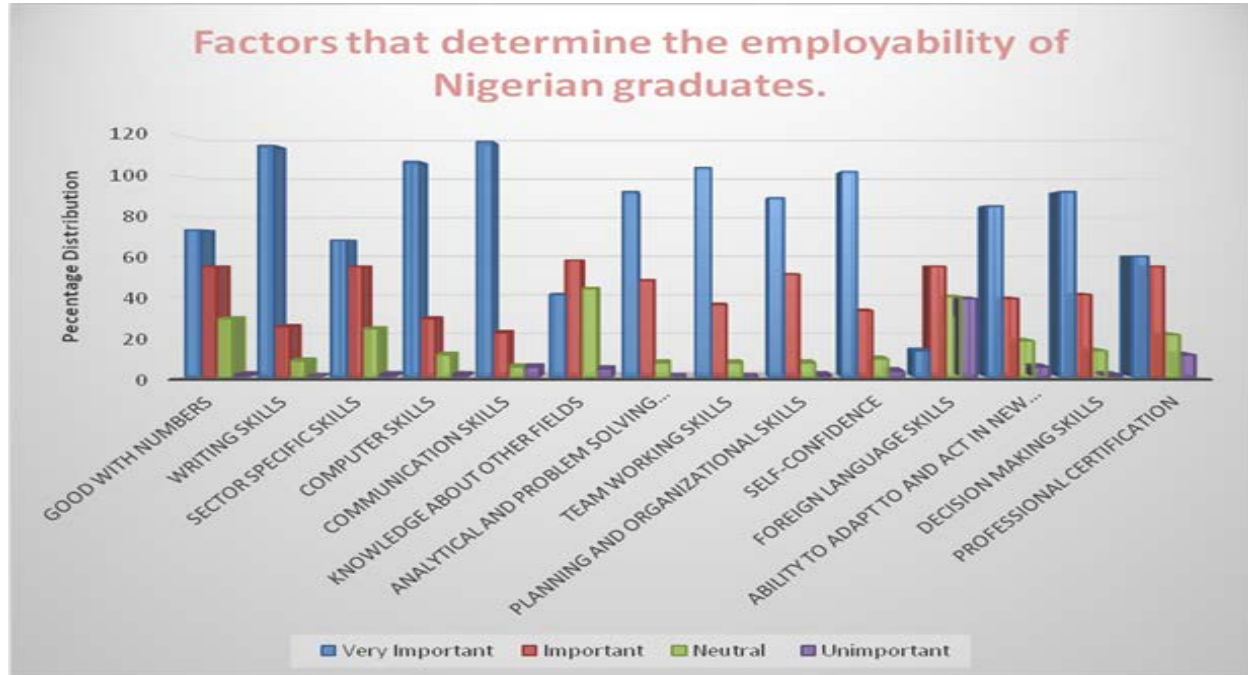
Validation of Study Instrument

Scholars in the Centre for Entrepreneurship and Innovation, University of Ibadan, Nigeria assessed the Questionnaire for content validity. The researcher also did a pre-test of the study instrument through a pilot study and ensured that the study instrument was usable and preferable to elicit the needed information from the study participants.

RESULTS

The first objective of this study was to identify the factors that determine the employability of Nigerian graduates in Ibadan. Data analysis and interpretation revealed that Good with numbers, Good reading/writing skills, Foreign Language, Self-confidence, Computer skills, Sector specific skills, Communication skills, Professional certification, Knowledge about other fields, Analytical and problem solving skills, Ability to adapt and act in new situations, Decision making skills, Team working skills, Planning and organizational skills were variables employers took into consideration before recruiting Nigerian graduates. However, results showed that both employers and employees were in sync about variables such as good with numbers, communication skills, decision making skills, sector specific skills and team working skills. They both rated them as highly important in determining employability. Results from correlation analysis also revealed that variables such as being good with numbers ($r = 0.36$; $P < 0.05$), sector specific skills ($r = 0.40$ $P < 0.05$), communication skills ($r = 0.35$; $P < 0.05$), decision making skills ($r = 0.33$; $P < 0.05$) and team working skills ($r = 0.35$; $P < 0.05$) were significant. However, other skills which the employers rated as important such as Good reading/writing skills, Self-confidence, Computer skills, Analytical and problem solving skills, Ability to adapt and act in new situations and Planning and organizational skills which employees did not rate as highly important as the other skills above will therefore affect graduate employability depending on the sector and employers' needs.

Figure 1 showing the rating of variables which influence graduate employability



Source: Field Survey, 2017

The second major objective of the study was to assess the perception of graduate employees/job seekers and employers of labour on graduate employability. The results revealed that 50.7% of the employees who participated in the study had undergone some form of training before becoming fully employed by their organization while 49.3% had not. Analysis showed also that 82.4% of the employees believed that additional skills will make them employable while 17.6% said otherwise.

Analysing the extent to which Nigerian graduates are unemployable was the third objective of this study. Results showed that 77.0% of the employers that filled the questionnaire agreed that average potential employee is employable while 23.0% of the respondents disagreed that average potential employee is employable. Analysis also revealed that majority of the respondents (64.1%) agreed that the employee had the needed skill to be employed. Meanwhile, 35.9% actually disagreed that average interviewed employee had the needed skill to be employed.

Table 1 Frequency distribution of respondents showing the average interviewed employees that had the needed skill

Variable	Frequency	Percent
Agree	24	56.4
Strongly Agree	5	7.7
Disagree	16	35.9
Total	45	100.0

Source: Field Survey, 2017

Table 1 above reveals that majority of the respondents 64.1% agreed that the employee had the needed skill to be employed. Meanwhile, 35.9% actually disagreed that average interviewed employee had the needed skill to be employed.

Table 2 Frequency distribution of respondents based on percentage of interviewed/engaged employee that is employable

Variable	Frequency	Percent
1%-5%	0	0.0
6%-10%	4	7.7
11%-15%	6	12.8
16%-20%	5	10.3
21%-25%	9	20.5
26%-30%	4	7.7
31%-35%	3	7.7
36%-40%	4	10.3
41%-50%	6	12.8
Above 50%	4	10.3
Total	45	100.0

Source: Field Survey, 2017

Table 2 shows the estimation of the respondent based on the percentage of interviewed/engaged employees that were employable. A little over 20% of the respondents reported that between 21 and 25% of the employees interviewed/engaged were employable. At the same time, 12.8% and 10.3% revealed that between 41 and 50%; and above 50% respectively of the interviewed/engaged employees were employable.

Hypothesis 1:

H₀: The employability level of Nigerian Graduates is not significantly below standard.

H₁: The employability level of Nigerian Graduates is significantly below standard.

Decision

Analysis in the study revealed that majority of the respondents 64.1% agreed that the employees had the needed skill to be employed. Meanwhile, 35.9% actually disagreed that average interviewed employee had the needed skill to be employed. Based on this empirical result, we reject the null hypothesis that says that the employability of Nigerian graduates is significantly below standard.

Hypothesis 2:

H₀: Possessed skills of Nigerian Graduates do not significantly determine their level of employability.

H₁: Possessed skills of Nigerian Graduates significantly determine their level of employability

Decision

In the chi square results, ($\chi^2=0.131$; $p < 0.05$). Therefore, we reject the null hypothesis and accept the alternative hypothesis which states that possessed skills of Nigerian graduates significantly determine their level of employability.

CONCLUSION

Based on the data analysis and interpretation in this study, it can be inferred that graduate employability level is not significantly below standard. Majority of the respondents agreed that graduates possessed the required skills to an extent satisfactory to the employers but in some cases not enough to make them acquire a specific job. Therefore, some other factors why some graduates are not able to obtain employment despite possessing some basic skills have been cited: Lack of work experience, lack of opportunities in field of study, not seeking employment, employers' preference, being 'under-qualified' or 'over-qualified'.

In line with the findings from this research, Anho (2011) evaluated the Quality and Employability of Graduates of Nigerian Universities. The findings from the study reveal that over 94 percent of the private sector employers perceived graduates of Nigerian Universities to be of high quality while 80 percent of the public sector employers perceive them as high quality. The study reveals that rating/perception of the private sector employers is higher than those of the public sector employers contrary to general views and previous literature which tend to suggest an overall low quality of the graduates (e.g. Onyeneye, 2006; Mafiana, Olarunde and Shaibu, 2005; Daniyan, et. al., 2005).

RECOMMENDATIONS

Graduate employability is a major concern to all stakeholders. Based on the findings of this study, the following recommendations are pertinent to the advancement of graduate employability:

1. Employability skills should be taught as one of the topics in entrepreneurship studies or as a general course because when the curricula incorporates courses that would enhance graduate productivity at work, graduates of our tertiary institutions will be well-equipped to meet the challenges of the changing economy trend.
2. There should be periodic reviews of the curricula and programmes of tertiary institutions to make them relevant to existing gaps and responsive to changes in societal needs, labour market requirements, economic trends, rapid changes in information technology and globalization
3. The quality and scope of industrial training and other programmes geared at equipping the students with practical skills should be improved upon, it should not be limited to some certain courses as it is done currently in a lot of public universities.
4. There needs to be a collaboration among the employers, government and existing institutions of higher learning to research deeper into the issue of graduate employability to develop an effective mechanism set up to harmonise the activities of all the stakeholders.

AREAS FOR FUTURE RESEARCH

- i. Further research needs to be carried out on the part of employers' demand that is, labour market requirements and how to deepen graduate employability beyond the tertiary institutions.
- ii. Investigation into why graduates who possess basic skills or generic skills are still unable to secure good employment that is in line with their field of study
- iii. Assessment of the challenges facing the higher learning institutions in adapting employability strategies into their curricula
- iv. Research should be done to evaluate the suggestions made towards enhancing graduate employability to test its workability and make further modifications to fit into our peculiar situation in Nigeria.

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THE LEGAL ASPECT OF FACULTY/STUDENT RELATIONSHIPS IN HIGHER EDUCATION

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ABSTRACT

For as long as institutions of higher learning have existed, issues have arisen as to how to handle the delicate subject of faculty/student relationships. Numerous questions currently exist on the topic of the appropriateness of such relationships, whether consensual or not. Does the issue fall under sexual harassment? How do these relationships occur? Are the students permanently “damaged” by such relationships”? What exactly are the legal aspects of such relationships? In an attempt to answer some of the questions, the author will delve into the laws pertaining to faculty/student relationships. In doing so, one must realize that laws occur because of an idea that something needs to be changed or corrected. However, only Congress can introduce the idea as a bill. It then goes through many processes before being signed into law by the President (Arie, B., 2011). These laws can result from or be the basis for cases that occur between individuals. Additionally, policies are adopted within universities based on laws. The purpose of this paper is to take a closer look at the legal aspect of relationships between faculty and students in higher education, in which laws, as well as cases and policies will be analyzed.

INTRODUCTION

According to Ei and Bowen (2002), there are five types of faculty/student relationships that could exist. They are “sexual, group activities, doing favors, spending time alone with a faculty member, and business relationships” (Ei & Bowen, 2002). The appropriateness of these relationships were analyzed and documented in their study of 480 undergraduate students from a medium-sized Midwestern university, and the results indicated that students viewed the sexual relationships as the most inappropriate. The second area considered inappropriate was the aspect of students and faculty members exchanging favors such as borrowing money. Spending time alone with faculty was actually a neutral zone in the mind of these students in the survey, while group relationships with the faculty were deemed most appropriate followed by business relationships such as a student babysitting or doing some other type of work for the faculty member (Ei & Bowen, 2002). The scope of this paper will focus more on the sexual aspect of faculty and student relationships which is not only an ethical issue but has a legal scope involved.

As documented by Jafar (2005), the sexual aspect of faculty student relationships causes very strong emotions when discussed. Relationships such as these bring up the issue of ethics and morality, and people question how this situation could occur when faculty is generally deemed to be the adult or parent figure in the relationship. In most cases, the relationship involves a female who is a student and a male who is the faculty member. The analogy given by Jafar (2005) is that the female is often portrayed as being “naïve and wary”, a “Little Red Riding Hood” type. Since this image is the public perception of these types of relationships, they fall under the category of potentially being coercive and abusive, often exploiting the student. This perception will bring the relationship to the status of being “sexual harassment” (Jafar, 2005).

TITLE VII

Sexual harassment in general falls under the guidelines of Title VII of the Civil Rights Act of 1964. The Civil Rights Act was Public Law 82-352 (78 Stat. 241), and it prohibited the hiring, firing, or promoting of individuals based solely on sex, race, religion, color, or national origin. The Equal Employment Opportunity Commission (EEOC) was established under Title VII of the act to enforce the law (Teaching with documents, 2011). Courts and employers generally use the definition of sexual harassment contained in the guidelines of the U.S. Equal Employment Opportunity Commission (EEOC). This language has also formed the basis for most state laws prohibiting sexual harassment (Sexual harassment, 2005).

In this context, the legal definition for sexual harassment is:

Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when

1. submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment,
2. submission to or rejection of such conduct by an individual is used as the basis for employment decisions affecting such individuals, or
3. such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile, or offensive working environment. (29 C.F.R. § 1604.11 [1980]) (Sexual harassment, 2005).

TITLE IX

The way that Title VII applies to sexual harassment at the university level is because it is applicable to employees, even student workers. In regard to sexual harassment of students in general, Title IX is the statute under which these cases would be considered. Title IX was enacted in 1972 as an Educational Amendment which was implemented by the Office for Civil Rights (OCR) (Dziech & Weiner, 1984). It is one of the many statutes on discrimination that is regulated by the Equal Employment Opportunity Commission, and it forbids discrimination based on sex within the educational system (Teaching with documents, 2011).

Under Title IX guidelines, there exist two kinds of sexual harassment. They are *Quid Pro Quo Harassment* and *Hostile Environment Sexual Harassment*. The U.S. Department of Education has defined them as follows:

Quid Pro Quo Harassment—A school employee explicitly or implicitly conditions a student's participation in an education program or activity or bases an educational decision on the student's submission to unwelcome sexual advances, requests for sexual favors or other verbal, nonverbal or physical conduct of a sexual nature. Quid pro quo harassment is equally unlawful whether the student resists and suffers the threatened harm or submits and thus avoids the threatened harm.

Hostile Environment Sexual Harassment—Sexually harassing conduct (which can include unwelcome sexual advances, requests for sexual favors, and other verbal, nonverbal, or physical conduct of a sexual nature) by an employee, by another student, or by a third party that is sufficiently severe, persistent, or pervasive to limit a student's ability to participate

in or benefit from an education program or activity, or to create a hostile or abusive educational environment (Sexual harassment in education, 2009).

Consequently, both Title VII and Title IX are the “umbrellas” under which the issue of sexual discrimination and harassment of students becomes relevant. Numerous cases have fallen under the “realm” of Title VII; however, there is a limited number that have been enforced by Title IX (Dziech & Weiner, 1984). One of the early cases was in 1977 with *Alexander v. Yale University*. This was a case where a student claimed that she received a lower grade in a course because she did not respond to the sexual advances of her male professor. She claimed that Yale University tolerated such behavior, and that it created an atmosphere that was not conducive to learning. As part of the suit, the plaintiff asked to have a grievance procedure implemented to provide relief for such complaints. The court dismissed the claims with the case being appealed and again dismissed in 1980 in the U.S. Court of Appeals. The Appeals Court contended that plaintiff had not given substantial proof of her case, and that Yale had indeed implemented the grievance policy she requested, thus making the complaint “moot”. The entire significance of the court decision is that it clearly puts the issue of sexual harassment and, consequently, sex discrimination under Title IX (Dziech & Weiner, 1984). The actual reading from the court case says:

It is perfectly reasonable to maintain that academic advancement conditioned upon submission to sexual demands constitutes sex discrimination in education (i.e. Title IX), just as questions of job retention or promotion tied to sexual demands from supervisors have become increasingly recognized as potential violations of Title VII’s ban against sex discrimination in employment (*Alexander v. Yale University*, 1977).

Another aspect of the Title VII and Title IX regulations is that not only are they the vehicle for which sexual harassment claims are processed and tried, but they can also be a tool for affecting outside funding in the form of federal dollars if the college or university does not comply with proper policy and procedures. While there seems to be no real indication that sexual harassment complaints actually endanger federal assistance, these two regulations present a forum which enforcement agencies use as a very persuasive argument against such complaints being fostered. Complaints arising under Title IX can be filed with any Federal agency which grants school assistance, or another option is that a private suit can be filed (Dziech & Weiner, 1984).

STATE LAWS

Federal law controls the guidelines of sexual harassment unless state law offers more protection. Many states have extensive laws regarding sexual harassment. As of 2015, sixteen states required sexual harassment training for either state employees, or employers with 15 to 50 or more employees. These states are: California, Connecticut, Florida, Illinois, Iowa, Maine, Michigan, Nevada, New Mexico, North Carolina, Oklahoma, Pennsylvania, Tennessee, Texas, Utah, and Washington. Nine states recommended sexual harassment training. These states are Colorado, Hawaii, Maryland, Massachusetts, New Jersey, Ohio, Rhode Island, Vermont, and Wisconsin. Unfortunately, 25 states have no requirements for sexual harassment training (Rosen, 2015).

COURT CASES

Court cases establish the basic precedent for rulings which may occur in a case. There have been several over the past few years which are landmark cases in the area of relationships which constitute sexual harassment. The premier case involving Title VII which brought up the issue of a voluntary vs. involuntary sexual relationships was *Meritor Savings Bank, FSB v. Vinson, et al.* (1986). This case occurred during the early 1970s when Mechelle Vinson was hired by a vice president named Sidney Taylor for employment at Meritor Savings Bank. She later became intimately involved with him. Over the course of her employment, she advanced from teller to assistant branch manager. Her advancement was deemed to be merit based; however, when she was terminated for taking excessive leave in 1978, she filed suit against the bank under Title VII claiming sex discrimination. Her claim was that although she had at least 40-50 “voluntary” sexual encounters with Taylor, they were unwelcomed and created a hostile work environment. The district court concluded that it was a voluntary relationship and unrelated to her work; however the appellate court reversed this judgment and remanded the case for further determination as to whether a hostile work environment existed. The Supreme Court affirmed the judgment of the appeals court. The implications of this case as it may apply to faculty/student relationships are that just because a sexual relationship appears to be voluntary, the “unwelcome” aspect can create a hostile work environment. Additionally the appeals court held the employer liable for the conduct of their supervisors because they were acting as agents of their employers (*Meritor Savings Bank, FSB v. Vinson, et al.*, 1986).

In regard to faculty/student relationships under Title IX, one of the premier cases is *Korf v. Ball State University* (1984). Dr. Korf initially had been placed on probation and later terminated from his position in the Department of Fine and Applied Arts at Ball State University in February, 1981, after he was accused of making unwelcomed sexual advances toward several of his students, who incidentally were male. At a hearing of the University Senate Judicial Committee, a student related that Dr. Korf did, indeed, give money and gifts, also promising good grades in exchange for sex. The district court granted summary judgment to Ball State, and Dr. Korf appealed on the grounds that because of equal protection and substantive due process, the summary judgment was not the appropriate ruling. The question was whether Dr. Korf should have been given adequate notice prior to termination. The appeals court ruled in favor of the university (Olivas, 2006).

One of the major arguments that Korf used in his appeals was based on The American Association of University Professors (AAUP) Statement of Professional Ethics which had recently been adopted by Ball State. The AAUP statement has five major points, none of which specifically addresses sexual conduct for faculty/student relationships. The Ball State committee used section II as a basis for the initial probation and later termination of Dr. Korf assessing that:

Professors demonstrate respect for students as individuals, and adhere to their proper roles as intellectual guides and counselors. Professors make every reasonable effort to foster honest academic conduct and to assure that their evaluations of students reflect each student's true merit....They avoid any exploitation, harassment or discriminatory treatment of students (Olivas, 2006, p. 506).

However, the court contended that

As is the case with other laws, codes and regulations governing conduct, it is unreasonable to assume that the drafters of the Statement on Professional Ethics could and must specifically delineate each and every type of conduct (including deviant conduct) constituting a violation. Nor have we been cited any case reciting that the language of the Constitution requires such precision (Olivas, 2006, pp. 510-511).

Therefore, the overall conclusion was that statements such as the one by the AAUP do not necessarily have to “spell out” every type of conduct but that some may be left for interpretation (Olivas, 2006).

Dr. Korf then argued that his relationship with one student was consensual and that these types of “private and consensual” faculty and student relationships occurred frequently and were still continuing at Ball State (Olivas, 2006). According to Jafar, (2005) teachers are viewed as having a type of “special status” and because of this status, even a consensual relationship that becomes sexual is viewed as being amoral and unethical. The AAUP Statement additionally makes it clear that university professors have certain ethical obligations to their students and society as a whole. Therefore, the University committee held that: “Dr. Korf’s conduct is not to be viewed in the same context as would conduct of any ordinary ‘person on the street’” (Olivia, 2006). With the above facts in consideration, the appeals court contended that they believed that the “University’s interpretation of the AAUP Statement was entirely reasonable and rationally related to the duty of the University to provide a proper academic environment” (Olivas, 2006). Therefore, the appeals court upheld the termination of Dr. Korf (Olivas, 2006).

A significant case where the findings were in favor of the faculty member was in *Brown v. California State Personnel Board* (1985). In this case, Brown was an associate professor who had made suggestive comments and “passes” to two female students in 1975. The students did not tell anyone until the faculty member went up for tenure, and they then admitted the incident. The California State University at Sacramento officials did nothing at that time. Then in 1979, another incident occurred with a female student when he asked her out on a “date” and said he would like to “make love to [her]” (Olivas, 2006). This incident brought a Title IX complaint which resulted in the dismissal of Brown for “unprofessional conduct and failure to perform the duties of his office” (Olivas, 2006). The trial court ruled in favor of the university; however, the appeals court reversed the judgment and ordered the reinstatement of Brown to his former position. This ruling was partially because of the time lapse in the first incident when the California State University at Sacramento failed to take action. They also held that a pattern had developed of sexual harassment on the part of Brown, yet without being allowed to consider the first incidents, no pattern could be established. Additionally because the university admitted that it did not have any “rule, regulation, law or policy against faculty and students dating each other, or even living together or marrying one another” (Olivia, 2006), there was no basis for the claim that the “advance impinged upon Brown’s professional duties” (Olivas, 2006). This case appears to be significant to the author in the fact that it implies that universities should have policies in place to prohibit behavior between faculty/students, and that if there is a violation immediate, (not delayed) action should be implemented.

POLICIES

As noted in the cases above, if policies are not in effect for the university, the case can obviously be awarded in favor of those who have acted inappropriately. Likewise, if the policy is vague, the case may be lost. This situation occurred in 1996 when an appeals court indicated that the policy of San Bernadino Valley College was a “vague policy [which] discourage[d] the exercise of first amendment freedoms” (Euben, 2003). Additionally, the 1997 Title IX guideline on policies were reaffirmed in 2001 by the U.S. Department of Education. They stated that the institutions need to “formulate, interpret and apply [their] rules so as to protect academic freedom and free speech rights” (Euben, 2003).

According to Cartwright (2016), there are several approaches that could be taken in regards to policies that a university can instigate. The first would be a “bright-line test” where there is total objectivity in regards to the policy with no room for interpretation. In this case the relationship would be banned between faculty and student regardless of whether a supervisory situation exists. A second approach would be limited prohibition or limited prohibition plus discouragement. The third approach is merely discouraging any relationship, and the last approach is to simply have no policy on the subject.

Clearly having policies in place as in the Korf case puts the university in a better legal position than in the Ball case where there were no policies. However, even with policies in place, the universities are still challenged. In *Saxe v. State College Area School District* (2001), the school district was deemed to have an anti-harassment policy that violated the First Amendment by having certain restrictions in the school policy. While the district court contended that the policy was constitutional and dismissed the case, the appeals court reversed the decision. The appellate court said that the policy of the school district prohibited speech that would not have fallen under the definition of harassment, either in state or federal law. They went on to say that the restrictions were not necessary, and that it would not interfere with the work conducted at the school or the student’s rights (*Saxe v. State College Area School District*, 2001).

Faculty and organizations that represent faculty should be involved in the process of policy formation on the subject of sexual harassment and faculty/student relationships in general. There are policies from the American Association of University Professors (AAUP) that prohibit sexual harassment by faculty. There is also a Statement on Professional Ethics stating that professors are told to “avoid any exploitation, harassment or discriminatory treatment of students” (Euben, 2003). Examples of policies that have been implemented over the years are as follows:

In 1984 the University of Minnesota initially approved a policy on sexual harassment that followed that of Title VII. It first defined sexual harassment as “unwelcome sexual advances, requests for sexual favors and other verbal or physical conduct of a sexual nature” (Dziech & Weiner, 1984). The policy continued to explain that it is the responsibility of the administration to uphold Title VII and that every effort will be made to protect the rights of those who claim to have been sexually harassed. They further stated that in order to make the determination of what “constitutes sexual harassment, those entrusted with carrying out this policy will look at the record as a whole and at the totality of the circumstances such as the nature of the sexual advances and the context in which the alleged incidents occurred” (Dziech & Weiner, 1984). They concluded by stating that remedies will be on a case by case basis. The president of the University of Minnesota addressed this policy in a letter in 1989 stating that “sexual harassment is a real problem at the University. Each year we deal with a number of cases that affect people’s lives and careers and destroy some part of our fragile academic environment” (Dziech & Weiner, 1984). As for

consensual relationships between faculty and students, the University of Minnesota stated that while not explicitly forbidden, they are not encouraged. They issued a warning that it may be very difficult for a faculty member to “prove immunity on grounds of mutual consent” (Diech & Weiner, 1984).

Approximately 10 years later, in 1993, the University of Virginia instituted a policy prohibiting faculty/student sexual relationships; however, the policy of prohibiting any type of romantic relationship between them was not passed. This area is a gray one in regards to sexual harassment policies. While most universities will contend that consensual, romantic relationships are inappropriate while the student is an undergraduate, they are not often explicitly forbidden. Many variables come into play in looking at this type of relationship, “individual maturity levels, professor’s marital status, and questions of direct supervision play a role” (Lombardi, 1993). All parties involved contend this type of relationship is a complex issue. Some individuals view consensual relationships as exploitative while others cite cases of happy, long term relationships or marriages as a result, although these are rare. An appropriate suggestion would be that if there is a mutual relationship that has developed between a faculty member and student, it would be wise to allow the status of one of the individuals to change before it is pursued, (i.e. the student graduates). This was indeed the situation of Margaret Keady Goldberg who married her English professor two years after graduating from Marymount College. However, in their situation, they waited until two years after graduation before even dating (Lombardi, 1993).

Another 10 years went by and in 2003, the University of California passed a policy that bans both “romantic or sexual” relationships between faculty and their students. One of the professors at the university actually questions what the term “romantic” means in the context of the ban. Is it a strictly personal relationship, or would the ban be on even going for coffee? This question has yet to be fully answered; however, it appears that the ban pertains to situations in which faculty have “academic responsibility” over the student. While the policy was overwhelmingly approved, there were about 60 faculty members who expressed objection to the policy of The University of California because they stated it is very difficult to know which students one will have “academic responsibility over” (Rimer, 2003). The University has had a sexual harassment policy in place for many years, but this new ban is one of a growing trend among schools which include “Stanford, Yale, Duke, the University of Virginia, Ohio Wesleyan, and the University of Iowa” (Rimer, 2003). The College of William and Mary has the strictest policy that does not allow any type of consensual relationship between faculty and any undergraduate student. However, the faculty at the University of California at Berkeley believes that it would be better to assume that faculty and students will have liaisons from time to time, and when that occurs, faculty should remove themselves from the position of supervision over the students (Rimer, 2003).

REGULATION

Regulation of these types of relationship could prove to be difficult. A question to consider is whether or not student rights are violated by forbidding or monitoring these relationships? Consideration to student rights was given by Cartwright (2016) when she suggested that policies regarding amorous relationships between faculty/staff (employees) and students could violate federal or state constitutional rights to freedom of speech, association, and privacy. These questions are of particular concern for public institutions, rather than private institutions which typically have a strict culture and interests which must be maintained and often coincide with the mission of the private institution.

However, the U.S. Department of Education is watching very closely the employee-student amorous relationship situation. They believe these types of relationships have the potential to lead to sexual misconduct. And while there are definitely laws protecting students who are underage from having relationships of this nature, Title IX does not forbid them for higher education students (Cartwright, 2016). However, the U.S. Department of Education has expressed a strong warning stating that even though a student meets the legal age of consent, it is strongly presumed that a sexual relationship between the school employee and student is nonconsensual (Office for Civil Rights, 2014).

Cartwright (2016), states that institutions “should stay abreast of federal and state law and guidance on related issues”. Collective bargaining may be needed in this type of regulation. And, it should be noted that requiring access to social media accounts can be a violation of state privacy laws. Additionally, when institutions draft policies, which could extend from an outright ban of the relationships to discouragement of them, the institution should be careful to avoid discrimination, particularly in gender or marital-status. Consequently, because of regulation difficulties, some institutions choose a policy of discouragement or no policy at all, in which case situations are addressed on a case-by-case basis, allowing for more flexibility (Cartwright, 2016).

OTHER ISSUES

A legitimate question in regard to analyzing faculty/student relationships would be “How do these relationships occur?” A possible answer to this question could be that it is the imbalance of power that exists between faculty and their students. This can occur because the initial relationship between the two is much like a parent/child relationship. A very close bond may develop between faculty and students because they are working so closely together, such as when students are involved with the faculty member’s research efforts. Additionally, if an individual faculty member has a common interest with a student, this too could progress to either a voluntary or involuntary relationship. Likewise, teachers are in an authoritative position whereby students admire and respect them, thus increasing the power bond. “Such closeness can blur the professional boundaries and lead people—both school employee and student alike—to step over the line” (Sexual harassment in education, 2009). However, in *Schneider v. Plymouth State College*, (1999), the court deemed that a fiduciary relationship exists between college and student. The meaning of a fiduciary relationship was defined in *Lash v. Cheshire County Savings Bank*, (1984) as:

A fiduciary relation[ship] does not depend upon some technical relation[ship] created by, or defined in law. It may exist under a variety of circumstances and does exist in cases where there has been a special confidence reposed in one who, in equity and good conscience, is bound to act in good faith and with due regard to the interests of the one reposing the confidence.

With this fiduciary relationship in mind, the court awarded \$100,000 in compensatory damages to Tracy Schneider for the injuries endured from the sexual harassment which resulted at Plymouth State College while she was taught by Professor Leroy Young from 1987-1991. This sexual harassment included pressuring her to come on trips with him, kissing and fondling her, sending her flowers, and disrobing in front of her. When she attempted to avoid his advances, he would become angry and even gave her a C- on work she did for him as an intern. This case

clearly indicates the power control that a teacher can have over their students (Schneider v. Plymouth State College, 1999).

What if the relationship does become consensual? Is it illegal or unethical? In answering these questions, the word “unwelcome” is a major component in the definition, and this aspect is what makes faculty and student relationships fall under the term “sexual harassment”. A consensual relationship between the parties would not be unlawful; however, they may well violate company or university policies, depending on the policy, as previously noted (Sexual harassment, 2005). Previous research by Kolbert, Morgan, & Brendel (2002) indicated that educators within the counseling field do not have the same issues concerning relationships with former students as they do with current students. One reason for this was that the American Counseling Association Code of Ethics (2005) had no prohibition on faculty having sexual relationships with former students. The reasoning in this situation was that the professor role is not being maintained at the same time as the romantic relationship, thus no conflict of interest is occurring (Kress & Dixon, 2007). Bowman, Hatley, and Bowman (1995) did research that indicated that 85% of his respondents, who consisted of faculty and students, actually believed that a romantic relationship was allowed provided they waited until the student graduated. Likewise, a study by Gattrell, Herman, Olarte, Localio, & Feldstei (1988), indicated acceptability of mutual relationships between faculty and students as long as there was no professional, working, relationship, and the student was graduated (Kress & Dixon, 2007). According to Kress and Dixon (2007) “Although most universities have policies about sexual harassment, the issue of consensual sexual relations between faculty members and students is rarely addressed, and the issue of professors having sexual relationships with former students is seemingly not addressed at all” (Congress, 2001; Fogg & Walsh, 2002).

Other questions may arise concerning faculty-student relationships, such as is the age difference material or even the professor’s sexual orientation? In *Naragon v. Wharton PhD*. (1984), a graduate assistant, who was a 29 year old doctoral student, was removed from her teaching duties because of having a sexual relationship with a 17 year old freshman student at Louisiana State University in the early 1980s. Although this appears to be an acceptable age difference between individuals, with both being “students”, Naragon, was subsequently removed from her teaching duties and filed suit against the university administrators. Her claim was that the real reason she was removed from her teaching duties was because she was homosexual and that the dismissal violated her right to privacy. In addition, she claimed that her right to association under the First Amendment was violated. Both the district court and appeals court held that the change in her work assignment was not a result of her homosexual tendencies but because of the violation of professional ethics. The U.S. Supreme Court upheld the ruling of the lower courts. (Naragon v. Wharton, PhD, 1984).

What if the relationship was preexisting? In other words, assume that the individuals were dating prior to one becoming a student at the institution. A good policy to follow is that of Northwestern University (2014) which says that preexisting relationships prior to the student being admitted will be considered on a case by case basis. If possible, a plan will be developed with consultation of the department chair, dean, and the provost. If one of the parties is in a position of power, there is always the potential for favoritism and exploitation, thus creating a conflict of interest. Arrangements should be made to remove the person with less authority from the direct supervision of that individual (Northwestern University, 2014).

How damaging are these relationships? This question has been mostly unanswered in regards to consensual faculty-student relationships that begin after the student graduates. In the

short term, the consequences of unwanted relationships with faculty do have a more significant bearing psychologically on the students than if it were consensual. Long term effects may vary, yet in a study by Glaser & Thorpe (1986), of the counseling students surveyed, 72% indicated they did not feel coerced at the time of their sexual encounter with their professor. However looking back on the relationship now, 51% believed coercion to be involved. As previously noted in the case of *Schneider v. Plymouth State College* (1999), compensatory damages of \$100,000 were awarded for the damage caused by the unwelcomed sexual advances of her professor. Additionally, one outcome that can result from a faculty/student sexual relationship is that a “modeling” effect can happen, which could result in the student carrying on the behavior when they become employed (Pope, Levenson, & Schover, 1979).

A final question to consider regarding faculty/student relationships is should the instructor be readmitted if he has admitted to the charge and received psychological counseling? This situation occurred in the case of *Cockburn v. Santa Monica Community College District Personnel Commission*, (1984); Donald Cockburn had been an instructor for Santa Monica Community College for 17 years and was charged with sexual harassment for kissing a student lab assistant who was 18. Cockburn did not deny the charges, and he was dismissed by the college. Cockburn claimed he had not been given prior notice before dismissal and sued. The case was upheld by the district court claiming that his dismissal was proper. However, in the judgment of the superior court, a condition of reemployment was that he should receive psychological counseling, and that a report would have to be rendered that he had been rehabilitated. This reinstatement never materialized, however, because the judgment of the superior court was reversed stating that “continued employment exposed the college to substantial moral and financial risks” (Cockburn, v. Santa Monica Community College District Personnel Commission, 1984).

RECOURSE FOR SEXUAL HARASSMENT CLAIMS

Violations of Title VII or Title IX can incur either civil or criminal penalties. Additionally, either civil and/or criminal suits on the basis of sexual harassment can be filed under individual state laws (Dziech & Weiner, 1984). Civil lawsuits may be either tort lawsuits or breach of contract suits which award financial compensation for loss of physical, mental or emotional damages. Criminal lawsuits may be filed based on rape or other criminal laws that are in existence. These laws would vary by state but include claims of sexual assault or assault and battery. Remedies under criminal lawsuits would be fines and/or imprisonment for the offender (Dziech & Weiner, 1984).

Lawsuits of a Civil Rights nature fall under state jurisdiction. There are many variances from state to state; however, the basic prohibition would be “sex-based discrimination” or those “enforced by Human Rights Commissions” (Dziech & Weiner, 1984). Remedies under Civil Rights Law would be cease and desists orders and/or jury trials with damage awards (Dziech & Weiner, 1984).

There has been a significant increase in litigation regarding all types of discrimination cases. From 1991 to 1996 federal suits related to discrimination in employment almost tripled. Additionally there was a 25% increase in class-action suits regarding employment discrimination that was tried by federal and state agencies during this time frame. Students are responsible for filing most of the sexual harassment cases. What has happened to bring about this increase? The answer is increased awareness and perception! Reports of discrimination have increased because more types of behavior are being perceived as discriminatory, and “students and their parents filed

more suits and complaints than any other major group represented in the harassment and discrimination articles selected to run in *The Chronicle* in 1997” (Cantu-Weber, 1999). In 1992, *The Chronicle* published five articles on sexual harassment, while in 1997, 14 articles were published with 11 of those complaints being lodged by students (Cantu-Weber, 1999).

Another reason for the increase in awareness has been attributed to social issues and media coverage. In fact, *The Chronicle of Higher Education* reports that of the 160 articles published in 1997 which involved controversy resulting in lawsuits and rulings, 76 or (48%) involved some type of discrimination or harassment issue (Cantu-Weber, 1999).

CONCLUSIONS

This paper has addressed the legal aspects of faculty student relationships from both a nonconsensual and consensual perspective. In summary, nonconsensual faculty student relationships fall under the status of sexual harassment and are covered primarily by Title IX of the Civil Rights Act of 1964; however, Title VII addresses employment-related issues which may involve student workers. Several landmark cases have been mentioned which address both Title VII and Title IX (Teaching with documents, 2011). These cases are *Meritor Savings Bank, FSB v. Vinson, et al.*, (1986), *Korf v. Ball State University*, (1984), and *Brown v. California State Personnel Board*, (1985). Additional cases have been cited which clarify points in the legal aspects of this subject. Likewise, various university policies were cited spanning a 30 year time frame, indicating the increased awareness and evolving remedies in the area of faculty/student relationships. Other clarifying issues were addressed on the subject such as how faculty/student relationships occur, damages that may result from them, how the consensual nature applies, age differences between the parties, and if the professor should be reinstated after psychological counseling. Finally, this paper gives legal recourse that may be instituted as a remedy for the damages that result primarily from unwelcomed faculty/student relationships. It must be noted that while the law is a minimum standard for guidelines pertaining to these types of relationships, ethics is a higher calling which needs to be regarded when a faculty member considers a relationship of this nature with a student. Faculty should use good decision-making in weighing the consequences of any sexual relationship with a student. According to Kress & Dixon (2007),

..an educator might specifically ensure the following: (a) the student’s independence and autonomy to make his or her own choices are respected, (b) no harm is done to the student, (c) actions are made with the best interests of the student in mind, (d) the educator is fair to the student in all actions and decision, (e) and the educator is truthful and genuine with the student (Kress & Dixon, 2007, p. 117).

There are two types of ethics: principle ethics, which are the compulsory guidelines one must follow, and virtue ethics, which are the non-mandatory guidelines that form character traits. It is the virtue ethics that indicate a person’s integrity. Educators should always remember that they are a role model for their students, exhibiting professionalism which they hope their students will carry with them into the workplace. It is with this idea in mind that educators should “do what is right because they believe it is right—not simply because it is an ethical statement in their professional code of ethics” (Kress & Dixon, 2007).

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SOCIAL MEDIA MARKETING

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ABSTRACT

Marketing is an important aspect in promoting and influencing the sale of products or services, and the role of social media, such as Facebook, has become crucial. The history of social media can be traced back to 1970's, and over the years, social media has grown rapidly to now become a major tool for marketing. In this paper, we explore the evolution of social media, study its role in marketing, discuss popular social media methods for marketing, and list some important metrics to gauge social media effectiveness.

INTRODUCTION TO SOCIAL MEDIA

Over the past decade, there has been a phenomenal rise of social media as a tool to effectively increase brand awareness, and to influence the purchasing decisions of consumers. According to Kaplan and Haenlein (2010), social media is defined as “a group of Internet based applications that is build on the ideological and technological foundations of Web 2.0, and allow the creation and exchange of user generated content.”

Social media has been evolving since its inception in the late 1970's. With the advent of Web 2.0 tools, the number of people using social media around the world has increased resulting in increased collaboration, interoperability and interactivity [Campbell et al, 2011]. In an effort to stay competitive, companies are increasingly using the social media for marketing, in par with the traditional marketing techniques. Marketing teams are challenged in devising the right combination of the traditional and social media marketing. Social media marketing refers to “techniques primarily focused on social media sites in an effect to create brand awareness, promote products and influence purchasing decision [Techopedia, 2016]. Traditional media refers to the broad category of marketing and advertisement such as direct medium of marketing, print medium, television and newspaper marketing.

The purpose of the study is to do a brief literature review of social media and marketing, and explore the evolution of social media. We then discuss social media's role in marketing, discuss popular social media methods for marketing, and finally list some important metrics to gauge social media effectiveness.

BRIEF LITERATURE REVIEW

There are few academic journal papers that have done a current comprehensive survey of the social media landscape, and the various current metrics. Most of them are very specific applications of Social Media use. Gironda [2016] for example studies the psychology of social media usage. Mahapatra [2016] studies the social media preferences of youth. Noguti [2016] studies the gender differences in motivations for using social media. Kaur [2016] discusses social media marketing or social networking as a new tool in information management. It explicates how social networking can enhance library outreach and librarian's collaboration. Agnihotri [2016] describes how buyers and sellers interact, and suggests that increased

involvement through social media may yield positive results for sales organizations if salespeople utilize it in facilitating their behaviors.

Most of the recent developments that are relevant to both business practitioners and academics, are covered in many business and technology periodicals, and magazines. This paper attempts to integrate information from many of these publications as well, so that the reader will get a comprehensive and useful view of current practices in social media marketing. Businesses can use the paper to better understand and formulate their social media marketing strategy. Academics can also transfer this knowledge to their students.

EVOLUTION OF SOCIAL MEDIA

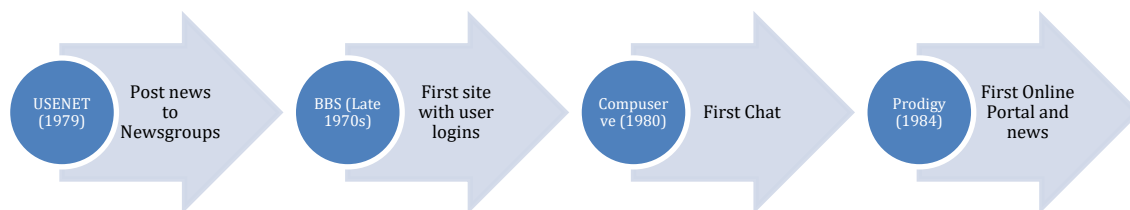
Social media has become an integral part of society. It is hard for many to imagine a single day without accessing the social media like Facebook or SnapChat. Social media has evolved over the years, and its origin can be traced back to 1970's. Social media sites provides a platform which facilitates the social networking among the users in an effort to connect with peers, gather information, , be entertained and execute purchasing decision [Kaplan & Haenlein, 2010].

In this section, we will discuss the evolution of social media, which according to social media monitoring platform [Morrison 2015], can be broadly classified into three eras: primitive era, medieval era and the golden era.

Primitive Era

As Figure 1 shows, the Primitive social media era started with **Usenet** in 1979. It was developed by a group of programmers at Duke University, and it allowed user to read the news posted and provide feedback to the news posted.

Figure 1: Primitive Era (Source: Morrison 2015)



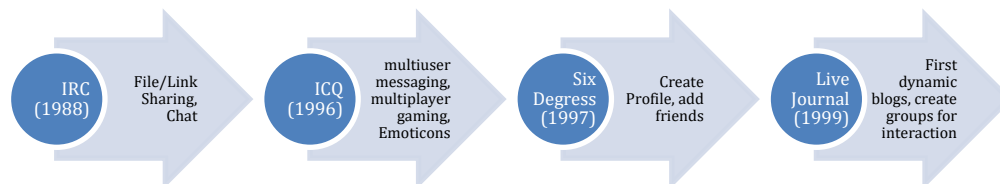
It provided news articles in multiple segments/categories (Emerson 1983). **Bulletin Board System**- Bulletin Board System (BBS) found in the late 1970's was the first site to allow users to log in using their user ID. Over the years, BBS developed tremendously and it allowed users to perform variety of activities such as exchanging messages, capability to upload and download software, reading mails, involve in public message boards. Later BBS also provided chat rooms for the users and the ability to play online games. This era ended with **Compuserve**, which was the first predominant provider that offered commercial online services. It was a pioneer in providing email services, which allowed exchanging outgoing and incoming messages. By the early 1990's, Compuserve extensively provided services to over tens of thousands of users. It

provided moderated forums where users can express or participate in discussion and also allowed users to perform file transfers.

Medieval Era

As Figure 2 depicts, the Medieval era of social media started with **Internet Relay Chat (IRC)**, which is an application system in which users can initiate or join a chat. Chat servers were used to transmit messages between users. Started in late 80's it was mainly used for transferring files and for communication.

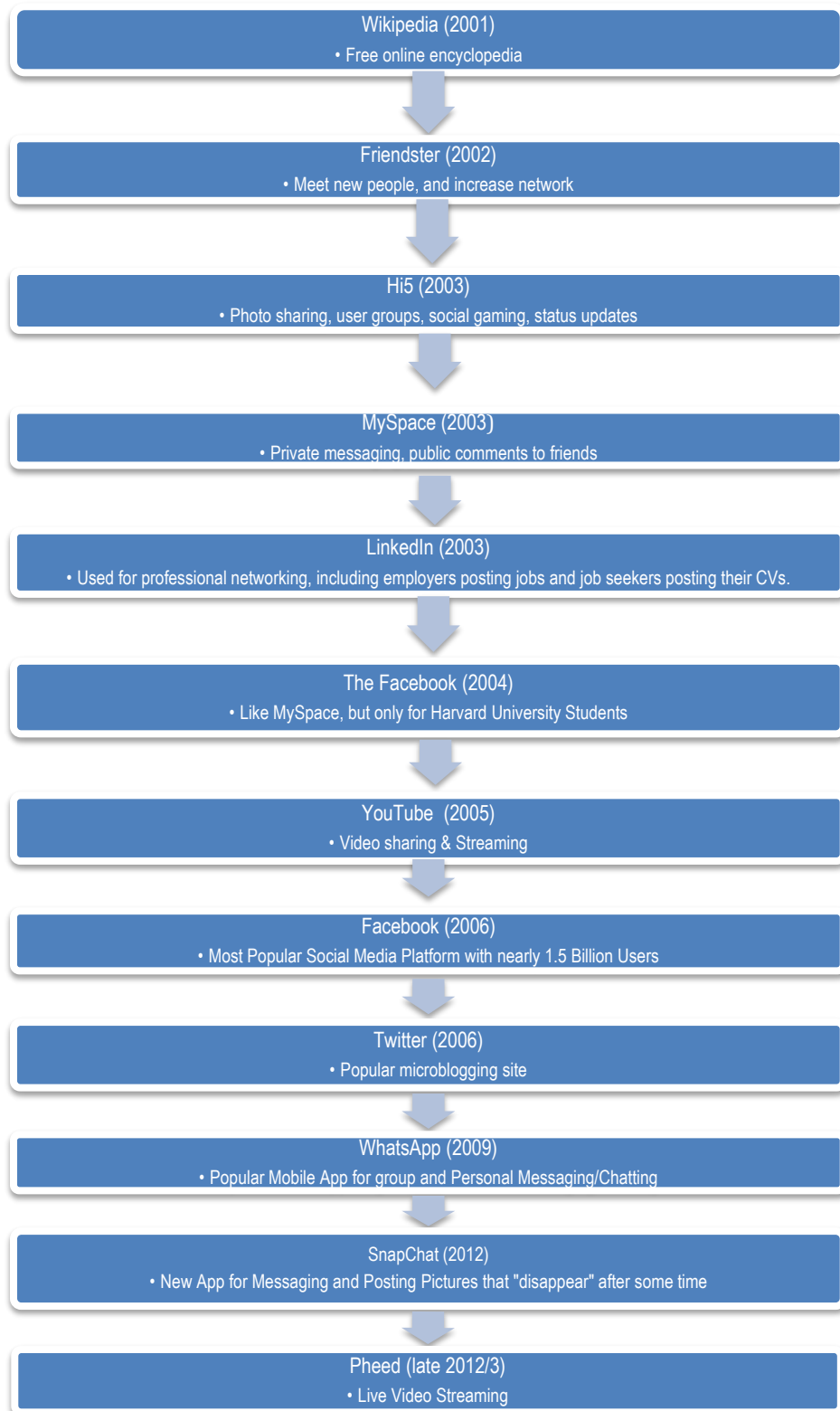
Figure 2: The Medieval Era of Social Media (Morrison 2015)



Next was **I seek you (ICU)**, the pioneers in enabling multi user messaging and gaming. They were first of its kind in introducing standalone instant messenger. The technology was first distributed free of charge and it provided framework for users connecting through non unix platform. They were also the first to introduce emoticons and popularize abbreviations such OBG and LOL. Later in 1997, **Six Degrees** was formed, and is perhaps the mother of all current generation social networking sites allowing users, to create profiles and log in and invite other friends to stay connected. It was started in mid 90's when internet was still a luxury. Due to limitations of number of users and the internet connectivity, Six degrees ultimately failed. However, it laid a strong foundation for many of the current day social networking sites. This era finally ended with another site called **Live Journal** in 1999, which pioneered the concept of dynamic blog content, and also the creation of groups to interact with.

Golden Era

The final era of Social media, coined as the Golden Era started in 2000 with as shown in Figure 3.

Figure 3: Golden Era of Social Media (Morrison 2015)

Wikipedia, which started in the year 2001, offers free access to all the internet users covering broad range of subjects such as history, arts, geography, mathematics, biographies, technology, person etc. Derived from the word encyclopedia, it is an aggregation of various topics actively contributed by its users. Though the content in the Wikipedia cannot be used for academic purpose, it is the primary source of millions of people all over the world to get acquainted with the topics of their interest. The content which was once non-moderated is currently moderated, thus avoiding non creditable information from being posted.

Next, in 2002, came **Friendster**, which is currently a non-functioning online gaming site was once a most famous social networking site. Similar to other social networking tool, it also allowed users to contact other users, exchange files and videos. Unable to withstand tough competition from networks like Facebook and MySpace , it was finally shut down after being repositioned as gaming site.

LinkedIn, which was launched in 2003, is a professional social networking site allowing users to establish and maintain professional contacts. Unlike sites like Facebook, which is concentrated on personal and leisure activities, LinkedIn specializes in business networking. It is now used by both job seekers and job providers for searching job opportunities and posting potential new position in their organization. LinkedIn has been acquired by Microsoft in 2016. **YouTube** came along in 2005, and became a wildly popular platform to share and stream videos. It became part of Google (now Alphabet, Inc.).

By 2007, **MySpace** and **Hi5** became the world largest social networking site. MySpace not only allowed users to share photos, videos, and connect with friends, but also allowed users to share blogs in their respective pages. Hi5 was a typical social networking tool. Over the years, these two social networking sites have lost their dominance to newer competitors, and are now close to becoming extinct.

Facebook was founded in the year 2004, as a college networking tool, and later became available to the public in 2006. It revolutionized the social networking media, and is now the most popular social media site with nearly a billion and a half users across the globe. After going public in 2012, it has grown into a formidable, large social media platform that is also a destination for a large market share of mobile advertisements.

Twitter was simultaneously founded in 2006, is the second largest social networking site behind Facebook and allows users to express their views, belief, feeling, thoughts or anything, but restricted it to 140 characters. Similar to Facebook, it is also used by many brands to market their products and services. **WhatsApp**, started in 2009 and became a very popular internationally in countries like India as it allowed for free communication via an exploding user base of Smartphones. It has been acquired by Facebook now to increase its global social media market share.

SnapChat, which launched in 2012, is a very popular social media site among teenagers and young adults. It is used to post messages and photos, but these posts “disappear,” so not creating a digital trail. **Pheed**, which was launched in November of 2012 combined text, video, images and audio, and included a live broadcast option. It is closed now, but the live video feature is now available in Facebook.

The list above is by no means exhaustive, as there are many other specialized social media sites like Pinterest, Instagram, Tumblr and so forth. What is certain is that social media is not a fad anymore, and is an important type of human interaction.

SOCIAL MEDIA MARKETING, METRICS, AND EFFECTIVENESS

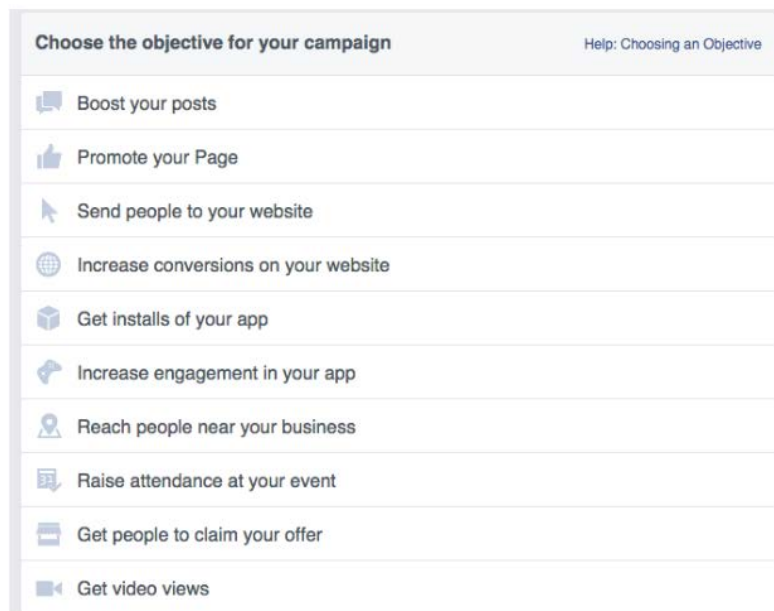
With the explosively growing popularity of social media, it was only natural that social media started getting attention from businesses – primarily for increasing brand awareness, marketing and generating sales. Airlines, for examples, are increasing using Facebook, Twitter and YouTube as marketing tools by keeping their customers informed about company news, promoting their services and destinations, and sending out special offers [Glab 2016]. They are also using these services to keep track what people are saying about them online. A few airlines are also testing optional links between a passenger's reservation and social media profile, so people on the same flight can decide whom they would like sit next to [Glab 2016].

Frank Cespedes in his book "Aligning Strategy and Sales" [Cespedes 2014] states that of all the companies using social media to market their products and services, only 7% of the organizations comprehend the "true value at stake from digital marketing." He also quotes from the Gallup survey that of the people who use social media, 38% of the people stated that social media has influenced their purchasing decision and just 5% of them agreed that social media had great influence in their purchasing decision. We will next discuss some popular techniques to market via social media networks such as Facebook and Twitter.

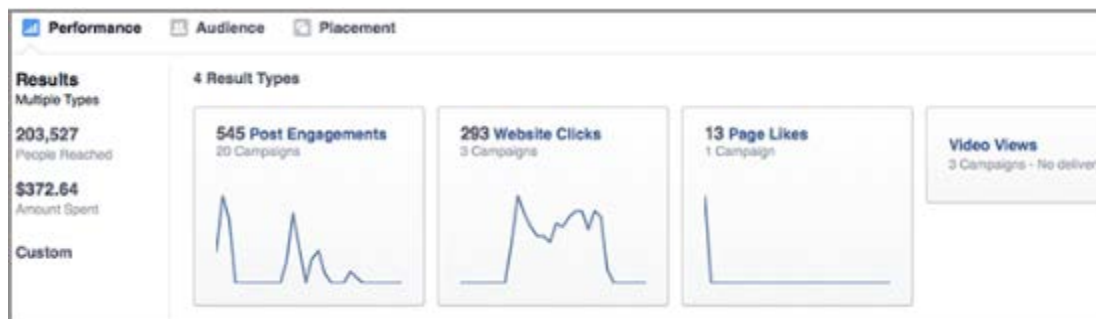
Facebook

Advertising in **Facebook** is another effective strategy to use social media networks to target relevant audience for marketing and conducting business. Facebook offers powerful and unique ways to show specific ads to the people most likely to care about a business. For example, the Ads can reach people based on location, age, gender, and interests, and then use tools and reports to understand how they're performing and make them even better. Facebook tools indicate how many people saw an ad and also how many engaged with your ad. Further, to make ads even better based on how people respond, Facebook provides key details on ad performance and tools to make edits even after the ads are published [Facebook 2016a].

The first step to use Facebook for marketing is to create a Facebook Business page. The next step is to determine the objective of the ads. The purpose of the ad may be to get more people to visit the business website, or to get people to download the company App, or reach out to the people who live in the vicinity of the business and so forth. Figure 4 shows the many options that Facebook offers as an objective [Torr 2015].

Figure 4: Facebook Ad Objectives [Torr 2015]

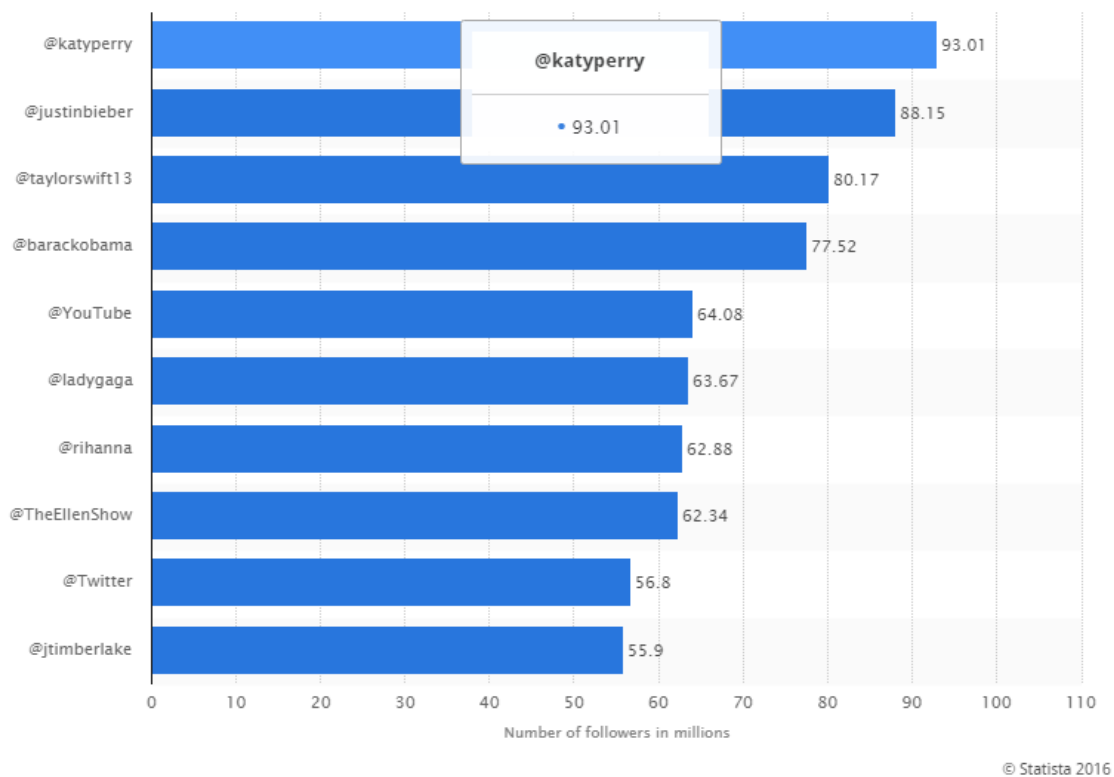
After that, the audience for the ad must be selected carefully, and can be based on location, age, gender, specific interests, etc. The next step is to select an advertisement budget, which could be specified as a certain amount per day, or a lifetime maximum (fixed, total budget). When choosing a budget, one can also fine tune when to pay for, and for what. One can choose for clicks, or for just impressions. It is also possible to choose the times to run the ads so that the target audience will be awake and likely on Facebook at those times. As a final step, the advertiser has to choose the images to be displayed, and the headline/text of the ad. Up to 5 images can be chosen [Torr 2015] so that they can be rotated, thus keeping the audience less bored and more engaged. The Facebook Ad Manager generates online reports, which can be used to effectively manage Facebook ads after it has been running for a while. These reports can be customized with filters (such as “how many clicks”, “how many audiences reached,” “How many *Likes*”, etc.) to focus on what is deemed most important to advertisers. Figure 5 below shows a sample of these filters.

Figure 5: Sample of Facebook Ad Report Filters [Facebook 2016b]

Twitter

Twitter provides a different approach to social media marketing than sites like Facebook, LinkedIn, and YouTube. **Tweets** are posts made using the Twitter platform, and it includes short messages, personal thoughts, marketing slogan or anything that fits in the space designated. Tweets posted by celebrities from movie, music industry, sports and political leaders are widely followed. The more the followers, the more reach these tweets have. Figure 6 shows the top 10 Twitter accounts with the most followers in 2016, as compiled by Staista.com [Statista 2016b]. Singer Kate Perry, for instance had 93.01 million followers in June 2016.

Figure 6: Top 10 Twitter accounts with the most followers (millions) in June 2016



To increase the number of Twitter followers, one can do a Promoted Account campaign. Once a Twitter account has accumulated many followers, then it can also use the Tweets to conduct a Website Clicks or Conversion campaign, which is used to drive traffic to your website, and generate conversions such as specific page views, email signups or product orders [Felmingham 2016].

Tweets can also be retweeted by followers, so it has the potential to become viral, and increase in number rapidly. Hence the number of tweets that a product gets directly or indirectly can vastly affect its popularity. Brands also have twitter accounts and post their product information for creating awareness and promoting sales.

Caution should, however, be exercised when analyzing some of the measures discussed above. Taking the “*number of tweets*” for example, if a product or a service gets a million tweets, can it be considered as a prominent sales generator? Unfortunately (or fortunately, depending on one’s perspective), it is now possible to “buy” 10,000 Twitter followers for just \$99 (as advertised by buyrealmarketing.com in Oct 2016; <https://www.buyrealmarketing.com/buy-twitter-followers>). Similarly, it is possible to simply buy 10,000 Facebook “likes” for just \$99 as advertised in Arabicfollowers.net.

Metrics and Effectiveness of Social Media Marketing Campaigns

To add to the reliability of social media metrics, we next discuss some additional social media metrics that may be used in conjunction with the number of “likes” or “tweets,” which as we saw above, could be misleading.

Organizations use certain additional metrics to gauge the level of customer engagement on the social media platform, and also the impressions they have of their products and services. We next briefly discuss some of these metrics and measures.

Reviews provide positive, negative and personal experience of using the products and services. When people want to buy same product or service, they refer to the reviews posted by the prior buyers of the product and services. TripAdvisor, for example, has recently added flight reviews to its services so that travelers get independent opinions from fellow travelers about an airline’s quality, customer service, and so forth [Glab 2016]. Reviews are often used by many other non-social media e-Commerce sites such as Amazon, eBay and Walmart.com as well.

Click-Through-Rates (CTR) is another prominent metric in e-Commerce marketing is now currently used in social media as well. It is aimed at directing the users to the intended website in an attempt to increase the traffic and sales. It is the ratio of users who click on the advertisement placed on the social media site to the total number of users visiting the page. Although not a direct indicator of sales and engagement, the number of **Fans/Followers** on social media accounts is the total number of users following a brand, organization, or a person – a measure of awareness and popularity. But as stated before, these numbers should be viewed with caution. Another interesting fact is that 85% of the CTR actually comes from 8% of the users and 30% of the company sponsored social media users result in 85 % of the social media updates.

Monthly Active Users (MAU) is predominantly used by Facebook to track the unique number of users visiting the web page. In order to be tracked, the users must be logged into the Facebook application. In order to be counted as an active user, the user might have to carry out some activity in the application such as accepting friends request, accessing the profile tab, posting update or playing video [Knoop, 2009]. As of June 2016, Facebook had over 1.71 Billion MAUs, which means that it cannot be ignored by marketers.

While the metrics described above are popular indicators of social media marketing potential, there are other metrics which are being tested as well. To effectively calculate the return on investments, marketers should be provided with metrics other than measures such as Facebook likes, shares and tweets. While it is difficult to precisely ascertain whether a marketing campaign over social media influenced a purchase, the following metrics that could be used by the marketing team to better measure the marketing campaign effectiveness [Agius, 2016]

Brand search volume is another important metric that could be used to measure marketing effectiveness. A recent study from stated that people who are familiarized with a specific brand through social media are 180% more likely to search for the brand. Tools like Google Insights and Google Trends can be used by the marketers to measure the search volume and compare it with its competitor [Agius, 2016]

Programs such as Marketo and Convertro helps the marketers to measure the social activity, interaction, web page visits and number of times the promotional mail is opened in social media before a user becomes a customer, also known as **Lead Growth**. Weightage is provided for the different actions of the users, which will also help the marketers to measure the relative success of each marketing activity and streamline the activities accordingly [Agius, 2016]

A brand or a product does not always attract constructive or positive reviews. Many times, there will be negative brand mentions, which the publicity team should duly respond to, in order to satisfy and compensate the unhappy customers. Social Mention and Meltwater are tools, which helps to measure **Brand sentiment**, the flavors of the conversations surrounding the brand in the social media and websites.

Finally, we can use the **Klout score**, which is a measure provided to persons or brands using the information collected from 8 different social media networks [Agius, 2016]. The score is based on the person's ability to influence. Depending on the influence, the person or brand gets a higher Klout score. For example, if a specific brand tweet is retweeted 1 time out of 100 tweets, it will get a lower Klout score than 10 retweets out of 100 tweets. The Klout score is another metric that can be used by the marketers to measure its marketing campaign effectiveness.

Other factors Affecting Effectiveness of Ads in Social Media

A study from Forrester states that for every post made by the top brands in Facebook and Twitter, it reaches only 2% of their followers, and of which only .07% of them actually interacts with the posts [Cespedes, 2016]. Questions also arise on the validity and accuracy of traditional opinion surveys to gauge the effectiveness of the ads placed in social media sites – whether these results accurately predict and track sales with respect to number of clicks, product/service reviews, search counts, number of followers and likes.

Another factor considered by companies when deciding on the ad platforms, is opportunity cost. As companies have to work with the allocated and budgeted funds to spend on its marketing expenditures, the allocation mix between social media sites, other online methods (like banner ads), and traditional media like paper and TV needs to be determined. According to a McKinsey study [Cespedes, 2016], since 2008 companies have allocated more money and time to social media and almost 20% lower for email marketing. E-mail, however, was deemed about 40 times more effective in gaining new customers than Facebook and Twitter combined. This result may not be surprising as it turns out that 90% of the consumers use e-mail on a daily basis. Additionally, e-mail daily average sales were 17% higher than compared to social media.

Another factor that affects online marketing trends is the breakneck pace of technological advances, new platforms, and the quick demise of existing social media sites – resulting in abrupt changes customer loyalty. Therefore marketers who happen to concentrate their ads on rapidly fading social media sites, such as MySpace, Friendster, and Orkut in the past, lose a lot of their investment. Extensive use of social tools by companies and lack of uniqueness might also result

in saturation and loss of customer interest in clicking on the banner ads placed on the social media sites. Many companies also invest and spent large amount of money in less effective ad tools due to tax credits, pre planned marketing and advertisement budget, which could sometimes be on the basis of “use it or lose it” concept.

So, how then can a current social media sensation such as Facebook or Snapchat stay attractive to ad customers? They would likely have to embrace many new technology tools to provide high value to their ad customers. One possibility is the use of “big data” analytics to improve their target audience. Facebook could, for example, provide effective ways to reach the right audience, and provide extremely useful tools to their customers so that they can easily track and fine tune the effectiveness of their ads. Another possibility is for social media sites to introduce new ways to create brand awareness and marketing over different platforms. For example, social media sites can experiment with streaming live videos, virtual and augmented reality, and artificial intelligence techniques to stay relevant to marketers.

Social media sites such as Facebook and Snapchat also use psychology and human nature to increasingly engage their audience and encourage frequent interaction. Snapchat’s Snapstreak feature displays how many days in a row two friends have snapped each other and rewards their loyalty with an emoji, Research shared with shows that Snapstreak is driving some teenagers nuts—to the point that before going on vacation, they give friends their log-in information and beg them to snap in their stead [Bosker 2016]. B J Fogg’s (an experimental psychologist) principles of behavior design is the designing of software that nudges users toward the habits a company seeks to instill. For instance, rewarding someone with an instantaneous “like” after they post a photo can reinforce the action, and potentially shift it from an occasional to a daily activity [Bosker 2016].

SUMMARY AND CONCLUSION

Social media networks have made remarkably rapid strides, and firmly implanted themselves in modern human society. From the start of Usenet in 1979, we have evolved quickly into the likes of Facebook, Twitter, and Snapchat. There are now about 3.4 billion internet users globally. Roughly 500 million tweets are sent each day, and almost seven hours of footage is uploaded to YouTube each second, in several languages. With 1.7 billion active accounts, Facebook is the largest virtual “country” in the world. According to Pew, clear majorities of American Twitter and Facebook users now get their news from these platforms. Fifty-nine percent of American Twitter users rely on the service to follow news events as they happen in real time [Emerson 2016]. Nearly half of the world’s adult population is still not online, so there is still plenty of future growth available to social media companies.

Marketers have noticed the rapid, global adoption of social media in the last decade, and have begun to develop several strategies to use the new media format to build brands, create consumer needs, and encourage consumption of more goods and services. We have discussed the many ways in which social media marketing managers measure the effectiveness of their campaigns - such as Click-Through-Rates, Monthly Active Users, Klout score, and the number of “likes” or “followers.”

There is a lot of potential for future research in the social media marketing field. Studies can be designed to see the correlation between the amount of social media use and the willingness of users to transact based on ads on social media sites. Social media usage patterns can also be used to get personalized profiles of each customer, and better target potential customers, in more effective ways. For example, if a social media user “likes” many posts involving wage inequality, will they be more influenced by certain ad formats or certain ad campaigns than others? Our next step is in doing pilot studies in these directions.

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