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The NFL Salary Cap and Veteran Players' Salaries

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ABSTRACT
The salary structure and process of wage determination in the American National Football League (NFL) is perhaps unique among professional sports: contracts are not guaranteed, careers tend to be very short, and the league operates under a salary cap that limits teams' payrolls. Thus, while a fairly well-defined set of performance metrics exists for most professional football players, the usual relationship between measured performance and compensation—i.e. higher productivity translates into higher pay - may be blurred, empirically observable, or even nonexistent. This paper investigates this issue using a four-year panel of veteran professional football players. Our analysis suggests that although performance plays a role in determining salaries in the NFL, experience, durability, and mobility are the most important factors veteran player compensation.

Keywords: National Football League (NFL), professional athletics, wage determination, salary cap.

INTRODUCTION

Anyone who has ever listened to sports talk radio knows that the pay scale for professional athletes is one of the favorite topics of discussion among sports fans and members of the media, especially around draft days, free agency periods, and trade deadlines. This should not be surprising: the business of sports has never been bigger or more closely scrutinized, and athletics and sundry merchandising more aggressively marketed; professional athletes' salaries are simply part of this trend. This coupled with a similar zenith regarding the degree of labor mobility in the four major North American professional team sports makes professional athletics a fertile area for timely, interesting, and accessible research in wage and salary determination, as well as an opportunity to revisit and update some classic empirical methods used by labor economists.

The issue of professional athletes' compensation is one that academics have been concerned with for some time now. The basic notion is that professional athletes' performance statistics represent—more so than in most other occupations—an essentially pure measure of a worker's productivity and market attributes. This line of research is now in its fourth decade, dating to the initial work by Gwartney and Haworth [1] on discrimination in the market for professional baseball players. The intervening years have witnessed a noteworthy expansion the literature dealing with Major League Baseball's labor market (Medoff [2], McDonald and Reynolds [3], Irani [4], Hanssen [5]), in addition to forays into American professional basketball (Kahn and Sherer [6], Hoang and Rascher [7], Dey [8], Berri et al. [9]), golf (Moy and Liaw [10]), North American hockey (Richardson [11]), and professional futbol in Europe (Szymanski [12], Lucifora and Simmons [13], Dietl et al., [14]).

The literature on American professional football has seen considerable growth in recent years. As with baseball, early research on labor issues in American football dealt primarily with issues of discrimination (Kahn [15], Guis and Johnson [16]). More recent research has tended to focus on the impact of the National Football League (NFL) salary cap and collective bargaining on team operation and player compensation (Treme and Allen [17]). In place since 1994, the NFL salary cap sets a team's maximum payroll spending to a fraction of the League's defined gross revenues averaged over its 32 franchises. Indeed, the NFL "hard" salary cap—an individual team's player payroll is not allowed to exceed the salary cap for a given year—raises a number of unique, interesting labor market issues. In particular, the presence of a salary cap may be obscuring the relationship between salary and performance. Indeed, the amount of publicity given to "salary cap casualties," players released because their team deems their salaries excessive as opposed to a noteworthy decline in skills, in sports media makes the issue of football player salaries and performance noteworthy in and of itself.

Another is the nature of the game itself. The incidence of serious injury is considerably higher among NFL players relative to other professional athletes, and NFL careers are accordingly shorter. It is almost by definition more difficult for a player to build a suitable record to determine and predict salaries. Not surprisingly, the incidence of bust (highly overpaid relative to performance) players seems much higher in the NFL than in other leagues. As such, it is possible that standard cross-section wage models may not be able to deliver any meaningful results regarding the relationship between player salaries and performance. Finally, and unlike sports such as baseball and basketball where individual performance is fairly easy to isolate and measure, the standard performance statistics for a professional football player may not accurately depict his value. Indeed, one football position group—offensive line—does not even have a widely established and/or reported uniformly accepted performance metric.

This paper investigates these issues by estimating a fixed-effect log wage model using a panel of veteran NFL offensive skill players for the 2012-2015 seasons. Separate models are estimated for offensive skill players in addition to models based on individual position groups. The results of this analysis suggest support for the above two propositions. Regarding the salary cap, the results show that changing teams has a significantly negative impact on player salaries. Additionally, individual, position-specific skills are not as important, statistically speaking, as durability and experience in determining professional football players' salaries.

THE SALARY STRUCTURE IN THE NFL

Summary Statistics

In 2015—the final year of data used in this study—the average salary (base salary plus bonus) for an NFL player was slightly less than $2 million. Parsed by position group in Table 1, one notes that quarterbacks are not surprisingly the highest paid position in the NFL, commanding an average salary of almost $5 million, over twice that of any other position group. Running backs are the lowest paid players, with an average salary of around $1.2 million. Within position groups, there is considerable variation in salaries, as the highest paid players usually earn five to eight times the group average. Indeed, with the exception of placekickers and punters, salary variability exceeds the position group mean. Finally, the income distribution of salaries is generally similar across position groups, at least for the highest paid players. Excluding again placekickers and punters, the 5% concentration ratio (the share of the position group's combined earnings accounted for by the players at or above the 95th percentile of the salary distribution) for each position group averages just over 27%, while the 10% concentration ratio is over 43%.

Table 1: Summary Statistics for NFL Salaries, 2015 season

						Skewness		Kurtosis	
Position Group	*N*	*Avg. (ths.)*	*St. Dev. (ths.)*	*Top 5%*	*Top 10%*	*Raw Data*	*Logs*	*Raw Data*	*Logs*
Quarterback	87	$4,702	$6,139	20.2%	40.9%	1.52	0.34	1.05	-1.17
Running Back	173	$1,243	$1,919	34.0%	46.3%	4.11	0.01	21.29	0.80
Wide Receiver, Tight End	376	$1,709	$2,555	30.4%	47.3%	3.07	0.28	12.50	-0.81
Offensive Line	341	$1,965	$2,508	24.5%	42.0%	2.03	0.16	3.73	-1.10
Defensive Line	296	$2,056	$2,877	28.3%	43.9%	3.06	0.30	12.28	-0.67
Linebacker	311	$1,877	$2,409	24.7%	40.8%	2.30	0.13	6.79	-1.14
Defensive Back	392	$1,777	$2,519	29.0%	46.0%	2.61	0.43	7.63	-0.74
Kicker, Punter	69	$1,574	$1,205	11.3%	24.5%	0.64	-0.01	-0.91	-1.52

Raw salary data tends to be positively skewed for most position groups, concerning what most professional football players already know: for most position groups, there are a handful of elite performers command compensation packages well in excess of group averages. The fact that the NFL also has a salary floor for veteran players—the "veteran minimum"—is also playing a role here. Skewness issues, however, are greatly mitigated with a simple natural logarithm transformation. Most position groups likewise exhibit a high degree of kurtosis, quarterbacks and kickers being noteworthy outliers. Like skewness, however, the degree of kurtosis in my salary data considerably diminished by taking natural logarithms.

Like virtually all professional athletes' compensation, NFL salaries have risen considerably in recent years. Over the four season period ending in 2000, the average NFL salary had risen by some 10%. And by the end of this period, approximately 28% of all NFL players commanded salaries in excess of $2 million annually.

X's and O's of the Salary Cap

The NFL salary cap was instituted in 1994 as part of the Collective Bargaining Agreement (CBA) between the NFL owners and the NFL Players Association. In principle, the salary cap is fairly simple: it sets a maximum player payroll for each of the 32 NFL franchises. Moreover, the salary cap sets no stipulations on the salary of individual players; it only sets a limit on the total amount that each team can spend on its combined player salaries. The current incarnation of the NFL salary cap dates to the 2011 CBA ratified after an uncapped season in 2010. The current salary cap includes an overall cap on team player payrolls and a set wage scale and uniform four-year contract duration (with a fifth year team extension option) for rookies based mainly on that player's draft round and selection number.

The present salary cap is uniform for each team and is based upon a share of the League's defined total revenues—all earnings by all NFL teams and the league itself through ticket sales, broadcasting contracts, merchandising, stadium concessions, parking, etc. —divided equally by the number of league franchises. Under the current NFL Collective Bargaining Agreement, the percentage of defined total revenue that can be used for player salaries was 48% for the 2012-2014 seasons and 48.5% in 2015. For the 2015 NFL season, this translates into a player payroll in the neighborhood of $143 million per team.

Operating an NFL franchise under the constraint of a player salary cap gets very complicated very quickly. The trade-off that teams face is a very easy to see, but equally difficult to manage: given that better teams tend to have more above-average players, and that better players typically command higher salaries, franchises attempting to maximize team success have a strong incentive to hire relatively more highly-paid players. This, however, obviously increases the likelihood that a team will run up against the constraint of the salary cap well before it is fully staffed. Not surprisingly, working around the salary cap, at least in the short term, has become a cottage industry in the NFL, so much so that many franchises have hired "capologists," experts on the accounting and legal aspects of salary cap, to assist with payroll decisions and management (Rovell [18]).

Signing bonuses are one such opportunity for creative cap management. In the case of signing bonuses, the salary cap does not place a strict ceiling on a franchise's player payroll; indeed, every NFL club routinely spends more on player salaries than is dictated by the cap. In particular, players' signing bonuses are paid in full immediately, but can be prorated under the Collective Bargaining Agreement over the life of the contract, yet only the prorated amount is charged under the current year's cap. Another common cap management technique is to renegotiate players' salaries downward to enable teams to stay under the cap; as long as a contract is renegotiated in the proper time frame, and the player in question is still paid at or above the league minimum, franchises can lower player's salaries to stay under the cap. A related, short-term cap practice is to backload contracts so as to be able to initially sign high-paid players, but to avoid making large salary payouts until the final years of the contract. This allows a team to manage other salaries around larger contracts, to potentially renegotiate a contract down at a future date, or in the extreme to release a player before the team has to make its largest salary payments (Lackner [19]). (Guaranteed contracts are extremely rare in the NFL; only signing bonuses are guaranteed.)

The Salary Cap and Veteran Salaries

NFL experts argue that the salary cap has profoundly changed the relationship between player performance and compensation. One noteworthy impact of the NFL salary cap, or better it most recent incarnation under the 2011 Collective Bargaining Agreement, has been to essentially segment the NFL labor market into one for rookie players and another market for veterans (Allen [20]). In the case of rookie players, compensation is first and foremost a function of when a given player is selected position in the annual college player draft, with a premium placed on first and second round draft picks (Keefer [21]). Regarding veteran players, while as noted a given veteran player's contract may reflect his skills and past performance, his salary for a given year may not; it may be prorated and back loaded. Likewise, contract renegotiating for this purpose could result in a player taking a pay cut that was not warranted by his performance, and even the best players risk release/unemployment if they are deemed highly paid.

This latter possibility, release, gets considerable attention from the sporting media, particularly around the two NFL player release periods in February and June. It is a well-known fact that churn in the NFL players' labor market has increased tremendously since the introduction of the free agency system in 1992 and the salary cap in 1994. Over the past ten years for example, turnover in the NFL has averaged around 30% annually, about 10% of which consists of veteran players being released from their respective teams for reasons other than retirement. While some of these players are released because of declining productivity, many of these cuts are attributed to the salary cap and/or players' unwillingness to renegotiate their contracts downwards. Most of these players end up resigning with another team, most at a substantially reduced salary.

In theory, it should be possible to empirically separate these effects. If salary cap considerations are playing a role in intra-league churn, changing teams should be a significantly negative determinant of players' salaries, all else equal. In contrast, if veteran players' salaries are determined by standard labor market models of wages based on market characteristics, one would expect that players released due to declining skills that are signed to new teams would be paid in a manner commiserate with the a (diminished) set of football skills; changing teams should not impact compensation over time in and of itself, all else being equal. This notion in taken up in greater detail in the proceeding section.

DATA, MODEL, AND RESULTS

Data

The data for this paper consist of performance and other statistics for a balanced panel of 179 veteran offensive skill players for the 2012-2015 football seasons. Players were categorized by position group on offense: there were 32 quarterbacks, 44 running backs (tailbacks and fullbacks), and 130 receivers (tight ends and wide receivers). Offensive linemen were excluded because this position group does not have a set of uniform and/or publicized performance statistics save Pro-Bowl appearances, All-Pro listings, and more recently Pro Football Focus rankings and grades, the latter of which tends to be controversial and not uniformly accepted as a measure of performance. Placekickers and punters were excluded as most of these players earn salaries at or slightly above the league veteran minimum; only a handful of elite kickers would be considered well-paid in an NFL sense. All included players were on a non-rookie contract at some point during the 2012-2015 period. That is, the panel includes older players with five or more years of experience as of the 2015 season and younger players who had either renegotiated their rookie contract or became free agents, and thus signed a new contract between 2013-2015. Given that the typical NFL career is less than six years, this limits the number of included players, but in theory allows performance to play a more significant role in determining a player's salary.

Performance data are all available online at si.com, nfl.com, and espn.com. All salary information was found at sportrac.com. Data on experience; position; team changes; games and games started; and performance statistics including yards from scrimmage and scoring broken into passing, rushing, and receiving components. In addition, a handful of performance metrics unique to position group are also complied, including quarterback rating, interceptions, and completion percentage for quarterbacks; rushing attempts for runners; and for receivers, pass catches and targets (the number of passes thrown to a given receiver). All performance statistics can be expressed on a per season or per game basis.

A Fixed-effect Model

To investigate the issue of wage determination in the NFL, I estimate fixed-effect regression models for offensive skill players jointly and for individual position groups using the data described above. The model is:

$$\ln(SALARY_{it}) = \beta' X_{it} + \alpha_i + u_{it},$$

where "*ln*" denotes natural logarithm, $SALARY_{it}$ denotes the salary (base plus bonus) of player *i* at date *t*, *X* is a vector of performance variables and position and participation dummies with associated coefficient vector *β*, *α* is a player-specific intercept, and u_{it} an error term.

The model is estimated using the usual technique of estimating the following:

$$ln(\widetilde{SALARY_{\iota t}}) = \beta' \widetilde{X_{\iota t}} + \widetilde{u_{\iota t}},$$

where:

$\ln(\widetilde{SALARY}_{\iota t})$= $\ln(SALARY_{it}) + \overline{\ln(SALARY_{\iota t})}$,

$$\widetilde{X_{it}} = X_{it} + \overline{X_{it}},$$
$$\widetilde{u_{it}} = u_{it} + \overline{u_{it}}.$$

In the above expressions, "bars" denote the player specific average for each variable or error term. The transformed is estimated using generalized least squares to obtain a consistent estimate of the covariance matrix for u allowing for heteroskedasticity and serial correlation using the methodology described in Arellano [22]. In each case, the models were estimated using a top-down approach: regressors that were not statistically significant at at least 10% were excluded.

Results

The results obtained from the above model for offensive skill players jointly and by position group are located in Tables 2 and 3. Looking first at the results from the combined offensive panel (Table 2), one first observes a dearth of significant performance statistics; only lagged total yards from scrimmage is a significant salary predictor and its 0.0004 coefficient magnitude is essentially meaningless. Other performance-based statistics are insignificant for determining a player's salary (in this model). This, however, could be due to a collinearity issue, namely that the other offensive statistics (touchdowns, completion percentage, etc.) tend to be strongly correlated with yardage. That is, players that gain more yards tend to score more touchdowns, all else being equal. Additionally, one could argue that more so than in other team sports, the success of an individual offensive skill player in football is more dependent on the skills and abilities of his teammates. For example, for a receiver to be successful, the offensive line has block well, the running backs have to be able to run, and the quarterback has to successfully read the defense and accurately throw the ball, and the other receivers must be a threat to the defense. Without these uncertain elements, a high-priced receiver will not produce numbers appropriate to his salary. Finally, this finding is largely consistent with Leeds and Kowalewski [23], who find that only the lower paid players tend reap meaningful salary benefits based on performance. In other words, while it may be the case that the best players are the best paid, quantifying precisely what makes an elite player elite is a challenge in American professional football.

Table 2: Regression Results, Pooled Offensive Skill Players

Dependent variable: *ln (SALARY)*

Variable	*Coefficient*	*t-statistic*	*p-value*
Constant	11.7765	33.000	0.000
Yards From Scrimmage, season ago	0.0004	4.394	0.000
Starting Quarterback Dummy	0.5112	-2.529	0.012
Years Experience	0.6652	6.931	0.000
(Years Experience)^2	-0.0340	-5.408	0.000
Games Started	0.0006	5.586	0.000
Games Started, season ago	0.0007	5.173	0.000
Team Change Dummy	-0.4037	-5.347	0.000

Within R^2 = 0.52; *Durbin-Watson* = 1.62

Notes:

1. Empirical technique: fixed-effect regression, Arellano [22] robust errors.
2. Panel size: 179 players over 2012-2015 seasons; 32 quarterbacks, 44 running backs, 103 receivers

A player's position is also a significant determinant of his salary. Not surprisingly, quarterback is the glamour position empirically as well as on the field, as being a starting quarterback translates into an approximate 51% salary premium over the baseline offensive skill player (receiver). Longevity and durability have a significantly positive impact on player salaries. Each year of experience, for example, adds over 60% to a player's salary. No doubt this result is picking up the minimum veteran salary scale specified under NFL Collective Bargaining Agreement. Being a multiyear starter similarly results in a positive, but marginal, increase in a skill player's salary.

Finally, changing a team causes an over-40% decrease in a player's salary, on average. It is very possible that this is due to the salary cap and the payroll structure it creates. Namely, this result could be reflecting the possibility that most players who change teams do so because their current team has released them, and have been forced to sign to a new contract with a different team, but at a value much lower relative to previous years. This finding is also indicative of backloaded free agent contracts, which would result in a significant salary decrease at the beginning of a contract, but allows for this to be made up later as the contract matures. The other possibility that this finding may not necessarily be a result of the salary cap as some players could be willing to take a pay cut in order to become a starter or to play on a winning or championship-caliber team. Notwithstanding, this result is consistent with research conducted by Duberstein [24], who finds that unrestricted free agents who changed teams from 1993 to 2001 realized an approximate 10% pay cut.

The above results are also observed when the model is estimated using smaller panels consisting of individual offensive skill position groups (see Table 3). Experience, durability, and changing teams remain the three most important determinants of a player's salary, while the magnitude of the associated coefficients differs by position group. An extra year of experience, for example, is much more valuable to a veteran running back, who is more likely to have an incentive-laden contract, than to a veteran quarterback. As with the full sample, changing teams typically decreases a veteran player's salary by approximately 35-40% on average.

Table 3: Regression Results, Offensive Skill Players by Position Group
Dependent variable: *ln (SALARY)*

A. Quarterbacks

Variable	*Coefficient*	*t-statistic*	*p-value*
Constant	11.8432	14.410	0.000
Passing Yards per Game, season ago	0.0033	2.143	0.036
TD-Interception Ratio, season ago	0.1724	-2.651	0.010
Years Experience	0.5382	2.920	0.005
(Years Experience)^2	-0.0190	-2.064	0.044
Games Started	-0.0247	-1.649	0.105
Games Started, season ago	0.0537	2.160	0.035
Team Change Dummy	-0.4325	-2.352	0.022

Within R^2 = 0.51; *Durbin-Watson* = 1.77

B. Fullbacks, running backs

Variable	*Coefficient*	*t-statistic*	*p-value*
Constant	10.7552	14.600	0.000
Rushing Attempts per Game, season ago	0.0029	2.093	0.040
Years Experience	1.1066	4.717	0.000
(Years Experience)^2	-0.0768	-4.223	0.000
Games Started	0.0084	0.421	0.675
Games Started, season ago	-0.0275	-0.857	0.394
Team Change Dummy	-0.3261	-2.603	0.011

Within R^2 = 0.40; *Durbin-Watson* = 1.61

C. Receivers

Variable	*Coefficient*	*t-statistic*	*p-value*
Constant	11.3008	22.030	0.000
Receptions, season ago	0.0073	3.475	0.001
Years Experience	0.7602	5.673	0.000
(Years Experience)^2	-0.0398	-4.771	0.000
Games Started	0.0007	7.113	0.000
Games Started, season ago	0.0006	4.801	0.000
Team Change Dummy	-0.3847	-4.183	0.000

Within R^2 = 0.53; *Durbin-Watson* = 1.72

Notes:
1. Emprical technique: fixed-effect regression, Arellano (1987) robust errors.
2. Panel size: 179 players over 2012-2015 seasons; 32 quarterbacks, 44 running backs, 103 receivers

Estimating the model by position group also allows for a more careful examination of how position-specific performance metrics impact salaries. Passing yards and the touchdown to interception ratio, for example, are a significant determinant of a quarterback's salary, while rushing attempts is important for running backs and fullbacks, and total receptions is again important for receivers. The interesting thing about this analysis is that these performance statistics tend to be significant only with a one-season lag, suggesting that past performance is more important for salary determination than current incentives, on average. On a more ominous note, this could be interpreted as that teams may be effective in getting free agent players to sign contracts with performance incentives that are difficult to meet.

As a final point, readers familiar with this line of research will no doubt note that demographic factors, notably race, are absent from this compensation model. This is done for mainly practical reasons. Specifically, almost all of the running backs and receivers in the panel are Black and almost all of the quarterbacks are white. As such, the inclusion of a standard Black/white dummy variable creates an obvious collinearity problem in the position group regressions. A race dummy variable is likewise almost perfectly collinear with the starting quarterback dummy in the combined panel. Finally, all preliminary, unreported model variants that included a race dummy failed to produce a significant coefficient, a result consistent with Gius and Johnson [16] and Ducking et al. [25], who find no evidence of racial discrimination in the post-1995 NFL.

SUMMARY AND CONCLUSION

Economists have traditionally viewed professional athletics as an excellent laboratory to examine wage and salary determination. The labor markets for professional athletes tend to be highly competitive, and are characterized by a high degree of labor mobility. In this regard, the NFL is a textbook example of a sports labor market. Similarly, the criteria that are used to evaluate the individual productivity of a professional athlete are reasonably well-established and accepted, and are easy to observe. Thus there should be, at least in theory, a clear and easily quantifiable relationship between an athlete's performance/productivity and his or her salary.

In this regard, the NFL's labor market is arguably unique. In part, the NFL's labor market is unique because of the nature of the game of football. Football is a very violent sport; players that are highly productive one year may not even be on the field the next due to injury. Similarly, NFL careers are very short, making it difficult for an individual player to build consistent performance record. Likewise, football is a highly specialized team sport. The skills requisite for individual success in football differ greatly across position groups. Likewise, individual success is arguably more dependent one's teammates than in other team sports. The NFL's labor market is also unique because its employers are constrained by a salary cap which places a strict, uniform ceiling on each team's player payroll. As such, these factors may destabilize or eliminate any measurable link between a player's current performance and his current compensation.

This paper investigates this issue by estimating a standard log wage model for a four season panel of veteran NFL offensive skill players. The preliminary results of this study that the NFL's labor market is indeed unique. For offensive skill players, both jointly and by position group, I find that the usual performance statistics are of secondary importance in determining players' salaries, and that performance statistics are only significant determinants of player salaries when lagged. In contrast, longevity and durability are more important to the NFL salary structure than measured individual productivity. Moreover, results indicate that players who change teams suffer a significant salary decrease. All else being equal, it appears as if financial considerations alone, that is, fitting under the salary cap, may be resulting in a player's separation from his current team. Further study is no doubt required, but this paper provides some preliminary evidence supporting the widespread claim that the salary cap fundamentally affects the way the NFL does business, and how the NFL's labor market operates.

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Corporate Social Responsibility in Garment Industry Supply Chain

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ABSTRACT

There has been a growing concern over the ready-made garment (RMG) industry in their environmental and social performance. Each stakeholder involved in the garment supply chain has embarked on Corporate Social Responsibility (CSR) practices in responding to the criticism of poor working conditions. This thesis reviews the history of the RMG industry and highlights the problems such as environmental issues, workers' low wages and hazardous work environment raised with the development of the garment industry in developing countries. CSR concept is reviewed from the aspects of its importance, implementation and related challenges. Some of the main apparel exporters (e.g. China, India and Bangladesh) are analyzed in their current situation of the industry and related CSR practices. It is found that CSR is still at an early stage, regulations are generally not comprehensive and workers are in poor working conditions in the RMG industry of developing countries. Based on what are found in the different cases, the collaboration between each stakeholder seems of importance to improve current conditions. Not only garment manufacturers themselves, but also the government, buyers, none-government organizations (NGO) and consumers are responsible for supporting the RMG industry towards a more socially responsible direction. A framework is established to illustrate the relationship and necessary collaboration between the stakeholders.

Keywords: Garment, Industry, Environment, Social, Responsibility

INTRODUCTION

The garment industry is one of the largest industries in the world. With the development of the industry in developing countries, both environmental and social problems occur due to the neglect of CSR. Globalization makes clothing to be affordable at increasingly low price, however it has negative impact on environment throughout the life cycle of it [1]. During the production of clothing, vast energy is consumed and considerable amount of wastes including sewage and used clothing are generated. Obviously it increases the burden to the environment. In addition, poor working and living condition is another outcome from the RMG industry as it is labor-intensive. Poor labour standards include low wages, long working hours, hazardous work environment, workplace abuse and being excluded from unions. In 2012, average wage of the workers in countries such as Bangladesh, Vietnam and Cambodia is even less than $0.4 per hour [2]. A report from ILO [3] shows that 22% of the global workforce meaning 614.2 million people still work more than the limit of 48-hour per week and 8-hour per day. These conditions make garment workers' life tough when regulations or labour laws do not protect them. The government and Western buys are blamed to be inactive in ensuring labor rights and workers' safety and health. The typical example recently is the collapse of Rana Plaza building in Bangladesh, where over 1100 workers lost their life in this tragedy [4].

A framework seems necessary for not only Bangladesh, but other apparel exporters around the world to implement CSR practices in order to create a good working condition for garment workers. The main problem may lie in with whose responsibility should CSR be implemented in the industry. Stakeholders such as the government, garment buyers, suppliers and NGOs are considered to act the role in conducting CSR practices. Each of the stakeholders may have their own shortages and strengths in the action. The government imposes regulations and labour standards but maybe lack of professionals in a specific section. While NGOs are able to access to different resources, however they do not have legal effect. In order to take a deep look at the RMG industry, cases in different developing countries may provide an insight on understanding the barriers of implementing CSR practices and establishing a framework to tackle CSR issues. Some of the main apparel exporters such as China, India and Bangladesh are chosen to be analyzed in its current situations. Based on the problems found in the cases, improvement recommendations can be raised to build up a framework clarifying the responsibility of the stakeholders and the collaboration among the stakeholders that can exist to improve poor working conditions in the RMG industry in developing countries.

LITERATURE REVIEW

The aim of the literature review is to review the history of the apparel and the ready-made garment industry and to show the relationship between the development of the industry and the problems such as environment issues and labour conditions occurred due to the development. The first section reviews the background of the textiles and apparel industry, the industrialization of the industry as well as the global commodity chain. The second section discusses about the environmental impact throughout the whole life cycle of a garment from cradle to grave. The third section talks about social impact of garment industry on factory workers from the aspects of working hours, wage rate, working conditions and so forth. The fourth section is about corporate social responsibility from the aspects of definition, benefits, codes of conduct, challenges and so forth.

Background of the Apparel and Textiles Industry

The history of clothing can be traced back to 83,000 to 170,000 years ago [5]. It provides functions such as protection from weather, safety enhancement, and appearance. Clothing also has functions for social and cultural purposes. It can be used to indicate social status and to distinguish gender and occupation. The material ranges from cotton, animal skin, wool to plastic and others depending on the requirement of the products.

Industrialization of the Industry

Before 18th century, textile cottage industry was based on human labour, and until English inventors started producing cloth mechanically, the industry was automated [6]. According to the website of globalEDGE, not until the industrial evolution, the textile industry had been experiencing quite slow development and a lack of progress. After technology development was accelerated by the demand, the textile industry had been mechanized incorporating with the use of automation.

On the other hand, the apparel industry, as it relied on human labour, the problem was mainly on looking for cheaper labor market. Since the rapid change of fashion, the garment industry is very unlikely to be automated [7]. This fact leads to the apparel industry pursuing large and low labour cost supply to sew apparel [8]. In the 1990s, garment retailers started increasing products ranges, focusing on more fashion design, developing distinct brands and moving production to lower costs overseas. This shift provided those developing countries with abundant employment opportunities especially for woman. However the economic crisis in 2008 threatened the stability of the labour market over the world, 3 million workers lost their jobs [3]. The increased competition among the retailers divided the industry into two sectors, high-end and low-end production and brands. Where high-end production uses better technology and skilled workers, low-end production pursues low cost and therefore leading to poor working conditions [3]. This is going to be further discussed in this report regarding to the labour market overseas since the trend towards moving manufacturing base to regions where have lower labour cost. For developing nations, as the low fixed cost to start, the apparel industry is a typical start [7]. Kozlowski [7] presents that the movement to offshore production in order to seek of low-cost labour may have negative environmental impact, but the opportunity exists that employment and the development of garment industry to be positive impacts on the developing countries.

The Apparel Commodity Chain

Globalization has changed the pattern of international trade, where the explosive growth of imports in developed countries shows that the production centers tends to move to newly industrializing economies in the Third World [9]. The economy largely relies on the export industrialization as the development strategy for those countries. Gereffi [9] also classified two types of international economic networks, which are 'producer-driven' and 'buyer-driven' commodity chains, between which the ready-made garment industry belongs to 'buyer-driven' chain. Unlike 'producer-driven' commodity chain, which derives the profit from scale, volume, and technological advances, profit of 'buyer-driven' commodity chains derive from 'unique combinations of high-value research, design, sales, marketing and financial services that allow the retailers, branded marketers and branded manufacturers to act as strategic brokers in linking overseas factories with evolving product niches in the main consumer markets' [9].

In the past, retailers were the customers of the apparel manufacturers, however this relationship turned into competitors since consumers required better value, therefore retailers paid their attention to import that provided better offer. With the time, oversea producers had been able to have all the capability required in every aspect of the production process, during that time and afterwards, there has undergone several production migration from North America and Western Europe to Japan, and from Japan to the Asian Big Three (Hong Kong, Taiwan and South Korea), and finally from the Asian Big Three to mainland China, South Asian counties, Sri Lanka and Latin America [9]. In 2012, according to International Labour Organization [3], China was the world biggest clothing exporter accounting for 38 percent of the world volume, followed by Bangladesh that took up 5% of the share. The success of the commodity chain could not leave without OEM export as it enhances the ability of the manufacturers to know about the behavior of foreign buyers for example, price, quality and delivery. Although OBM production experienced great success in some countries where have good brand name for certain types of products, OEM still fits the manufacturers who have the core competence in manufacturing, R&D and design better. Because those OEM manufacturers can sell their products to the customers who have better brand name. In order to keep OEM production profitable, it is important to focus on manufacturing expertise and learning to manage oversea production flexibly [9].

Environmental Impact

Globalization makes clothing to be affordable at increasingly low price, however it has negative impact on environment throughout the life cycle of it [1]. 'The environmental footprint of creating apparel varies based on the methods used to produce and extract the resources; the process to create, dye and finish the materials; the steps to cut, sew and assemble the products, and the packaging and distribution systems to move and deliver the product'[10].

Manufacturing Stage

Take conventional cotton farming for example, cotton uses around 25% of the insecticides and 10% of the pesticides over the world. Some pesticides are regarded as hazardous by the World Health Organization since its impact on human, for example, sexual dysfunction, headaches, convulsions and even death. Farmers or workers who are exposed to the hazardous are very likely to be effected through nervous system, moreover, widespread of agricultural antibiotics will influence surface water and ground water including drinking water. In addition, since cotton is water sensitive crop, it consumes tremendous amount of water every year and majority of the cotton farming regions face water scarcity [10]. Another raw material that is widely used in apparel manufacturing is synthetic fibers. The manufacture of synthetic fibers is an energy-consuming process requiring large amounts of crude oil and releasing greenhouse gases as well as 'volatile organic compounds, particulate matter, and acid gases such as hydrogen chloride, all of which can cause or aggravate respiratory disease' [10][1].

Usage Stage

After the manufacturing stage, usage stage also has high impact on the environment. Washing, drying, and caring of the clothes are the factors determining to what extent clothing has imposed negative impact on the environment. Laundering has more environmental impact than the processing and producing of the fabric, as it is a frequent and lasting activity. Kozlowski [7] expresses that 82% of the energy use and 83% of the CO2 emissions are a result of the consumer use phase according to a LCA of a polyester blouse. Another analysis shown by Kozlowski [7] was that for a single T-shirt 60% of the energy used is related to laundry and high temperature drying [11].

End of Life Stage

Due to fast fashion and accelerated consumption rates, textile and apparel waste is increased at a rapid rate. Americans now purchase five times as much clothing as they did in 1980, which leads to 10.5 million tons of clothing is sent to landfill every year among which New York City contributes to 193,000 tons tossed annually [12]. These figures show that only a small portion of used clothing are turned to charity. In Britain, the figure is 1.5 million tons per year and UK residents spent US $71 billion on clothes, 28% of the consumers admit that they bought more than they really need [7]. Not only consumer produce apparel waste after discarding their purchases, during the apparel production process there is also waste generation although there is no estimation for the exact amount.

CSR in the Apparel Industry

Dickson and Eckman [13] stated that CSR is relatively new to the apparel industry although it was conceptualized in the 1950s. Since there was no standardized definition on CSR for the apparel industry, the authors collected views from 74 professors and grad students to draw a definition on that: 'Socially responsible businesses consider the entire system of stakeholders associated with apparel supply chains, including production workers, sales help, and consumers, and the entire product life cycle from the inception of raw materials and components to product design, use and discard' [14]. Business for Social Responsibilities (BSR) further strengthened the concept of CSR in the apparel industry, business should be 'achieving commercial success in ways that honors ethical values and respects people, communities and the natural environment' [7]. Those definitions of CSR in the apparel industry had been identified by other researchers but in similar content, the commonality of these definitions suggests that firms should pursue values more than economic [15].

The apparel industry has been criticized for problems like labour abuses and low wages in the developing countries frequently. Kozlowski [7] claimed that there are numbers of forces that lead corporations to adopt CSR: customer demand, market competition, in response to public demands, a sense of moral obligation, potential cost reductions and government regulation. As a result, CSR is under more concerns because of those forces and implemented into corporate operation and strategies in order to maintain healthy relationship with stakeholders. From the aspect of stakeholders in the apparel industry, they are increasingly aware of the issues like worker rights, pollution, pesticide usage, labour working condition and other negative impacts coming with fast fashion, apparel brands have started focusing on business practices towards CSR. According to Sutantoputra [16], some stakeholders have genuine concern with the irresponsible behaviors since they create costs to the society. Therefore both internal and external stakeholders are increasingly imposing pressure on adopting a view that prioritizing social benefits over purely profit driven approach.

OBJECTIVES

The objective of this study is to understand corporate social responsibility in the ready-made garment industry and to investigate major problems occurred in the industry of developing countries since more and more companies in developed countries outsource the production oversea especially in counties where labor cost is low while working condition and human rights are of problem in countries such as in India, China, Bangladesh and other Asian countries. This condition has led to some tragedies like factory fire and labor abuse that result in poor life for workers and even death. Therefore a framework will be established to conduct CSR in developing countries based on previous research from the aspects of better working conditions and improved labor rights.

METHODOLOGY

As this study is to analyze CSR of the RMG industry in developing countries, several cases will be used to gather information about both current conditions and previous research results on implementing CSR. Qualitative method is used with multiple case studies such as Rana Plaza and Tazreen. In addition to that, the RMG industry in different countries will be analyzed to search for common problems that exist relating to the workers and historical researches on those countries will be used as guidance to develop the framework as a whole. These different cases that in the same sector allows an in-depth study revealing contemporary phenomenon in a real-life context.

ANALYSIS

In this section, multiple studies will be discussed to collect information regarding to CSR issues in different developing countries. After that, the information such as labor problems and related solutions or suggestions will be viewed to support the establishment of the final framework to implement CSR.

Corporate Social Responsibility Issues in China

As the world's largest garment exporter, China has been criticized on its CSR issues such as labor standards and environmental protection. Two studies will be discussed in this section regarding to the relationship between CSR and human resource management (HRM) as well as incorporating CSR in a national context.

CSR and Human Resource Management

In regards to CSR in China, although China is the main supplier for apparel, their poor reputation on labour standards threatens corporate brands and its market [17]. Therefore there is pressure on China to implement CSR practice to address those issues. As result, the government has focused on engaging companies to involve in social and environmental practices to sustain the development in China. Cooke and He [17] presented that there are a number of laws and regulations have been released to ensure labors' right and conditions, including Trade Union Law and the Labour Contract Law. Although China is still at the starting stage to spread CSR with a standardized and systematic approach. Chan and Ross [18] stated that CSR is first introduced into China in the middle 1990s, when codes of conduct was imposed on suppliers and auditing them under the pressure of anti-sweatshop initiatives abroad. While some enterprises were reluctant to accept the CSR requirements, and until 2000s, the concept of CSR was under increasing attention and debate those companies and departments started to conduct CSR. The Chinese government held two influential forums that help to develop CSR which they believe could build a sustainable society. In addition to that, other organizations such as NGOs and Chinese academic institutions have put their effort on promoting CSR [17]. According to the authors, the condition of CSR in China is diverse. The analysis conducted by Cooke [19] revealed that 11 of the 30 companies among Top-50 Chinese Private Enterprises of 2004 reported adopting CSR activities. These activities includes 'sponsoring social events, organizing employees to take part in charity work, donations to education, environmental protection actions, providing jobs to disabled workers and laid-off workers, and supporting the development of the Western Region of China'. Cooke and He [17] revealed that comparing with western CEOs, Chinese CEOs were less focusing on issues like human rights, environmental problems and local culture, while employment creation and the influence on local communities were more of concern in CSR achievement.

In the Chinese apparel industry, several guidelines have been introduced to address CSR problems. According to ILO, these problems rely in incorporating labor and environmental standards into the business operations. The guidelines include such as the 'Development Guidelines for the Textile Industry in the 11th 5-year plan period' and CSC9000T management system that is the first CSR auditing standard for the industry [17]. CSC9000T focuses on labour standards which is a key part in CSR according to the authors. Although there are some tools can be used to promote CSR, without a regulatory environment and a strong commitment from the business side CSR practice can hardly be conducted. It is widely observed that in China there is an ineffective enforcement of regulations and laws [20]. Cooke and He [17] claimed that the relationship between buyers and suppliers is based on short-term benefit, and this is because of serious competition and the pressure on price and quality. Most of the companies that conduct CSR were under the pressure of multinational corporations (MNC), however there were risks for them to lose business with other counterparts that did not require CSR practices [17]. The authors also stated that there is no universal CSR standard due to the diverse codes of conduct and Chinese companies see CSR-related activities as financial burden therefore little economic incentive to encourage the implementation of CSR.

To conclude the relationship between CSR and HRM in China, it is still at very early stage while firms have no standards on CSR and the initiative is based on government pressure. Cooke and He [17] stated that Chinese textile and apparel firms have already realized the importance of CSR although many of they have no written CSR policy and obtained CSR standards. According to the authors, the driving forces to implement CSR is mainly because of enhanced reputation, improved customer satisfaction and reduced operation cost. In addition to that, those companies prioritize legal and economic responsibility over ethical responsibility. This means those firms conduct CSR in response to only the government. Although the companies reckon employees are the main stakeholders, they care little for workers' standards such as health and safety issues, child labour, wages and working hours. Cooke and He [17] also claimed that they also lack employee engagement in decision-making about CSR issues. When employees are involved in CSR practices, they tend to be motivated by financial incentive rather than moral initiative. It is also suggested that most of the companies have not established information sharing with other companies on CSR. Therefore no mutual pressure exists in the industry to engage in CSR activities. The reason why it is hard to implement CSR in China is partially because of few influential CSR organizations are in China [21]. Cooke and He [17] claimed that due to the weak aspects of the industry in China such as the role of the government and the incentives of the company to conduct CSR, non-government led pressure initiatives are unlikely to impact the current industry in China.

CSR in the National Context

Because of the difficulty of engaging CSR for the companies in China, it is necessary to know about the root cause that leads to the difficulty. Although 'the state's new development strategy, workers' activism and the Western-based consumer movement, more or less, can account for the enhancement of labour standards in China', 'the role of CSR is especially controversial in both academic and practitioner communities' [22]. According to the authors, although transnational corporations (TNCs) constrain their global suppliers through some soft regulations, monitoring and implementation of the codes is still problematic. Although some CSR programs enhance outcome standards, they fail to enhance process standards. The author stated that workers' wage and working conditions have been relieved, their rights to bargain is still limited. Process standards implementation still has its barrier to be conducted. This is due to the complex relationship between civil society and the state and business in China.

Corporate Social Responsibility Issues in India

The size of the market, the location, the availability of sufficient natural resources and high density of well-educated and skilled workers enables India to be a preferable location for global business [23]. Its textile and garment industry has shown steady growth and enables India to be the sixth world apparel exporter just after Bangladesh [15]. In this part, the perception of the manufacturers in India and challenges to the trade union and NGO activism in India will be discussed.

Manufacturers' Perceptions

In order to know about how CSR is implemented into an organization, the most reliable way can be going to its manufacturer side or even interviewing the merchandisers and see how the those people perceive CSR. From those professionals' perspective, the real case can be revealed about the process of CSR practices and how effective CSR is in the current situation.

Gupta [15] conducted an interview with 26 participants whose jobs ranges from production managers, merchandisers and designers to auditors. The participants admitted that very few companies are socially responsible, however all of them felt it is of importance to integrate CSR activities to benefit the Indian apparel industry. While being asked to define CSR, those participants came out with different answers.

However the common part is CSR takes care of employees and benefiting the society. Some participants argued that companies should not engage in CSR for the purpose of economic gain, instead, they should give back to the society. There are three types of CSR activities among the interviews of those participants: people focused CSR, environment focused CSR and society focused CSR.

While being asked about the benefits of implementing CSR, nearly all of the participants reckoned that CSR would benefit the whole apparel industry in India. According to Gupta [15], benefits of CSR can be grouped into three types: employee retention, employee commitment and company image. Regarding to employee retention, it is explained that employees are less likely to leave the company if they are treated well, therefore companies will save money and time on training new crews. Employees' satisfaction and loyalty can also be seen as the results of CSR. Regarding to employee commitment, it is believed that CSR can motivate workers' efficiency and is possible to boost work ethic. For example, simply being nice to workers can motivate them to go beyond what they used to offer, therefore benefitting the their companies. Referring to company image, people prefer a company that is socially responsible. With the time, those companies that are responsible to the society build a positive reputation and solid trust in the apparel industry. Beyond that, it is believed that implementing CSR can benefit a company in long term with economic gain. From a participant's perspective, companies do not need to advertise if they have a strong reputation.

Challenges to Trade Unions and NGO Activism

Local trade unions, international none-government organizations and CSR officers are working on better and fairer rights for the workers in the Indian apparel industry [24]. However labour rights are still being violated. In order to be successful in operating trade unions, NGOs and corporate intervention, political and historical context in India should be understood [24].

Government has the power to manage and control the regulations on social responsibility, however it is not enough to monitor everyday operations in a factory on workers struggles. Neve [24] described three issues that build up the politics of representation in India: '(1) the decline in traditional trade union activism, (2) the potential for new forms of collaboration between trade unions and NGO activists, and (3) the ability of corporate interventions, through labour standards and company codes of conduct, to protect labor's key right of freedom of association'. Regarding to the decline of trade union activism, it is mainly because lots of garment factories are located in special industrial zones such as free trade zone where labour legislation can hardly apply and trade unions are resisted. Secondly, since traditional unions who are based on ground floor are not sufficient to deal with the CSR issues posed by different actors in the garment supply chain, the collaboration between trade unions and NGOs is under discussion about whether it can address the challenge faced by global, networked capitalism [25]. However there are protesters suspected the ability of NGO-union alliances to deal with labour issues systematically and lastingly [26]. Lastly, in order to encounter the impacts of garment production on workers, lots of regulatory mechanisms are designed such as corporate codes of conduct and voluntary labour standards. However whether these standards have impacts on the improvement of worker standards is still controversial. Neve [24] stated that workers' right to speak out and peoples' ability to organize the issue right is a technical matter and are part of social relationships that can only be understood in the national context and its history.

Referring to the current trade unions and workers in India, Neve [24] revealed that young migrant workers have few time for trade unions and more importantly, they demand money and time from them who have already been suffered from long working hours. Those people prefer stable wages though it is low and they are willing to work overtime. The workforce however still approaches those unions when a company fails to pay the annual bonus. What the unions usually do is to mediate the workers and the company through organizing a demonstration in public or in front of the company.

Codes of conduct and labor standards may relate to technical issues which can improve health and safety issues. For example, improving lighting and sanitary facilities. However Neve [24] claimed that not all issues are related to technical aspects. For example FOA, the right for workers to bargain and strike is the political question in the political economy and historical labor struggles. These codes and standards are also found in the checking points for companies. Neve [24] suggested that FOA should be associated with workers' health and safety and it is necessary to establish a company-based committee to stand for workers' rights beyond technical issues. Those rights and struggles deny the political content and obliterate the localized history. Neve [24] stated that the re-politicization of workers' rights could be achieved through locating the historical and political context and changing the process of labour representation.

Foreign Workers in the Garment Industry of Malaysia

Although the garment industry in Malaysia produces high end products to export oversea, and workers therefore have more bargaining power comparing with countries where produce low end products with lower technology and skills, Crinis [27] argued that manufacturers in Malaysia garment industry are allowed to recruit foreign workers based on short-term contracts and those foreign workers have less power compared with local workers. They are hired in dealing with changing seasons and under the context of a neo-liberal state in Malaysia, those workers are under less protection [27]. CSR initiatives are introduced to protect labour rights, however there are grey areas on foreign workers' contract including overtime wages, accommodation and trade union membership. These issues are in grey areas since auditors are monitoring factory compliance instead of from the perspective of national labour standards [26].

According to Crinis [27], monitoring reports are confusing to readers as they are lack of the information about working conditions in certain factories. The author analyzed 6 tracking charts of 6 Malaysian factories and found that health and safety section is well established while FOA and collective bargaining is empty. Crinis [27] stated that although national labour laws are usually in line with ILO labour standards, some of them are adjusted in trade union membership and minimum wages in order to meet the needs of the manufacturing industry and the developing state. This issue relating to foreign workers worth concern as Malaysia has the largest percentage of foreign workers in manufacturing industry.

In the good aspects, the garment industry in Malaysia is a good sourcing country duo to its good performance, efficient communication and the support from the government, stable work force and most importantly in today's topic, Malaysian manufacturers attract less negative attention [27]. Workers' welfare is well maintained through codes of conduct, such as working hour requirement and paid leave due to sick, holiday or maternity. Wages are in a good condition under the responsibility of the Department of Labour, although there is no minimum wages enforcement from the government as who stated in order to create jobs and provide the capital for development [27]. According to the author, local workers though expressed the dissatisfaction on the tedious work and no rises on their payment, they felt balanced when companies provide medical benefits to their families and offer free travels. In addition to that, the interview conducted by the author showed that workers in the garment industry in Malaysia felt relieved as they do not have to work more than 10 hours and the general working conditions in Malaysia are satisfactory to citizen workers.

From the perspective of the police and immigration officials, illegal foreign workers who have no work permits are the main concern in the industry [27]. Volunteers are paid by the government to arrest illegal workers without warrants in workplaces and accommodations. However it is argued that 'paramilitary vigilantes have no place in a democratic society and should never be given power over migrant workers, already a very vulnerable group' [28].

To conclude, the main problems in the Malaysian garment industry from foreign workers' perspective are low wages, poor working conditions and violation of basic human rights. In addition, illegal workers are in an increasing number due to desertion, and poor working conditions exist because of the increasing amount. Since undocumented labors are not under any labour standards covering workers in Malaysia, those people tend to be vulnerable to the employers who abuse them in wages, living conditions and other discrimination [27]. To the legal foreign workers in Malaysia, although labour standards have been improved to some extent and the monitoring of factories has stopped the exploitation of Malaysian workers, foreign workers are still under exploitation. If foreign workers sign the contracts including specified rights with their employers, then the employers will be able to follow their own standards [27]. In addition to that, Crinis [27] stated that the right to organize the minimum wage is still under the domain of the nation, and overtime working is a problem as well as the violation in foreign workers joining a trade union. The author suggested that CSR does not guarantee the rights of foreign workers while Malaysia taking the advantage of other nations to the development of the industry.

Gender Inequality in the Turkish Garment Industry

Although Turkey has become a developed country in recent year, the export industry especially the garment industry still has implications on women's work to developing countries. 'With the neoliberal turn in economic policies in the early 1980s, the garment industry became one of Turkey's most important export industries' [29].

Dedeoglu [29] stated that the share of formal employment is low while according to indications there is a much higher participation of women in the garment industry. This contrast indicates that women labour in Turkey is expanding in small workshops or familial subcontracting according to the author. Informal work is defined by Chen et al. [30] as 'done by wageworkers who work without a minimum wage and assured work or benefits, whether they work for formal or informal firms'. Those workers are usually not covered by health insurance or other benefits. In addition, Dedeoglu [29] stated that women's labor in home-based work faced with gender inequality as the enhanced power of their fathers or husbands, and their physical mobility is constrained as well as bargaining power. As a result, they have to accept low wage rate and be kept out from outside. In the late 1980s and 1990, some studies on informal work in Turkey suggest the expansion of this kind of work to support the growth of export [29]. It is believed that women in informal work may build up the identity and community membership in order to obtain financial security. However women's contribution to the garment industry in Turkey is obscured and concealed. The reason is the first priority role of women is mother and wife rather than generating income that indicates their husbands are unable to support the family. Dedeoglu [29] presented that although women's informal work is hidden, their contribution to the family is important in covering household expenses and children's education.

To conclude, Turkey experienced the success of export expansion with integrating women labor into the garment industry. Increased informal jobs and unfair wages are followed by 'the adoption of structural adjustment programs and neoliberal macroeconomic polices' [29]. While unpaid or low-paid workers regard their work as helping their family or relative business, owners of the business rely on the labor resource to deal with order pressure. The flexibility of the relationship provides the competitiveness for the industry. However women in the kinship relations are unrecognized and devalued in their contribution to the workplace. Their work is invisible because of its informality and social perception on market work [29]. Although women labors stayed in the industry for years, they are not protected under the social security system. Both young and old women do not emphasize a lot on the social security system that can provide pension after their retirement. The author claimed that it is vital for women labors in informal work situation to register to the Social Security Institution in order to gain a future with pension and other healthcare. Employment policy and employment organization are suggested to increase the bargaining power of female workers. With the increase of the export in Turkey, informal garment work continues to grow therefore labor demand tends to be strong. However trade liberalization increases the competition among different export countries such as China and Turkey [29]. As a result, low cost labors are under searching for female workers in the eastern provinces in Turkey. The author suggested that more remote regions and towns are likely to be the emphasis on social relations and network. Plans and programs aiming at support women workers should be considered to establish official policy framework. Some policies try to achieve the outcome through reducing tax burden and increasing women employment opportunity, but as it has the same nature with informal work, little job security is brought by the policy [29].

Cases of the RMG Industry in Bangladesh

Since the late 1980s, the RMG industry has become the main export industry of Bangladesh [31]. According to Ahmed [29], the export earnings were US$8 from the RMG industry in 2006, and this figure took up 75% of the whole export earnings. It is estimated that the RMG industry employed more that 1.9 million people in 2005, among whom the majority is women and from poorest households in rural areas. Ahmed [31] stated that both international driving forces and domestic drivers help Bangladesh to expand its RMG industry. Bangladesh shares nearly zero rates while exporting to US or EU and the Multi-Fiber Arrangement (MFA) provides less restriction on import quotas for Bangladesh compared with traditional exporters such as China and Hong Kong [32]. In domestic context, various liberalization policies cut the average tariff rates from 89% to 13.4% from 1992 to 2006 that encourage export-orientated investment in the RMG industry [31]. The access to tariff-free raw materials and low-wage workers stimulate the development of the RMG industry in Bangladesh. The RMG industry in Bangladesh has its competitiveness from both international trade regime and domestic policy framework to maintain the position of global apparel exporter. Although the productivity is a problem remains in the RMG industry of Bangladesh, low wages enable the industry to focus on mass production to compete with countries like China and India [2]. The authors stated that since most of the female workers in the garment industry are not unionized, therefore their wage level is depressed by employers. Besides the advantage of low labor cost, the government also supports the development of the RMG industry in Bangladesh through special policy for the industry including adopting conductive investment, encouraging foreign investment, establishing export processing zones, exempting corporate taxation on profit from export-oriented business [2].

Workers in the RMG industry in Bangladesh are known as their poor working conditions that may lead to work stress and other physical and psychological problems. An interview done by Steinisch et al. [31] showed that 60% of the 332 participants are suffered from either physical demand, time pressure or worries about making mistakes. Work-related demands, interpersonal resources and work-related values are regarded as the key components of work stress in the interview. ‘Work- related demands and interpersonal resources were found to be associated with RMG workers' health while work-related values seemed to be of less relevance in this respect’ [31]. Besides that, garment workers in Bangladesh work long hours with low wages and are under abuses.

Although the RMG industry in Bangladesh expands and becomes the biggest national export industry, workers’ rights are of concern to the world. Back to 1970s, the jute industry was the main power for the development of Bangladesh, however due to the depression on labour unions by the politics, labors were fighting against with the force and led to the decline of the industry United States Senate [32]. According to the report from United States Senate [32], although there are some small steps have be done to protect workers' rights including engaging in trade unions and to clarify the importance of unions, much effort still need to be put in to overcome the misunderstanding and mistrust upon unions. It is argued in the report that although labor laws are reformed in 2013 and address some of the concerns from ILO, it is lack of some important steps mentioned by ILO. The reform is criticized as not improving the union registration process easier and trade unions are required to be permitted by the government to affiliate with foreign groups such as international unions or financial assistant. The report states that some workers are afraid of joining in the unions as managers will make their life hard while other successful stories show that managers stopped physical punishment and provide extra benefits to the workers. Therefore Bangladesh still has a long way to go to meet the international standards in labor laws.

In addition to export-oriented companies, Belal [35] mentioned the importance of implementing social accounting standards into non-export oriented companies. However the current situation of civil society organizations in Bangladesh is still underdeveloped and the attitude of domestic management is generally passive. The hope then is relied on future internal trade unions and the redesign of corporate decision-making process [35].

Rana Plaza

On April 24th 2013, 1127 people were killed and hundreds were injured when the Rana Plaza building collapsed in Bangladesh [36]. It is the deadliest garment factory accident in history. According to Yardley [36], the reason for the collapse is the owner of the factory Sohel Rana constructed upper floor to house large power generators and thousands of workers, and regular power failures shake the vulnerable structure of when it is switched on. Sohel Rana is reported to be arrested several days after the collapse. This tragedy spurred Bangladesh government, international organizations and foreign governments into action [34]. Safety initiatives are underway to ensure that the rest of the garment factories in Bangladesh will have a safe condition. While the report conducted by United States Senate [34] showed that 60 percent of the factories in Bangladesh were vulnerable in structure.

Before and after the collapse of Rana Plaza building, actions have been taken to remediate poor working conditions. All Party Parliamentary Group (APPG) [37] stated that the brands import from Bangladesh are aware of the risk of losing reputation after the disaster. Therefore those buyers have worked on developing CSR programs through engaging in charity and managing their supply chain ethically. After the collapse, problems such as poor working conditions, labour violation, unapproved sub-contracting and the ineffectiveness of some CSR initiatives floated to the surface again. Brands issue codes of conduct that establish standards to ensure workers' safety and rights therefore complying with the law, ethical and international standards. This action is contrary to the one motived by profit that imposes pressure on working conditions and wage rates. While some big brands interviewed by APPG [37] showed that they go beyond auditing and target some root causes leading to poor working conditions through increasing skills and literacy of the workers and subsidizing training to technicians. This will further increase consumers' expectation and reduce the risk of losing reputation.

However, some NGOs argued that current CSR programs are not able to address the problems in the garment industry in Bangladesh [37]. It is claimed that those programs are voluntary based and only address visible problems. Few brands have specific processes to integrate ethical standards into staff performance indicators and targets. While most buyers claimed that they embed ethical and sustainable concept into corporate culture. What needs to be noticed is if the concern cannot be leveled down from the board, CSR will just be a window dressing [37].

Another worker safety initiatives launched after Rana Plaze is called the Alliance for Bangladesh Worker Safety [34]. While over 80 companies signed the Accord, over 20 American retailers including Wal-Mart are reluctant to join and instead formed another initiative called the Alliance. Under the Alliance, members are required to share knowledge, experience, practices and to contribute to the safety fund. 'The Initiative will see members of the 37 Alliance create uniform standards for fire and building safety that will guide baseline inspections of factories that do business with the membership' [37]. The fund will be allocated to training, worker empowerment, factory inspection and 10% of it will be used to support temporarily displaced workers.

In order to help Bangladesh with inspections to reach a better working condition, ILO along with the government of Bangladesh launched a program called 'Improving Working Conditions in the Ready-Made Garment Sector' in 2013 at a cost of $24.2 million [37]. This initiative aims at reducing the fire and safety issues of garment factories as well as ensuring workers' safety and rights covering nearly half of the garment factories in Bangladesh [34][37]. The program also provides compensation and skill training to the victims involved in the two accidents of Tazreen and Rana Plaza. It is crucial for the program to coordinate with the Accord and the Alliance to avoid duplicate effort and seek a long-term solution regarding to funding and standards [37].

DISCUSSION

Based on the cases in the previous part, it can be seen that CSR practice is still in the early stage where a number of managers and other stakeholders in the garment industry are not clear about the significance or benefits that CSR brings to a company and a society. Most of buyers in the RMG industry conduct CSR in the purpose of protecting brand name and responding to the society or the government who impose pressure regarding to workers' rights and safety or environmental issues on them. The collaboration among the buyers in the garment industry is not enough to tackle the drivers of poor working conditions, although there are some initiatives created after the tragedy happened in Bangladesh, their effectiveness in improving labour standards is still unknown. Regarding to CSR reports and codes of conduct, as these activities are voluntary, there is no formal standard on the format or content that be applied. This inconsistence reduces the accountability and reliability of the companies' announcement on their social and environmental performance. In addition, while garment buyers gaining profit through low labour costs at the price of workers poor living and working condition, most of them do not act to give back until tragedies happen. This will not only leave garment workers in a worsen condition, but also threaten their own business on the long term.

While for the government, the situation is far more complex. They are usually in a conflict situation between the pressures from NGOs who strive for better working conditions such as higher wages for garment workers and the priority to maintain the advantages of its garment industry. To different countries the condition may change vastly on the acceptance of foreign organizations' involvement, transparency and its regulations on labour rights. For example, China is somehow very sensitive to the activities of foreign NGOs regarding to cash flow, and in India bribe and fake reports are the major problems. The capacity of the government to inspect garment factories and improve poor working conditions are blamed to be insufficient from the previous cases. Due to this gap, NGOs and buyers tend to have more responsibility in ensuring better working conditions.

For suppliers themselves, as garment production is a labor-intensive industry and factories are mostly located in developing countries where living and working standards are poor, they usually prioritize production efficiency and profit over labour rights. Without inspection and auditing from external groups, hardly can workers' rights be protected. Even if auditing is conducted in those factories, their owners and management try to hide truth such as working hours, wages, use of child labour and abuse. The success of garment manufacturers in exploiting labour lies in the poor connection between inside workers and outside stakeholders, as well as workers' willing to stay in the factories from where they can feed their families through working long hours with low wages under hazardous working environment. Auditing process is usually conducted by the supplier through private auditing firms, however the accountability and transparency remain a problem because of the relationship of pay and work. The government especially in country such as Bangladesh protects the benefit of garment factories, as they provide the majority of the employment and are the main source for the development of the nation. Therefore garment suppliers are under an umbrella where labour rights can be hidden in order to maintain the advantages.

Trade union is a group standing for the rights of workers and against the exploit from factories. In some factories, chairman or main positions in the union are taken by the management of the factory. This structure is very likely to undermine the impact of trade unions on safeguarding workers rights. In other cases, workers are prohibited or afraid of joining a trade union, as it violates the interest of the factory especially in the areas where labour laws are not applied. Referring to foreign workers in Malaysia, they do not have the rights to join union activities therefore being a vulnerable group. As can be seen, traditional trade unions activism is likely to lose power, and this is due to the lack of connection between international NGOs and trade unions. However external posed trade unions under NGOs solve this problem through involving workers in the activity and conveying basic labour rights knowledge to those workers. However, the case in India shows that some young labors feel of not having enough time to join trade unions and some of them are even required to pay for the union fee, this increases the pressure on workers who are already in a poor condition.

None-government organizations collaborate with the government and trade unions to support higher worker standards in the RMG industry in developing countries. They somehow compensate the capacity that the government cannot provide. However in China the power of international NGOs is reduced due to the national context. So for NGOs it is vital that they are empowered by the government in conducting CSR practices. It has been argued that NGOs has limited influence on the decision making of the government though they have tried hard for the change. Without government permission, hardly can NGOs conduct CSR practices in the nation.

Garment workers are the group of people that live in poor condition with low income and high risk of being injured. With the development of the garment industry in their country, numerous employments are provided especially for women. They treat their jobs as an opportunity therefore endure poor working conditions and are unwilling to fight against the violation. Long working hours is common among garment workers in order to sustain their family. The lack of labour rights knowledge makes them more vulnerable facing factories owners and managers.

According to different cases in several developing countries, a framework is established for stakeholders in the garment industry as a guideline to implement CSR practices in order to make the company sustainable as well as bring benefits back to the society they rely on. This framework includes main stakeholders involved in the garment supply chain: the local government, none-government organization, garment buyers, suppliers, consumers and trade unions. The relationship and communication among these stakeholders play an important role in improving a better working condition for garment workers (Figure 1).

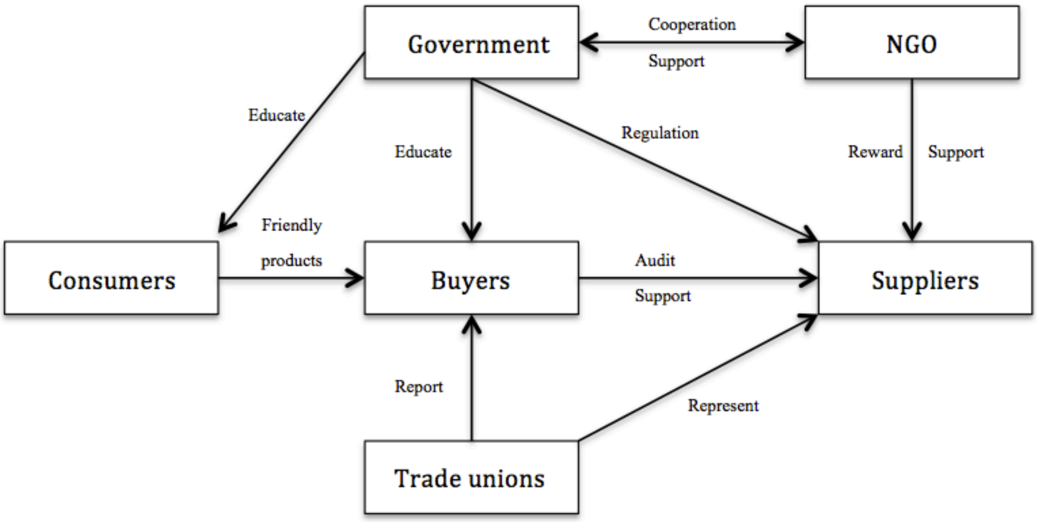

Figure. 1 Framework for Implementing CSR

Buyers are the most powerful stakeholders in the whole supply chain to force garment suppliers to stick to worker standards as they place the order that maintains the business of those garment factories. Once they terminate the relationship with the suppliers, the owners will have to shut their factories down. As can been seen buyers have a leading role in the whole supply chain. Auditing process as discussed in this study is conducted by manufacturers, however in order to increase the accountability and transparency, buyers are better to decide on their own auditing group who can be external private auditing firms. The most important part is buyers paying for the auditing that does not inform suppliers in advance. Through this process, bribe and employee and employer relationship between factories and auditing firms can be eliminated. At this point, auditors or auditing firms should be credited by the government or NGOs as of integrity. As a result, real problems can be discovered while they were hidden before.

Garment buyers have stronger power in promoting trade unions and increasing workers' bargaining power only when they are jointed. A single company does not have enough strength to change the behavior of its suppliers as they have other contractors. Based on worker safety and rights initiatives, companies that signs in workers' condition-improving program can work together with ILO to pressure garment suppliers to compliance with labour standards. A platform at where initiative members can share information about CSR and suppliers' behavior is helpful in the long-term benefits of both buyers and workers. In addition, buyers have the responsibility to keep the rhythm of orders as a sudden change in order amount lead to workers' long working hours in a certain period. Therefore the communication between buyers and suppliers is crucial to ensure moderate working pressure.

In order to be a socially responsible company, CSR practices should be embedded into its everyday activities. This action cannot leave without a manager with strong CSR sense in mind. As it is proved that managers concern about CSR issues are more likely to act socially responsible. Therefore educating decision makers of a company with the significance and benefits of CSR is of importance.

The local government of the RMG industry is another powerful player in the whole supply chain as they hold the right to release regulations and laws relating to labor rights. The government though sometimes is in a conflict of industry development and workers' low standards. However it is a long-term strategy for the government to set up a regulation upon garment industry in workers' safety and healthy issues as well as basic rights. The reason is if the garment industry suffered bad reputation on human rights, less orders will be released to it and thereby the industry of that nation will suffer. Minimum wage is not established in countries such as Bangladesh as to maintain the low labor cost which is the main competitiveness of the industry. However it undermines the basic rights of garment workers who have to work long hours to sustain their family. With the help of international NGOs such as ILO, the government will have fewer burdens on allocating resources into garment section. Appropriate regulations and labour laws are therefore necessary to be established to collaborate with NGOs' effort on pursuing higher labor standards.

The capacity of the local government to regulate their garment industry maybe limited, the government of the foreign buyers' has the responsible to educate those buyers to behave in a socially responsible manner. This can be seen as a giving back to the nations providing low labour cost. Through conveying CSR practices to the decision makers of a company, following actions are likely taken by those companies to highlight CSR during its everyday practice. As a result, the suppliers of them will operate under the concept of better working conditions. It is equally important to educate manufacturers to conduct CSR practices rather than simple command. With emotional communication and guide instead of force, garment suppliers are more likely to apply CSR concept in the long term rather than find another way round to hide its problems relating to abusing workers.

Trade unions can be seen as the connection between factories and NGOs or buyers directly. In some countries trade unions are weakened under the pressure of national policies or factory regulations. They are still the important component in implementing CSR practices because workers are the people who know about the real case in the factory. Representatives of workers should be encouraged to contact with buyers and NGOs to report latest condition in factories. Although auditing is conducted, the frequency is usually every few months or even longer than a year. This creates the chance for manufacturers to return to what they prefer to be. Working conditions are only improved when auditing applies and drop down continuously until the next auditing is conducted. Through trade unions, buyers and NGOs are able to know the real time information in their suppliers.

NGOs though have no legal constrain on garment manufacturers, their role in supporting the government and guiding manufacturers towards a more socially responsible behavior cannot be underestimated. In order to elevate the capacity of garment suppliers, NGOs and buyers could provide training programs to the engineers and professionals of suppliers. For example, introducing Just-In-Time, 5S and lean manufacturing to garment factories can increase the efficiency of the production and therefore alleviating workers' burden from long working hours and poor working environment. In addition, NGOs may establish a reward system to encourage those factories who are compliance with labour laws and standards. Prize of the reward can be public announcement that can increase the reputation of the factory.

In addition to the stakeholders above, consumers also have bargaining power in pursuing products that are produced under socially responsible process. Public education on using socially friendly products can lead consumers to choose the right products therefore changing corporation strategy towards cooperating with suppliers that are compliance with labour standards.

CONCLUSION

In conclusion, the RMG industry in developing countries is generally at fairly early stage of implementing CSR practices. Working conditions draw close attention from over the world due to low wages, long working hours, safety and health issues. In order to overcome this situation, not only the local government and garment suppliers have the responsibility to ensure workers' rights, but also brands, retailers, NGOs, and consumers shoulder the duty of better working conditions for garment workers. Garment buyers have a strong power in guiding their suppliers towards a more socially responsible behavior through auditing and financial support to increase the effectiveness and produce ethical process. While the government should educate both apparel buyers and consumers on choosing the right suppliers and products in collaboration with international NGOs and trade unions.

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SOCIETY FOR SCIENCE AND EDUCATION

Household Inward Remittances And Banking Sector Development: The Nigerian Experience (1977 – 2014)

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ABSTRACT

There has been a massive inflow of diaspora remittances into the Nigerian economy in recent times. However, there are concerns over whether or not inward remittances have any significant effect on the banking sector development in Nigeria. This study sought to: (i) examine the trend of household inward remittances and banking sector development in Nigeria; (ii) analyse the effect of inward remittances on banking sector development in Nigeria. Annual time series data were sourced from World Development Indicators (WDI) (2015) edition of the world bank for the period 1977 – 2014. We employed both descriptive statistics in the form of graph and Generalised Method Moment instrumental variables (GMM-IV) estimator to examine the inward remittances - banking sector development nexus Nigeria. Results show that inward remittances have positive but statistically insignificant effect on banking sector development in Nigeria (β =0.0727; t =0.5165). It is therefore recommended amongst others , that Nigerian banks develop remittance-linked financial products for Nigerians in Diaspora and remittance recipient households instead of treating remittance as a one-off transaction without value addition.

Keywords: inward remittances, banking sector development, value addition, GMM

INTRODUCTION

Household inward remittances as private monetary transfers by migrants to their home countries have increased substantially since 2005. Inward remittances to developing countries reached $430bn in 2011 from $333bn in 2010(World Bank 2012). World Bank(2013) forecasts that it would increase to about $500bn by 2015. Remittance inflow into Nigeria has surpassed other foreign exchange flows like Foreign Direct Investment (FDI) and Official Development Assistance (ODA) both in absolute terms and as percentage of GDP (World Bank, 2012).

Remittances have been receiving research attention from both people in academics and policy makers. This increased research attention could be attributed to empirical evidences suggesting that inward remittances remain an important source of investment finance for individuals and families to cope with poverty and economic crisis.

Abdih, Chami, Dagher, and Montiel (2012), observed that inward remittances help improve household welfare by lifting families out of poverty and insuring them against income shocks. Adams and Page (2005); Chami, Barajas, Cosimo, Fullenkamp, Gapen, and Montiel (2008);), Catteneo (2008) posit that households that receive remittances spend less on consumption and more on investment, while Kalim and Shahbaz (2009) see remittances as useful means for poverty reduction.

Although, microeconomic evidence proves remittance to be a resilient source of investment finance, its macroeconomic impact especially on output growth is still inconclusive. There are several studies from developed countries that document the impact of remittance on economic growth, but how and through which channel(s) remittances affect growth is still an open question among financial economists. In search of the channel(s) through which remittances affect growth Aggarwal Asli, and Mari (2006); Giuliano and Ruiz-Arranz (2009); and Gupta, Pattillo, and Wagh (2009), examined the relationship amongst remittances, financial development and economic growth, and produced mixed results. There are three schools of thought on the macroeconomic impact of remittance; the pessimistic school, optimistic school and, recently, middle of the road approach. While the optimistic school sees remittance as growth enhancing, the pessimistic school sees it as growth retarding, thereby leaving the academia in a quandary.

It has since been discovered that financial development promotes economic growth (McKinnon 1973; King & Levine, 1993). According to Giuliano and Ruiz-Arranz, (2009), the relationship among remittances, financial development and economic growth is ''a priori'' ambiguous. On the one hand, remittance could complement a country's financial system by channeling remittance inflow to projects that yield high returns and thereby enhance economic growth. On the other hand, remittance can substitute for a shallow financial system by providing finance to young entrepreneurs to start productive investments.

Access to credit is among the biggest problems confronting entrepreneurs in developing economies (Paulson & Towsend 2000). Besides, several empirical studies suggest that credit constraint occasioned by inefficient financial market is a major hindrance to economic growth especially economies that are characterized by high level of income inequality (Galor & Zeira, 1993; Banerjee & Newman, 1993; Aghion & Bolton, 1997).

In a shallow financial market, entrepreneurs that do not possess enough funds forego potentially profitable investment opportunities. The role of investment in the remittance-economic growth nexus is still being debated in the academia. Prior studies by Guliano and Ruiz-Arranz, (2005) suggest three possibilities.

First, remittances could help alleviate credit constraints on the poor, substituting for lack of financial development, thereby improving the allocation of capital and consequently accelerating economic growth. This implies that the role of banking system cannot be underestimated in the remittance-growth nexus. Second, that remittances have the tendency of discouraging labour supply in more financially developed economies because in a developed capital market, remittances are not essential to finance investment, since the needs for credit and insurance can easily be met by a well functioning banking system.

Third, there are documented evidences that inward remittances tend to be more pro cyclical where the financial system is less developed. This implies that pro cyclical remittances are more likely to be motivated by investment opportunities rather than by altruistic reasons. In analyzing the impact of remittances on economic growth, Guliano and Ruiz-Arranz, (2009) focused on the importance of investment and emphasized the contributory effect of the banking system.

The conventional wisdom has always been that since some countries' financial systems are more developed than others, inward remittances will have differential effect across countries. The investment channel which is based on New Economics of Labour Migration approach confirmed the above reasoning and maintained that some economies rely on inward remittances than others for investment purposes. As such, policy that encourages larger inflow of remittances that could be channeled towards investment should be formulated. In this dimension, remittances will have a greater impact on economies that have a well developed banking system. The economic impact of inward remittances, according to Mundaca, (2005) implies that in an economy where the financial system is characterized by small banks and less healthy banks, the banking system is likely to experience little or no impact of remittances when compared to countries with big healthy and well developed banking systems.

With regards to the Nigerian economy, available data from CBN (2014) shows that inward remittances averaged $20bn per annum from 2005 to 2013, yet the banking system is still characterized by many small and uncompetitive banks as indicated by low ratio of credit to private sector to GDP at 36.89%, money supply to GDP averaging 38.7% in the corresponding period. Besides, the gross domestic product growth rate has been hovering between 6-7%. These statistics are still the same when compared to the period before the upsurge of remittance inflow.

In an attempt to direct these huge resource inflows into productive use, the Nigerian monetary authorities have embarked on several banking reforms to deepen the banking system. Such measures include, providing saving instruments for remittance recipient households to save out of the remittance receipts, reducing transaction cost on remittance, strengthening the financial system by building confidence in the payment system, fostering enhanced competition in the financial sector and providing a strong regulatory environment framework.

Despite these reform efforts, available information suggests that the bulk of remittances inflow are spent on consumption, debt repayment, housing and consumer durables with little or nothing being invested (World Bank 2013).

The main thrust of this study, therefore, is to empirically assess whether inward remittances impact on banking sector development in Nigeria

OBJECTIVES

i. Examine the trend of inward remittances and banking sector development in Nigeria
ii. Establish the inward remittances – banking sector development nexus in Nigeria..

HYPOTHESIS

Ho: There is no significant relationship between inward remittances and banking sector development in Nigeria.

THEORETICAL FRAMEWORK

New Economics of Labour Migration (NELM)

NELM approach as pioneered by Stark and Bloom (1985) and Stark (1991) modelled migration as risk-sharing behaviour of households. Decision to emigrate is anchored on the need to overcome economically difficult situations arising from financial market failures. It is acknowledged in extant literature that credits are grossly unavailable and where available, are very expensive. Therefore in the absence of efficient and accessible insurance and credit system arising from financial market failures, households emigrate in order to diversify household income shocks.

For NELM the uncertainty of household income is the main reason for migration.

In order to diversify the risk of insufficient household income, households send their members abroad in search of "greener pastures" who in turn send remittances to their relatives left behind. The theory of NELM states that remittances produce positive effect on macroeconomic development of labour sending countries.

Taylor (1999) observed that there is no consensus yet on the developmental perspective of inward remittances. He stated that if there is labour outflow and remittance inflow volatility, then the labour sending country would also experience output growth volatility and Dutch disease syndrome. In their review, Adelman and Taylor (1990) made some critical observations that:

i. For every dollar remittance inflow to Mexico by migrants, GNP increase by $2.6 and $3.17.
ii. Remittance produce robust GNP(growth) effect when channelled into rural households, whose consumption and expenditure patterns favour tradable goods, but when migrant remittances flow to urban households, larger proportion of the fund leaks out of the recipient country in the form of import demand.
iii. Many of the benefits of remittances inflow impact on recipient and non remittance recipient households.

The New Economics of Labour Migration Theory was built in line with certain historical context of Mexican migration in the United States, and this is precisely the basis for which it was criticized.

EMPIRICAL LITERATURE REVIEW

There have been debate and controversies on the relationship that exists between international migrant remittances and banking sector development on one hand, and economic growth on the other in both developed and developing countries. Jongqanich (2007); Guliano and Ruiz-Arranz (2008); Bettin and Zazzaro (2008); Cooray (2010) amongst others studied the impact of remittances and financial development on economic growth in developed countries. Studies that were focused on Africa, Sub-Saharan Africa and recently on Nigerian includes; Oke *et al.*, (2011)); Deodat (2011); Nyamongo *et al.*, (2012); and Kanu and Ozurumba (2013); Akinpelu *et al.,* (2013). Overall, the empirical evidence is inconclusive, mixed and controversial. This has been attributed to the ambiguous nature of the effects of remittances on financial development (through the conflicting interaction as to whether remittances play substitution or complementary role in banking sector development.

Guiliano and Ruiz-Arranz (2005) made an attempt to empirically explore the dynamic relationship among inward remittances, financial development and economic growth for seventy three developing countries using panel regression analysis. The authors split the sample period covering 1975 to 2002 into six non-overlapping five year periods. The authors posited that a negative sign of the interacted variable would imply remittances are more efficient in an economy with shallow financial system, indicating a substitutability effect, on the contrary, a positive sign implies a complementary effect, suggesting remittance inflow promote economic growth more in an economy with developed financial system. The authors adopted System Generalized Method of Moment (SGMM) estimate to control for possible endogeneity among the regressor variables. The study found that remittance stimulate output growth in less financially developed economies. However, the authors did not consider countries specific characteristics that could influence the outcome of their findings.

Aggarwal, *et al.,* (2006) used Balance of Payment(BOP) data on remittance flows received by 109 countries over the period 1975-2007 to study the linkage between workers' remittances and financial sector development. The authors specifically examined whether remittances contribute to the development of the financial sector by increasing the aggregate level of deposits and or the amount of credit extended to private sector by domestic banks. According to the authors, the choice of the two measures of financial development is anchored on the premise that banks play a prominent role in the external finance supply chain and since remittances are perceived as small flows to poor households, it is very unlikely that it could be channeled into the capital market. However, the authors raised the issue of potential endogeneity as a result of data measurement error, reverse causation, and omitted variables bias. In order to address these concerns raised above, the authors used different empirical approaches to examine the relationship between remittance inflows and financial development.

Empirical evidence from this study indicate a positive and significant relationship between remittance and bank deposits and credit to private sector. The authors emphasized that the result of this study is robust to using different estimation techniques and accounting for endogeneity biases arising from omitted factors, reverse causation, and measurement error.

Akkoyulu (2013) investigates whether direct link exist between remittances and financial development in Turkey. According to the author, this present study departs from previous studies that examined the linkage between remittance and financial development that are cross country study that is always with data measurement problems. In an attempt to obtain a clearer picture of the linkage between remittance and financial development in Turkish economy, the author performed a Granger Causality test using Toda and Yamamoto (1995) (T-Y) procedure. Empirical result shows that the null hypothesis that bank deposits do not granger cause remittances is not rejected, indicating absence of direct link between remittances and financial development of Turkey.

Mahedi (2014) noted that despite the huge inflow of remittance into Bangladesh economy, its impact on economic growth and financial development remained inconclusive. In an attempt to resolve the debate, he conducted a twofold analysis; one to analyze the impact of remittance on economic growth, two, to investigate the interaction of inward remittances with the financial development of Bangladesh in a liberalized regime spanning form 1981 to 2013. In line with the two objectives, the author specified two baseline models as follows:

$$GDPPC_t = \acute{\alpha} + \beta_1 Remit_t + \beta_2 X_t + et \text{ ………………………………………….}(1)$$

Where, t is the time period from 1981 to 2013. Remit refers to the ratio of remittance to GDP. X is a vector of control variables that includes inflation, openness, population growth.

To explore the relationship between remittance and financial development, the author adopted Aggarwal *et al;* (2011) as

$$FD = \acute{\alpha} + \beta Remit_t + \beta_2 X_t + et \text{ ………………………………………………..}(2)$$

Where, t refers to the time period from 1981 to 2013 Remit refers to the ratio of remittance to GDP. X is a Vector of control variables.

Empirical evidence form this study based on Vector Error Correction Model (VECM) and Granger Causality test reveal the following:

i. A long run positive relationship was found between remittance and gross domestic product
ii. Remittance have a significant positive effect on financial development
iii. Economic growth granger causes remittances
iv. Bidirectional relationship was found between remittance and bank deposit and remittance – money supply running form remittance to bank deposit and money supply

Adenutsi (2011) pointed out that a well-functioning financial sector is expected to attract idle funds for financing economic growth and developmental projects in remittance recipient economies. This notwithstanding, a seemingly general consensus among developmental economists exist that the development of the financial sector is a necessary condition for attracting increased external private capital of all sorts. He further noted that inward remittances are an important component of capital flows like export earnings and are therefore a positive determinant of economic growth to the recipient economy. In an attempt to provide further insight into the finance-growth nexus, he verified the age long hypothesis that financial development promotes economic growth through its capacity to attract increased inward remittances to Ghana. The author estimated a dynamic equilibrium correction mechanism model for the period 1987(3)-2007(4) following the Johansen cointegration procedure. This approach produced maximum likelihood estimators of the cointegrating vector. Realizing that all the series were stationary at level and cointegrated, an equilibrium error mechanism and granger causality were estimated. The result obtained from the ECM suggest that even though financial development was found to be detrimental to endogenous growth, it is crucial for mobilizing remittances from International migrants. The granger causality test also revealed a bi-directional causality between financial deepening and migrant remittances inflows, unidirectional causality between remittances and economic growth running from remittances to economic growth was also observed.

Gazar and Kratou (2012) extended previous evidence by investigating the conditional remittances growth relationship in African countries looking specifically as to whether finance-growth nexus is affected by financial development and institutional quality in African countries. Using a sample of 24 African countries over the 1988 to 2011 periods, the authors initially estimated a benchmark model to examine the impact of remittances on economic growth thus

$$GROWTH_{it} = \acute{\alpha}_i + \beta_o REM_{it} + \psi Z_{it} + \varepsilon_{it} \text{-----------------------}(3)$$

In addition to the above equation, the authors specified the second model that incorporates financial development indicator as:

$$GROWTH = \acute{\alpha}_i + \beta_o REM_{it} + \beta_1 FD + \beta_2 (REM_{it} * FD_{it}) + \psi Z_{it} + \varepsilon_{it} \text{-----------------------}(4)$$

Empirical result of GMM system estimation technique showed that; (i) remittances have a negative effect on economic growth, (ii) financial development and remittances complement to economic growth; (iii) remittances only promote economic growth in countries with robust financial system.

Ajilore and Ikhide (2012) investigated the short-run and long-run impact of remittances on financial development, using country level data on five selected Sub-Saharan African countries. The authors adopted the Autoregressive Distributed Lag (ARDL) framework espoused in

Pesaran and Shin (1995, 1999). The findings of the study revealed the existence of long -run level relationships between remittances and financial development, and evidences in favour of the financial development promoting the developmental role of remittances manifest for Cape Verde, Lesotho, Senegal and Togo, but not for Nigeria.

Ezeoha (2013) examined the interactive impact of financial development on remittances to SSA, Using panel data covering 32 countries from 1995 to 2009. The author formulated a baseline equation as follows:

$$\text{Log Rem/GDPit} = \acute{\alpha}_1 + \beta FD_{it} + \psi X_{it} + n_i + \lambda_t + \varepsilon_{it} \text{ ---}(5)$$

Where Log REM/GDP is defined as the natural logarithm of the ratio of remittances to gross domestic product; FD_{it} represents each of the alternative proxies of financial development, X_{it} is a vector of the financial and institutional variables. n_i is the country specific effects; λt is the time specific effects, and εit is the disturbance term that captures the effects of the omitted variables such as transaction cost, migration micro economic factors and the macro economic conditions in the host country of the migrants. With the application of the baseline model, the author compared estimates from Fixed Effects (FE) and Random Effects (RE) models. Empirical results of the study suggest the existence of a positive relationship between the level of financial development and inward remittances, which the author interpreted to mean that weaknesses in the formal financial infrastructure constrain the flow of remittances. Further evidence from OLS and GMM-IV estimate revealed that migrants remit more during economic adversity of their home country. In addition to the above, the study also revealed that the impact of the size of a country's monetary system on remittances is directly and indirectly linked to the level of macroeconomic stability in the country.

Adenutsi (2014) analyzed the implications of financial liberalization programme for international inflows with regard to the macroeconomic determinants and also the implications of remittances for economic growth and development in Sub-Saharan Africa (SSA) between 1980 and 2009. In that study the author initially addressed definitional and measurement issues relating to international remittances and financial liberalization, and thereafter provided an overview of the macroeconomic policy environment in post-independent SSA. The hypothesis, which the study sought to test is whether financial liberalization causes higher inflows of international migrant remittances through official channels to augment the scarce domestic financial resources, and to stimulate economic growth for sustainable development in capital starved SSA economies. To achieve this objective, System General Method of Moment, and Granger non-causality estimation procedures were undertaken. Empirical evidence from the study revealed the following: (i) that the macroeconomic factors that influence remittance inflows in SSA have varying characteristics rather than static impact in response to changing macroeconomic policy environment; (ii) macro economic factors have different influences on attracting remittances from abroad in relation to migrant duration status; (iii) international migrant remittances spur higher economic growth in SSA, with greater impact on SSA countries with relatively higher growth rates ;(vi) migrant remittances exert significant positive developmental impact without evidence of moral hazard effects; (v) inward remittances contributed to reducing poverty and unemployment; and (vi) higher remittances inflows promote human welfare.

Mbutor (2010) introduced monetary policy dimension to remittances-economic growth nexus in Africa with special focus on Nigeria. The author noted that remittance inflows are linked to monetary policy through interest rate structure, exchange rate management, financial stability, efficiency of payment system, general economic stability as measured by inflation. He further argued that remittances inflow could rise when recipient economy grows faster than the host country under stable exchange rates. On the other hand, domestic currency depreciation will attract greater inflow of remittances for investment in real assets. In order to effectively capture the complex inter linkages amongst remittance and monetary policy variables, Vector Autoregressive (VAR) method was employed since it is dynamic and also allows simultaneity of activities among variables. In view of the complex interactions among the variables the authors adopted two stages. First stage isolates the strength of the channels of transmission of monetary actions due to the intervening variables; second stage traces the effects of policy actions through each of the intervening variables to flow of remittances.

Results from the net calculated effects indicate that if monetary policy action appreciates the naira by 1.4%, remittances to Nigeria will increase by 0.03% in the year following the period. In the third period when monetary policy induce a depreciation of 5.9%, the flow of remittances will contract by 0.09%.

Oke, *et al.,* (2011) examined the nexus between remittances and financial development in Nigeria from 1977 to 2009. The authors employed both OLS and GMM estimation techniques. Empirical evidence from the study suggested that remittances positively and significantly influence financial development in Nigeria, except credit to private sector that produced insignificant effect in the GMM estimation.

Olubiyi (2013) argued that while Nigeria has been experiencing continuous inflows of workers' remittances over time, the level of investment is still low. The evidence showed that there is a direct and positive relationship between financial development and investment on the one hand and governance institution and investment on the other hand. He further stated that all things being equal, sound and functioning financial institution should reduce credit constraints and provide access to credit for the existing and potential investors, thereby raising investment level of the country. On the contrary, in a country where financial development is shallow, access to credit will be difficult and such credit constraints could hamper investment.

In an attempt to obtain a clearer picture of the importance of remittance on investment climate in Nigeria, Olubiyi (2000) specified an investment function thus:

$$INV_t = (rem_t, inst_t, mp_t, rem_t{*}inst_t, X) \qquad (6)$$

Where, INV is private investment, rem represents workers remittances, inst is a measure of institutional quality, mp is monetary policy instrument and x represents other control variables that could affect investment.

Upon the estimation of the investment model using GMM-IV estimator it was found that remittances will only affect investment positively if governance institutions are right.

ANALYTICAL FRAMEWORK

The Generalized Method of Moment (GMM) proposed by Hansen (1982) is adopted for this study. The GMM estimator is more robust and dynamic, as it allows the regressor variables to depend on its past values. The attractiveness of GMM over other estimators like Ordinary Least Squares (OLS) and two stage Least Squares (2TSLS) is the possibility of obtaining consistent point estimates in the presence of heteroscedasticity, serial correlation and non linearity (White, 1984; Newey & West, 1987). The 2TSLS uses a weighting matrix constructed under homoscedasticity while GMM estimator allows for the parameters to be over- identified (Craig, 1983).

Following this a general linear regression model is specified as:

$$Yi = X^1{}_t\beta + \mu t \text{………………………………………………….}(7)$$

The OLS estimator $\beta = \sum X^2{}_t$ is consistent
For β given $E(ut/x) = 0$

A regression model with the first lagged dependent variable as a regressor can be specified from equation (7) as:

$$Yi = y^1{}_{t-1}\,\beta_1 + X^1{}_t\,\beta_2 + \mu t \text{…………………………………………….}(8)$$

The model in equation (8) is a dynamic model chosen for parsimony and one lagged value of y_{t-1} provides the current information about y_t. The regression errors μi though uncorrelated with xt are correlated with y_{t-1}, the past value of y_t. The correlation leads to OLS estimator being inconsistent for β. The GMM estimator as proposed by (Hansen, 1982) therefore becomes consistent for β.

An instrument variable Z that is correlated with y_{t-1} and uncorrelated with yt gives consistent estimation. This implies that $E(ut/Z) = 0$, which gives the moment condition or population zero – correlation is expressed as:

$$E[Z^1{}_i\,(yi - xi\,\beta] = 0 \text{ …………………………………………………….}(\ 9\ )$$

Given equation (9) the models used for this study are specified as:

$$DP_t = \alpha + \beta 1DP_{t-1} + \beta 2ID_t + \beta 3Z_t + \mu t \text{………………………………..}(10)$$

Where DP is the dependent variable at time t, α is the constant term , DP_{t-1} one past value of the dependent variable, ID is independent variable, Z is the vector of control variables, β are parameters to be estimated and μ is the error term. The inclusion of the lagged dependent variable renders the OLS estimator biased and inconsistent as earlier mentioned which necessitates the use of GMM. Anderson and Hsiao (1981) in the context of GMM, proposed a strategy for handling this problem. They suggested taking the first difference (FD) transformation which eliminates the correlation between the lagged dependent variable and the error term. In difference notation the models become:

$$\Delta DP_t = \alpha + \beta 1\Delta\, DP_{t-1} + \beta 2\Delta Z_t + \Delta\mu_t \text{…………………………………………………………………}(11)$$

By first differencing the model, $\Delta\mu_t$ becomes uncorrelated with ΔDP_{t-k} for $k \geq 2$ (Anderson & Hsiao,1982) . Where, k is the number of lags.

MODEL SPECIFICATION

Impact of household inward remittances on banking Sector development in Nigeria

This model is formulated to examine whether household inward remittances contribute to the development of the financial sector by increasing the aggregate amount of credit extended by the local banking sector to the private sector.

$$LOGCPS_t = Ø_0 + Ø_1\, LOGCPS_{t-1} + Ø_2\, LOGREM_t + Ø_3\, LOGM2_t + Ø_4\, LOGOPEN_t + Ø_5 LOGLENDRt + Ø_7 INF_t + \mu t \text{ ……………………………………………………………. } (12)$$

Where

- LOGCPS is the natural logarithm of credit to private sector; $LOGCPS_{t-1}$ is one period lagged value of credit to private sector INF is inflation rate; LOGREM is the natural logarithm of household inward remittances; LOGPEN is the natural logarithm of trade openness; LOGM2 is natural logarithm of money supply and LOGLENDR is natural logarithm of lending rate $Ø_0$ is the intercept; $Ø_1$ ……. $Ø_7$ are parameters to be estimated μt_1 is the error term

a priori expectation

$Ø_1 > 0$, $Ø_2 > 0$, $Ø_3 > 0$, $Ø_4 > 0$, $Ø_5 <> 0$, $Ø_6 > 0$

Trend of Remittance Inflows and Banking Sector Development in Nigeria

There has been massive inflow of inward remittances over the years into the Nigerian economy through the formal financial system and there are reports that much more may have been remitted through informal financial system due probably to high transaction cost charged by banks.

In order to direct inward remittances to productive investment, the Central Bank of Nigeria has carried out several reforms aimed at deepening the Nigerian banking system.

Thirty seven years (1977- 2014) of Nigerian banking industry can be divided into five phases, namely: Indigenization Period (1977 — 1985); Market Deregulation Period (1986 — 1993); Guided Deregulation Period (1994 — 1998); Universal Banking Period (1999 —2003); Consolidation Period (2004 — 2008); Restructuring Period (2009 – 2014)

Indigenization Period (1977-1985)

During indigenization period, inward remittances was not prominent in the Nigerian economy and this is understandable because of oil boom. Nigerians were not migrating because of relative strength of the Naira vis-à-vis other major currencies of the world.

Available data from the World Bank and Central Bank of Nigeria (CBN) showed that inward remittances as a share of GDP averaged $0.32bn, while broad money supply and credit to private sector as a share of GDP was $28.13bn and $17.07 respectively during the period. Despite these GDP declined by -0.96, Figure 1 below displays the trend of remittance inflows and banking sector development during the period 1977 to 1985 (World Bank, 2015).

Market Deregulation Period (1986 – 1993)

Between 1986and 1993, inward remittances increased marginally by 1.13% up from the average of $0.32bn recorded in the indigenization era to $0.68bn recorded in the market regulation era. (CBN 2013) However, the reverse was the case in the banking sector development in which both broad money supply (M2) and credit to private sector declined sharply. The broad money supply declined by 27.25% down from $28.13bn recorded in the indigenization era to 24.71 in the market regulation era. Similarly, credit to private sector contracted by 26.59% from $17.07bn recorded in the indigenization period to $12.5bn in the market regulation era (World Bank, 2015).

Guided Deregulation Period (1994-1998)

Similar to the market regulation era, this period also witnessed mixed performance with an impressive growth of inward remittances and GDP but with further decline in the banking sector development. For example, inward remittance made an impressive growth of 450% from the average $0.69bn received in the market regulation era to $3.74bn in the guided deregulation era. This is superlative growth in remittance inflows was driven by an increase in demand for Nigerian workers in the European region which accompanied the increase in oil prices. The increase in remittance flows, was followed by GDP growth by 2.2%.However, the story is not the same with banking sector development. Broad money supply declined further by 26.54% from $24.75bn recorded in the proceeding era to $18.15bn in the guided deregulation era. Credit to private sector also recorded downward movement by 7.9% from $12.53bn in the market regulation era to $11.54bn in the guided deregulation era (World Bank, 2015).

Universal Banking Period (1999-2003)

In 1999, remittance inflows reached over $13bn and amounted to 3.62% of Nigerian GDP, Universal Banking era also produced mixed performance with GDP, broad money supply and credit to private sector moving upward, but inward remittance headed downward. Available data showed that inward remittance declined by 31.2% down from $3.74b recorded in Guided deregulation to $2.57bn in the Universal Banking era. However, GDP grew by 4.88%, despite decline in inward remittance. Broad money improved by 23.14% up from $18.15bn recorded in the guided deregulation era to $22.3bn in the Universal Banking era similarly, credit to private grew by 20.10% up from $11.54 recorded in the proceeding era to $13.86bn (World Bank, 2015).

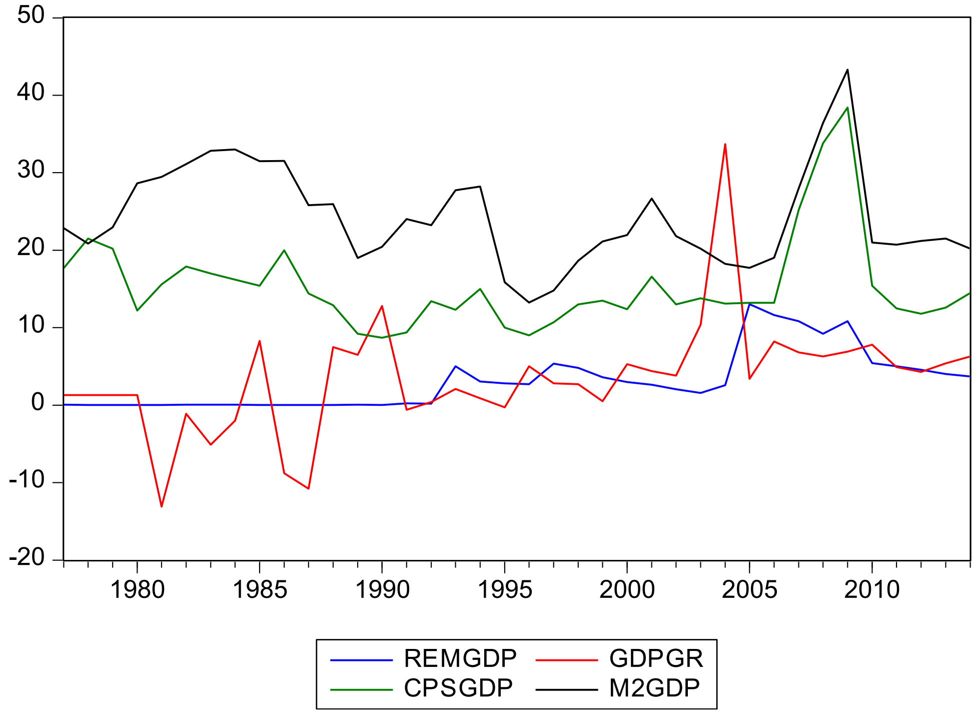
Consolidation Period (2004-2008)

This is the period where all indicators, such as inward remittance as a share of GDP, broad money supply as a share of GDP, credit to private sector as a share of GDP and GDP growth all moved in the upward direction specifically, inward remittance increased substantially to 268% up from $2.57bn recorded in the Universal Banking era to all time high and peaked at $9.46bn. Broad money supply also moved in similar direction at a percentage growth rate of 6.84% from $22.35bn in the Universal Banking era to $23.88bn in the consolidation era. In a similar vein credit to private sector reached on all time high at 42% from $13.86bn recorded in the proceeding period to $19.7b recorded in the consolidation era (World Bank, 2015).

Restructuring Period (2009 – 2014)

Unlike the consolidation era that produced all-round improvement in all indicators. This period produced mixed result with a downward movement recorded in remittance inflows, credit to private sector and GDP declined with the exception of broad money supply that showed a marginal improvement. In specified terms remittance declined by 40.9% down from $9.46bn recorded in the consolidation era to $5.59bn in the restructuring era. In a similar vein, credit to private sector declined to all time low at 11% from $19.7bn recorded in the previous era to $17.53bn in the present era (World Bank, 2015).

TREND OF INWARD REMITTANCES AND BANKING SECTOR DEVELOPMENT



TIME SERIES PROPERTIES OF THE DATA

Table 2: Unit Root Test

Variable	ADF(ILAG)		PP*(3Lags)		
	With constant (No trend)	With constant & Trend	With constant (No trend)	With constant & trend	d*
LREM ΔLREM	-1.2978'- 9.8686	-1.4751 -9.7885	-1.9022 -9.8686	-2.7758 -9.7985	1(1)
LCPS ΔLCPS	-3.7677 -	-3.7557 -	-3.6187 -	-3.5387 -	1(0)
INF ΔINF	-6.0100	-5.9546	-10.7271	-11.1529	1(0)
LLENDR ΔLLENDR	-2.3381 -7.3933	-2.1887 -6.4429	-2.2319 -7.5709	-2/0617 -7.8481	1(1)
LOPEN ΔLOPEN	-2.1373 -5.5033	-2.1967 -5.4594	-2.2125 -5.4975	-2.3263 -5.4864	1(1)
LM2 ΔLM2	-3.4192 -6.5138	-3.5392 -6.4107	-2.4413 -12.4377	-3.4475 -11.7065	1(1)
MCKINNON CRITICAL VALUES: LEVEL					
1%	-3.5253 -2.9029	-4.0928 -3.4739	-3.5239 -2.9023	-4.0909 -3.4730	
5%	-3.5267 -2.9035	-4.0948 -3.4749	-3.5233 -2.9029	-4.0928 -3.4739	

Source: Authors Computation from E-views7, 2017.

NOTES: ADF, PP, d * denotes Augmented Dickey Fuller, Phillips-Perron test and decision about the order of integration, respectively.

Cointegration Test

The unit root results which indicate the order of integration of the variables is presented in table 2. The test show that the variables: CPS and INF are stationary at level I(0), while REM, LENDR, M2 and OPEN are stationary at first difference I(1). This implies that the null hypothesis of non stationary for all the variables is rejected. Given the unit –root properties of the variables, we proceed to establish whether or not a long –run relationship exist among the variables.

The Johansen cointegration tests revealed that the trace statistics show the existence of five cointegrating relationship and maximal eigenvalue statistics show the existence of one cointegrating relationship among the variables at the 5 percent level of significance (table 3). The conclusion drawn from this result is that there exist a long run relationship between REM, CPS, INF, LENDR, M2 and OPEN.

Table 3: Co integration Rank Test
VARIABLES: LCPS, LREM, LM22, INF, LOPEN, LENDR

Null Hypothesis	Trace Statistics	Critical value @5%	Null hypothesis	Max Eigen statistic	Critical value @ 5%
None*	119.3028	95.7536	None	34.1348	40.0775
At most 1*	85.1678	69.8188	At most 1	30.3665	33.8768
At most 2*	54.8013	47.8561	At most 2	23.3149	27.5843
At most 3*	31.4863	39.7970	At most 3	13.7155	21.1316
At most 4*	17.7708	15.4947	At most 4	11.9751	14.2646
At most 5*	5.7957	3.8414	At most 5*	5.7957	3.8414

Source: Authors computation from E-views 7, 2017

NOTE: *(**) denotes rejection of the hypothesis at 5% (1%) significance l

RESULTS AND DISCUSSION

Table 4 presents the GMM-IV estimate of banking sector development model. Proxied by credit to private sector (DLCPS). Here DLCPS is expressed as a function of a period lagged value of the dependent variable (DLCPS(-1)) natural logarithm of inward remittances as a ratio of GDP (DLREM), natural logarithm of broad money supply (DLM2), inflation rate (DINF) natural logarithm of trade openness measured as the ratio of the sum of import and export logarithm of lending rate (DLENDR).

Table 4				
Impact of household inward remittances on banking sector development				
Instrument specifications: DLCPS(-3), DLCPS (-2) DLREM(-1), DLM2(-1), DINF(-1), DLOPEN(-1) DLLENDR(-1)				
Explanatory Variables	**Dependent variable: DLCPS**			
	Coefficient	**Std error**	**t-statistic**	**Prob.**
C	-1.8190	5.5626	-0.3255	0.7475
DLCPS(-1)	0.1336	0.7750	0.1724	0.8645
DLREM	0.0727	0.1409	0.5165	0.6100
DLM2	1.5775***	0.5345	2.9509	0.0068
DINF	-0.0072	0.0218	-0.3317	0.7428
DLOPEN	0.2285	1.2552	0.1849	0.8547
DLLENDR	-0.1995	0.3292	-0.6061	0.5499
Diagnostic statistics				
R-squared	0.47			
Adj. R-squared	0.34			
Durbin Watson Stat.	2.22			
J-statistic	0.00			

Source: Authors computation from E-view 7, 2017

Note ***, **, * denotes significance at 1%,5% and 10% respectively.

The coefficient of determination R-squared shows that 47.17% of the dependent variable can be explained by the explanatory variables. GMM estimate of equation (3.6) indicates that one year lagged value of private sector credit is positively related to current year credit to private sector but statistically insignificant. The coefficient of remittances is positively related to credit to credit to private sector but it is statistically insignificant. The coefficient of broad money supply (DLMS2) is positive and statistically significant at 1% level. Holding other variables constant a percentage change in broad money supply will culminate into 1.57% increase in credit to private sector. The coefficient of inflation and lending rate are negatively related to DLCPS but statistically insignificant. The coefficient of openness is positively related to DLCPS but statistically insignificant. These results are in conformity to our a priori expectation.

Result shows that inward remittances have positive but statistical insignificant impact on banking sector development proxied by credit to private sector as a share of GDP. There are several indicators of banking sector development such as; financial dept(M2/GDP) that measure the relative size of financial intermediaries as well as the degree of financial intermediation; total loan as a ratio of GDP(LOAN/GDP); and credit to private sector as a share of GDP(CPS/GDP). The later (CPS/GDP) is chosen in this study as a proxy for banking sector development because it is considered to be a better measure of banking sector development in literature because banking system that is capable of transmitting credit to private sector is considered more efficient than those banks that mobilize fund without creating value by way of loan or banks that channel loan to government. A positive relationship is observed between remittances and credit to private sector and is in conformity with our a priori expectation, in addition, the insignificant effect of remittances on credit to private sector is also consistent with the findings of Oke *et al.,* (2011) who found positive but insignificant relationship between remittances and credit to private sector in Nigeria. The consistency of these results is reliable in view of the similarity of the methodology adopted in the two studies (GMM). Meanwhile, this result is not surprising to keen watchers in view of absolute lack of innovative remittance- linked products that will encourage remittance households and Diaspora Nigerians to save. Nigerian banks are yet to come to realization that remittance inflows is a veritable source of investment finance to capital starved Nigerian businesses. Nigerian banks merely serve as payment agents to money transfer operators such as Western Union and MoneyGram without value addition. Besides, there is this observed phenomenon where Nigerian banks prefer granting loans to public sector at the expense of private sector, probably due to moral hazard occasioned loan default by borrowers. It is possible that if the effect of remittance on total loan is examined the impact would be significant. This finding seems to lend credence to NELM Theory.

CONCLUSION AND RECOMMENDATIONS

This study examined the impact of household inward remittances on banking sector development and economic growth in Nigeria. The study also explored the channels through which inward remittances transmit to promote economic growth in Nigeria using Generalized Method of Moment (GMM) estimator proposed by Hansen(1982).

The study reveals that household inward remittances made positive impact on banking sector development in Nigeria, though the impact is negligible considering the huge amount of remittance inflows into the Nigerian economy. This finding is consistent with conclusion reached by earlier writers on this topic including Agu (2009), Guilaino and Ruiz-Arranz (2009), Ukeje and Obiechina (2013), Kanu and Ozurumba (2013) amongst others.

The current practice where few commercial banks merely serves as agents of global money operators (MTOs) such as Western Union and Moneygram further compound the limited impact of remittances inflows. This practice has put the billion dollar business into the hands of a few, creating an oligopolistic structure; with its attendant consequences of high cost that make informal channels attractive. It is therefore recommended that other development banks and non-banks financial institutions such as mega Microfinance banks and Bureau De Charge (BDC) operators be licensed to undertake remittances transaction business.

The situation in the Nigrian banking industry as regards remittances business is that banks merely serve as cash receipts centers for remittances without any value addition. It is recommended that Nigerian banks develop remittance-linked financial products for Nigerians in Diaspora and remittance recipient households instead of treating remittance receipts as a one off transaction without value addition.

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"Funds Flow and Performance of Managed Funds in Pakistan"

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ABSTRACT

The main purpose of this study is to examine the mutual fund industry of Pakistan, to examine the assets allocation pattern of mutual funds, how efficiently they are allocated into various assets categories and how investors base their future investment decisions either on past performance or on the basis of risk, size of fund, and availability of alternative investments. On the basis of results it is noted that on average small and medium investors prefer investments in less risky assets and base their future investment decisions on the basis of past performance whereas big corporate investors calculate risk and make their investment decisions after complete analysis. This study uses panel regression model to test the relationship between past performance and excess returns. The results indicate that fund managers use past performance of a fund as marketing tool to attract investors to invest in a fund which are performing well in recent past. These findings are of immense importance for policy makers as well, to formulate policies which are beneficial for investors and do not allow fund managers to get advantage from investors.

Key Terms: Mutual Funds, Investment, Past Performance, Panel Econometric, Balanced Data

INTRODUCTION

Managed Fund is an investment fund run on behalf of an investor by executor; it assumes a fundamental part for allocating idle resources to produce optimal results and reserve funds in the economy and additionally institutional investors. In Pakistan Managed funds are asset management companies which for investors put resources into stocks, securities, currency business sector instruments and different securities. Essential capacity of Managed stock is to pool small investors' funds, proficiently distribute unmoving assets and puts resources into expanded portfolios, which offered chance to investors to reduce or dispose of non- business risk of securities and procure higher returns on their reserve funds and ventures. Managed funds are particularly intended for the investors who do not have their investment funds however they don't have speculation information, data and venture atmosphere and offices and also have low risk tolerance level which is an exceptionally overwhelming aspect of Pakistan capital markets (Afza and Rauf, 2009).

Increased number of mutual funds across globe, mostly in advanced nations, is a sign of investor's preference for low risky investments (Huhmann, 2005). Throughout previous decades, this industry has encountered huge development, while, mutual fund is still in its infancy in developing countries. The development in managed funds market has lead to the formation of different funds of mutual stocks. These categories might be ordered in two expansive sections: open and closed-end funds. The open-ended funds includes funds whose reclamation and membership of stocks, known as units, is permitted on consistent premise. On the other hand, close-ended funds, are those funds which are called up at once and subscribed at the start of the fund and they are traded in secondary markets among general public.

Managed funds are appropriate mode of investment for individual small investors who don't have market knowledge and they do not directly invest in financial and equity markets. Managed funds are developed to benefit small investors which operate under Asset Management Companies. Establishment of Mutual funds in Pakistan dates back to 1962 when units of National investment Trust were first offered to general public in an IPO, Nazir and Nawaz (2010). Closed end funds were offered to general public in June 2000, when the Investment corporation of Pakistan was privatized.

Although, managed funds industry in Pakistan has witnessed tremendous growth in the past few years but it faced a slight decreasing trend in 2013, with net asset value decreased to PKR 361,690 million in 2013 from PKR 380,538 million in 2012. Managed Funds in Pakistan are mainly divided into open ended fund, close ended fund and pension fund. As on 2013 there are 138 open ended funds, 9 close ended funds and 11 pension funds (MUFAP, 2013). Under open ended, close ended and pension funds they are further categorized into Equity, Income, commodity, capital protected, index tracker, funds of funds, and Islamic funds. Asset management companies are 26 while total numbers of funds operating in Pakistan are 158 (MUFAP, 2013); these funds offer their services to different clients with the most appropriate allocation of their savings into a number of asset categories. Small investors are usually those individuals who do not have understanding of financial markets in its true sense, they are only savers who invest in a mutual fund to channelize their savings and earn certain return on it, they mostly prefer short term gains on their investments without analyzing the market trends, in this way they avoid long term investment opportunities and earn short term gain on their savings.

The research questions for this study will be analyzed by using ten years data on quarterly basis; variables for the study will be funds flow and returns of fund, to check whether there are perceivable examples in the relationship between these two variables that can expedite recognizing investment strategies of the fund participants. The knowledge of this matter will allow fund managers to attract new investors on the basis of past performance and they will be motivated to invest their more savings into mutual funds. This is a paramount thought in advancing approaches to furnish more decisions for fund members. In the event that members of funds begin moving cash crosswise over funds built absolutely in light of past performance, this may not be best investment strategy and can prompt antagonistic results in the longer term.

Research Problem

Managed funds in Pakistan is relatively a recent phenomenon, it came into existence in 1962, when the units of National Investment trust were first offered to general public, the research on this area has been very limited in Pakistan. To study the behavior of open and close ended investors, their investment decision making in securities, analysis of risk and return motivated the author to work specifically on managed funds in Pakistan. There is a great potential in this industry to grow and contribute in the financial stability of the country and motivate individuals to channelize their savings in a more efficient manner.

Research Questions

- What are assets allocation pattern of mutual fund industry of Pakistan? How effectively they are managed and attract investors towards them?
- How investors are attracted towards investing in a particular fund, what factors motivate them in making investment decisions?
- How past performance helps an investor to invest in good performing funds and withdraws from bad performing funds? While some investors stay connected with funds that perform bad continuously.

PROBLEM STATEMENT

"Funds Flow and Past performance of managed funds in Pakistan"

Objectives of the Research

The main objective of this research is to analyze the different fragments of Pakistan's managed funds market and to research if there is any significant difference in the way assets are allocated into different asset categories and to examine if the flow of funds is affected by the past performance of the funds in Pakistan. This is turned out to be the far reaching investigation of assets allocation and funds flow relationship of managed funds in Pakistan. The essential focus of this paper is to study asset allocation patterns inside different subsets of the managed funds industry in Pakistan and to examine if the flow of fund is impacted by the past performance of the funds and how far does past performance helps an investor to invest in a particular fund, holding other external factors constant.

Significance & Scope of the Research

Pakistan's managed fund industry is a small industry as compared to other developed and emerging economies. This industry has a great potential to grow investment opportunities for small investors, and therefore there is a need to assess the relationship between flow of funds and past performance. The study of assets allocation pattern will be beneficial for small investors, fund managers and policy makers, to channelize their savings/funds in an efficient manner to have more gains for the investors in a safe way. Scope of this research will be to study assets allocation patterns of managed funds, how efficiently fund managers are allocating idle resources of the investors and to examine the relationship between flow of funds and its past performance. Data for this research study will be from the managed funds of Pakistan, including all open ended, close ended and pension funds operating in the country.

Limitations

Following are the major limitations of this research within its valid scope:

- Availability of desired data and willingness of the data provider to respond can be a critical constraint in our study.
- Difficulty in gathering data was the biggest limitation, further the data providers were also reluctant to share confidential information
- Time duration of the study is also a limitation,
- The knowledge of researcher is mainly restricted to the objectives of the research

Key Terms

Mutual Funds, Investment, Past Performance, Panel Econometric, Balanced Data, Unbalanced Data, Asset Allocation, Asset Classes

LITERATURE REVIEW

Extensive work has been done on Managed funds industry of developed countries, where investing in a mutual funds is an important component for the development of capital markets since 1960s, however the managed funds industry still needs to be flourished in the developing countries like Pakistan. The existing literature on managed funds is divided into two main categories; one is the performance evaluation of managed funds as an investment opportunity for savers who can allocate their idle resources and earn profit, Mahmud and Mirza (2011), while the other researchers has tried to identify the characteristics which are fund specific and results in increased returns.

Investors make their investment decisions mostly on the past performance of a fund within an asset class. It is likely that funds having superior performance are successful in attracting new investors and inferior performance will result in outflows from the fund. A number of studies examined the relationship between performance of a fund with funds flow, Sirri and Tufano (1998), Ippolito (1992), find a positive relationship between funds flow and past performance, the study cover period from 1964-1984 of US mutual fund industry, and finds a clear underlying movement of mutual funds, that investors are more inclined towards good performers as compare to bad performers. Sirri and Tufano (1998) studied the funds flow of US equity mutual funds, the study concluded that consumers base their investment decisions on prior performance information, but do so asymmetrically, investing disproportionately more in funds that performed very well in prior period.

A study on Cognitive dissonance and mutual fund investment reveals that the investors are biased towards some funds, without any regard to their past performance; they are significant only at top quartile of the fund performance, Goetzmann and Peles (1996). Lynch and Musto (2003) documented that investors interpret past performance consistent with fund incentives, and discard those funds which underperform consistently. The model developed by Lynch and Musto (2003) reveals that change of strategy by fund managers only take place after consistently bad performance of the fund, and hence it is noted that past performance may not reveal future performance of the fund. Sawicki (2003) finds a positive relationship between past performance and funds flow, but not the convexity observed in the US funds market. Performance persistence on Australian managed retails funds was tested by Bilson et al. (2005), it was tested by using five different matrices and they find that the inadequate adjustment of risk may cause spurious persistence in excess fund returns.

The other major aspect of mutual funds is the investor's behavior towards their investment decisions. Behavioral studies on Mutual fund investors Del Guerico and Tkac (2002) reveal that the behavior of investors is significantly different between the US mutual funds and pension funds investors. Pension fund clients move their money away from poorly performing funds and do no flock disproportionately towards winners. They use various risk measurement tools like Jensen's alpha, and tracking error to evaluate performance of the funds. Whereas a mutual fund investor is inclined towards recent winners and avoiding the risk adjusted performance measures. Ranganathan, studied the behavior of individual investors towards mutual funds, and the study was an attempt to understand the financial behavior of managed funds investors in connection with scheme preference and selection.

A study on ability of mutual funds investors by Lu Zheng (1998) discussed that investors base their investment decision on the basis of short term performance of a fund during a period and make future investment decisions on the basis of fund specific information rather than evaluating the overall funds performance. Prospect theory has been originally defined by Kahneman and Tversky (1979), which defines that investors are very much depressed by the losses they face and are equivalently happy with the prospective gains on their investments. Economists have researched over this fact that investors considers the loss of $1 as twice as painful as the pleasure of $1 gain received on their investments. Different investors have different prospects on their gains and losses some are persistent with the fund that is if a fund is continuously performing bad they stick to it while some move to other good performing funds. Kahneman and tversky gave an example on this scenario about prospects of different investors, they presented groups of subjects with a number of problems, and one of the groups was presented with the following problem:

1. In addition to what you own, you have been given $1000. You are now asked to choose between
   a. A sure gain of $500
   b. A 50% chance to gain $1,000 and a 50% chance to gain nothing

Another group of subjects were presented with another problem.

2. In addition to whatever you own, you have been given $2000. You are now asked to choose between:
   a. A sure loss of $500
   b. A 50% chance to lose $1,000 and 50% chance to lose nothing

The results were that from the first group 84% of the respondents selected A, while from second group 69% selected B. the two problems were same in terms of net cash, however the phrasing of the question was different and interpreted differently by the respondents. Therefore it is concluded that the investors are always look forward to have gain on their investments rather the term loss is discouraging for them. Bailey et al. (2011) has studied the behavioral aspects of the US mutual funds investors, the study majorly is concerned with the two behavioral biases first being the disposition effect and narrow framing – it is evident that behavioral biased investors are poor in decision making about expenses, trading frequency and time.

The choice of investment vehicles by different groups of investors in Australian retirement funds is investigated by Speelman et al. (2007). Their results provide an interesting insight into the gender differences in investment choices. Female investors are more risk averse than male investors and young female investors exhibit the highest level of risk aversion. As the investors age, there is an indication they tend to become return-chasers. A survey of Australian investors by Fry et al. (2007) find support to the behavioral theory of investor inertia, with few surveyed participants showing an interest in changing their superannuation fund. Phillips (2011) recently examines the relative risk aversion coefficient that characterizes the representative self-managed superannuation fund investor. He shows that this particular category of investor may be too risk averse to maximize their expected growth rate of wealth accumulation.

Malhotra and Robert (1997) reported that the preoccupation of Managed Fund investors with using performance evaluation as selection criteria is misguided because of volatility of returns, which may be due to superior management or just good luck is difficult to determine. The findings of Ferris and Chance (1987), Trzeinka and Zwing (1990), and Chance and Ferris (1991) are consistent with the findings of Malhotra and Robert (1997). Lu Zheng (1998) examined the fund selection ability of MF investors and found that the investor's decisions are based on short-term future performance and investors use fund specific information in their selection decision.

Lyunch and Muso (1997) in their study concluded that the past and future performance is negatively related to fund manager's style of investment, whereas Sirri and Tufano (1998) studied the investor's behavior towards investing in a managed fund is akin to purchasing an automobile. Marketing plays an important role to highlight the performance of funds that are performing outstanding on the contrary poor performing funds are rarely brought to light and therefore are less performance sensitive. Goetzman and Peles (1997) studied the psychological perspective of investors' investing behavior although they acknowledge that economic costs may actually be causing mutual funds investors' inertia to spend in a particular fund.

Huhmann and Bhattacharyya (2005) has worked on content analysis on advertisements of Mutual funds they studied the investors behavior on the basis of advertisement. Research demonstrates that mutual funds publicize to expand discernments of value, triumph, and respectability frequently without furnishing the data that is an investor's necessity to settle on optimal investment choices. While Gupta and Jithendranathan (2012) studied the Australian Managed funds and identified that fund managers often use past performance to advertise performance of their funds. This is an important point to note for policy makers as many fund managers use their funds past performance to attract small investors. Another study by Chen et al (2004), on fund size erode mutual fund performance, they concluded that fund size does not erode performance but liquidity of a fund and its organizational diseconomies erode the performance of a mutual fund.

Capon et al (1996), investigated the manner in which consumers make their investment decisions, they reported that investors considers many non performance attributes while making their investment decisions. When they are grouped by similarity of investment decision process, a single small group appears to be highly knowledgeable about its investments. However, most investors appear to be naive, having little knowledge of the investment strategies or financial details of their investments.

Managed funds in Pakistan are divided into open ended funds and closed end funds, MUFAP (2013), various specialists have experimentally assessed the relationship of open end funds execution with its characteristics in diverse time periods for the advanced economies, Soderlind et al., 2000; Korkeamaki and Smythe (2004). Sajid and Nawaz (2010) has worked on performance evaluation of open end managed funds in Pakistan, where they explored that among various determinants of performance of managed funds, assets turnover, fund size and expense ratio are positively correlated and have significant impact on performance of the fund, where as management fee and risk adjusted returns are negatively correlated with the fund performance. Afza and Rauf, (2009), witnessed similar trend of performance evaluation of managed funds, according to their study, among a number of funds attributes most important are returns, liquidity and 12B-1 (dummy variable) they all had significant influence on the performance of a fund.

Ali and Qudous, (2012), used panel data analysis tools of Sharpe measure and Treynor measure to evaluate the performance of mutual funds, using monthly price, dividends data and 6 months T-bills rate. The research concluded that the mutual funds in Pakistan are not performing well as there is great potential for this sector for the economic development. Sipra (2006) had criticized the performance of managed funds during 1995 to 2004, according to his research mutual funds were unable to outperform the market portfolio, and virtually all the funds were performing inferior against the benchmark of market portfolio. During the financial crisis of 2008, with the high growth period of mutual funds industry of Pakistan, the industry also faced challenges from the world financial crisis this was the period over which performance of mutual funds industry was evaluated. The industry growth resulted in evolution of a variety of funds that specialize in investments styles and cater to customized investors' needs. The number of funds has increased dramatically since 2009, soon after the financial crisis, although the worldwide financial institutions faced a decline period but Pakistan's mutual fund industry was having growth at the same time, reason being the limited exposure of our mutual funds with international market.

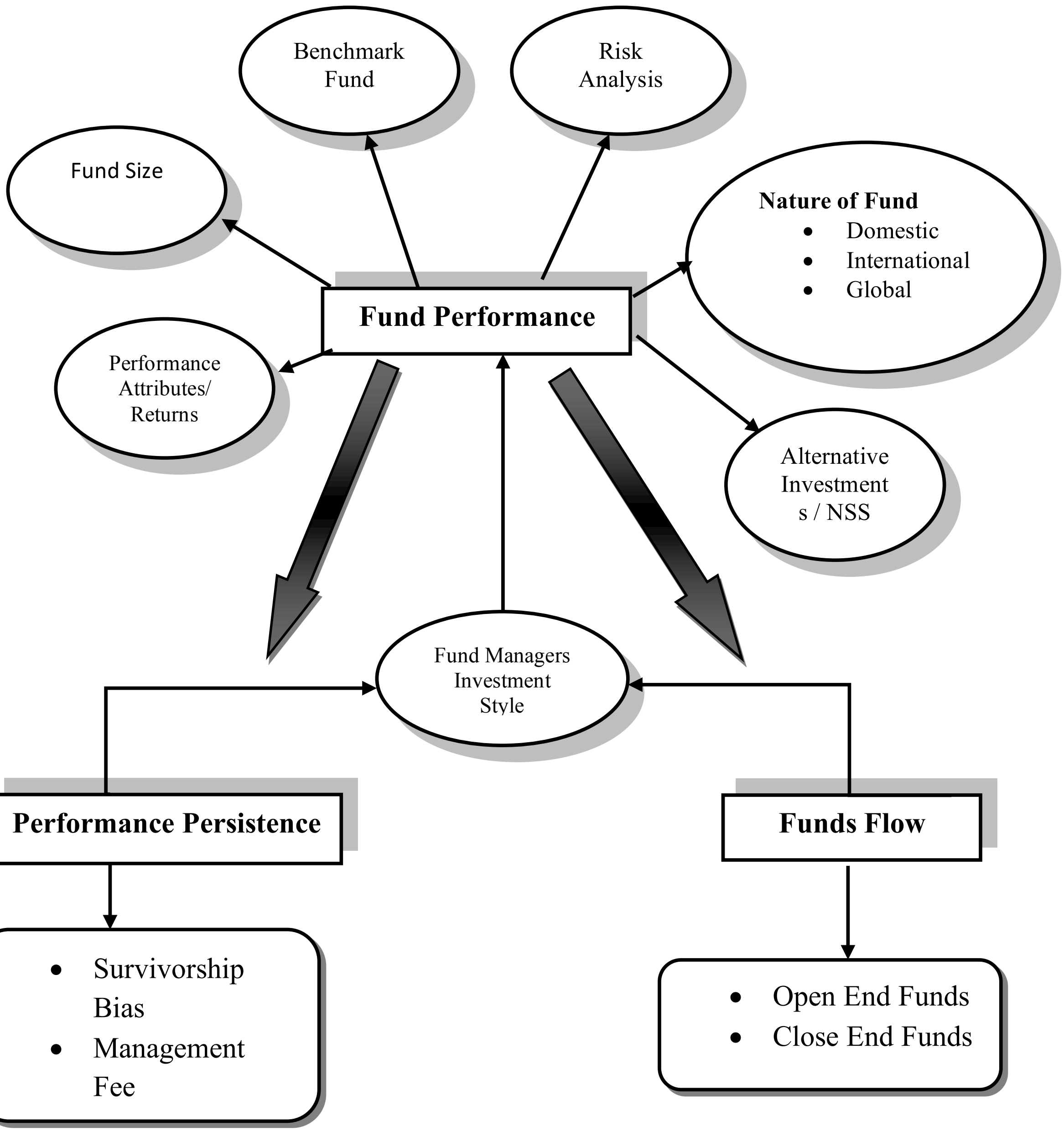
THEORETICAL FRAMEWORK

The illustration below represents a summarized view of literature available on the funds flow and performance of managed funds, the performance of a fund depends on certain factors including, risk analysis, type of fund, nature of fund, comparison with benchmarks and the personal attributes and fund managers style of management in a fund all support its performance. Performance persistence of a fund is another key attribute that allows a fund to perform without having survivorship bias, low management fee and high momentum for the fund to perform under critical circumstances. Individual or retail fund investors are risk averse and prefer stable returns over wholesale investors who invest in risky assets to get higher returns on their investments. All attributes revolve around fund managers investment style, either they may make smart decisions and increase returns for investors or spoil the investment and earn low returns on even less risky assets. There is clear evidence from existing literature that investors base their investment decisions on past performance of the fund, although the fund manager is not performing well but market conditions are good and the fund is performing well then the investor will most probably invest in a fund that has good market value and is performing good in past as well.

A study on performance persistence, measuring short term performance persistence on mutual funds industry of India, Jhanwar and Sehgal (2007) examined there is no persistence found on monthly data of mutual funds, while every day information, they studied that for funds plans sorted on former period four-component unusual returns, the victors portfolio does give terrible anomalous returns of 10% per annum on post-development groundwork. Therefore observational discoveries are steady with the effective business sector theory and have suggestions for mutual funds and other oversaw portfolios depending on creative financing styles, including the "funds of fund" exchanging systems that certainly expect transient industriousness. Lynch and Musto (2003) in their study has focused on the fund managers performance which is at the core of investment, the investors invest in a mutual fund as they have less information about market trends it is fund managers who are market players and study the market trends they play tactics in investing funds in open market and generate returns for their customers. If a fund is performing continuously bad then question mark is on the performance of fund manager. Therefore our model also predicts that the relationship between fund performance with its persistence and funds flow mainly depends on the performance of fund managers which are the key players in the market.

Following Diagram is the snapshot of Studies on Performance of Mutual funds categorized by key attributes:

Figure I: Theoretical Framework



Hypothesis

If investors base their future investment decisions on the basis of past performance and if they are in accordance with our literature findings then we expect to find the following;

H1*:* a performance flow relationship between funds flow and their returns, as investors would base their future investment decisions on the basis of past excess returns

H2: an observable, but possibly weaker performance flow relationship among the best performing funds as investors would believe that the fund will perform similar in future

H3*:* negative relationship between risk and funds flow (holding other factors constant) as the general perception of investors is to have low risk and high returns

H4: negative relationship between alternative investments and funds flow, as small investors would inclined towards investing in risk free investments

RESEARCH METHODOLOGY

Data

This research is a quantitative panel data study; panel regression model will be developed to examine the cash flows and past performance relationship of the managed funds. Data for this study is obtained from Mutual Funds Association of Pakistan and Karachi Stock Exchange, it covers the period from September 2007 to December 2013, and it contains quarterly data about the managed funds, including net cash flows, returns and Net Asset as a measure of size, risk was calculated from returns and NSS rate is used as a control variable. Numbers of funds incorporated in this study are 158 of which 138 are open ended funds, 9 close ended and 11 pension funds currently operating in Pakistan. Investments into these funds are further divided in fifteen major categories; Equity, Income, Money Markets, Aggressive income, capital protected, commodity, fund of funds, Index tracker, Islamic equity, Islamic income etc. further allocation of funds into asset classes are shown in Table I and category description are presented in Table II in Appendix. The funds flow pattern in conventional and Islamic funds are entirely different, it is assumed that conventional funds have high risk tolerance as investors are risk takers as compare to Islamic funds which are less risky and investors are also risk averse. During the past few years the investors' inclination towards investing in Islamic funds has increased tremendously.

Funds are mainly categorized into two streams first, according to the investment category and secondly, product markets. Market capitalization of open ended funds in terms of Net Asset Value (NAV) is PKR 332,702 million as on 2013, YoY growth is negative -10.88% as compared to 2012 NAV was PKR 354,309 and YoY growth was 43.90%. Market capitalization of close ended funds in terms of Net Asset Value (NAV) is PKR 24,165 million in 2013 and in 2012 NAV was PKR 23,488 million. Table III presents the complete funds profile with average returns, maximum and minimum returns for the period of the study.

Table I: Total investments in Open End and Close End Funds

Category	Average Funds under Management*	Funds under Management in 2007*	Funds under Management in 2013*	Annual Growth Rate**
Open End Funds	290,571	248440	332,702	23.79%
Close End Funds	38,283	52401	24,165	-3.44%
Pension Funds	2,622	420	4,823	54.90%
Total Funds	331,476	301261	361,690	

Note: * Funds under Management are PKR in Millions
**Annual Growth Rate is in %age

Rate of returns are calculated using the following formula, Gupta and Jithendranathan (2012);

$$\text{Equation 1:} \qquad \mathrm{RORi,t} = \frac{\text{Net Earnings after Tax i,t}}{\text{Sizei,t}+\frac{1}{2}\text{NCF i,t}}$$

Size of the fund is measured using Net Assets during a quarter; data has been taken from MUFAP official website, NCF is the net funds flow for the *i*th fund for the quarter t.

For regression analysis a panel data will be created for each individual investment category. To avoid the survivorship bias, funds that were terminated or transferred are included in the dataset, provided each fund had at least 14 continuous quarterly data points. One of the likely issues that may arise in the analysis is the sudden increase or decrease in net flows during a quarter. To address this issue, those outliers in the net flows the data for a quarter where the net flows is greater than 0.75 of the funds under management at the beginning of the quarter, will be dropped from subsequent analysis.

Empirical Methodology

Investment in mutual fund involves two steps - first to identify which asset category to be selected for investment and then select a fund type within an asset category. Some investors are risk averse while others are risk takers; the decision of investment into a particular fund type depends on the risk preference of the investors. Small and medium investors have low preference for risk they invest in stable funds with constant returns, while wholesale investors have more capacity to tolerate risk, Gupta and Jithendranathan (2012). Fund managers uses their past performance as advertisement tool for future investments, if a fund is performing well in past they advertise to investors and gain their confidence, ultimately resulting in investment by investors in that particular fund type, resulting in more investment into high performing funds and withdraw their investments from low performing funds.

Returns are the most common measurement tool for investment by investors in a fund, a benchmark is used for comparing the returns however, Sensoy (2009) reported that the benchmark used are mostly not correct for the funds true investment style in US Mutual funds market. To avoid this problem the researchers used weighted average index of fund returns for each asset category. The rate of return for each category is calculated using the following formula, investment rate of return and risk free rate of return;

$$\text{Equation 2:} \qquad \mathrm{ri,t = RORi,t - RORindex,t}$$

The next important factor is to find an appropriate measure of risk, Sharpe ratio, Jensen's alpha, treynor ratio and tracking error are mostly commonly used measures of risk. Standard deviations being the simple of all measures of risk, as investors are also unaware of risk measurement tools therefore standard deviation is used by them to get bird's eye view of the risk component in investments. A review of the US managed funds investors by Capon et al. (1996) demonstrated that just 25 percent of the mutual funds investors knew the investment style of the fund and just 26.7 percent of those surveyed contrasted the fund return with the benchmark. They find that 14 percent of the respondent's utilized standard deviation as the measure of risk and just 4 percent utilized alpha or Sharpe measure to recognize the risk.

An alternate significant pointer of fund performance is its size, Chen et al. (2004) show that the performance of the funds diminishes with size and to control for the size impact we will utilize the lagged log size of the fund as a control variable. To modify for the momentum impact of net funds, the lagged worth of the net funds is incorporated as an autonomous variable. A panel data for each of the asset categories is created using the available quarterly data for the funds and the fixed effects regression will be conducted using the following equation:

$$\mathrm{NCFi,t} = \mathrm{bjri,t} + \mathrm{c\sigma i,t} + \mathrm{dSizei,t} + \mathrm{eNCFi,t-1} + \mathrm{fNSSi,t} + \varepsilon\mathrm{t}$$

$NCF_{i,t}$ is the log value of net cash flow of the fund, $r_{i,t-1}$ is the excess return on investment measured by quarter to corresponding quarter change in returns, sigma is the tracking error (Standard deviation), $Size_{i,t}$ is the log value of fund size, NSS rate is the national Saving scheme rate an alternative to the mutual fund investment which gives risk free return, and FE is the fixed effect of *i*th fund.

DATA ANALYSIS

This section of the report covers the analysis of the results. Table II presents descriptive statistics (fund category wise) based upon quarterly data. According to the results on average the highest return yielding fund is fund of funds with mean return of 11.29% and standard deviation 1.066, the lowest return yielding fund is Islamic capital protected fund -8.43% and its standard deviation is 0.2495. Whereas balanced fund is high on risk 0.0405 and its volatility is 0.0732, while Islamic income fund is low on risk 0.00093 and deviation from mean is 0.0019. However pension funds and Islamic Pension funds are big in size while low on risk and return, net cash flows inward and outward movement of cash is high in pension and Islamic pension fund.

Table II: Descriptive Statistics (Fund Category Wise)

	Return		Risk		Size		NCF		NSS Rate	
Fund Category Name	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Equity	0.0921	0.7319	0.0190	0.0236	1,172	383	102	119	0.1183	0.0140
Income	0.0998	0.4664	0.0078	0.0206	633	1,293	22	43	0.1183	0.0140
Money Market	0.0442	0.6946	0.0171	0.0508	944	1,964	2,532	10,893	0.1183	0.0140
Aggressive Income	0.0840	0.4769	0.0084	0.0394	2,518	3,837	66	393	0.1183	0.0140
Asset Allocation	(0.0418)	0.4364	0.0155	0.0275	507	369	47	53	0.1195	0.0139
Balanced	0.1129	1.0665	0.0405	0.0732	1,962	1,330	(75)	202	0.1183	0.0140
Capital Protected	0.0289	0.2256	0.0018	0.0031	9,020	40,459	78	275	0.1183	0.0140
Fund of Funds	0.0481	0.1296	0.0056	0.0189	1,251	545	166	242	0.1143	0.0116
Index Tracker	0.0248	0.4665	0.0078	0.0177	221,082	61,783	1,433	12,969	0.1183	0.0140
Islamic Equity	0.1118	1.0216	0.0371	0.0697	5,528	2,160	306	843	0.1183	0.0140
Islamic Income	0.0407	0.1615	0.0009	0.0019	3,030	1,365	144	190	0.1183	0.0140
Islamic Money Market	0.0110	0.1265	0.0012	0.0022	7,425	741	42	481	0.1143	0.0116
Islamic Asset Allocation	0.0235	0.2713	0.0026	0.0037	2,050	3,005	78	270	0.1183	0.0140
Islamic Balanced	0.0927	0.3798	0.0082	0.0105	947	509	47	376	0.1167	0.0114
Islamic Capital Protected	(0.0843)	0.2495	0.0047	0.0088	591	259	23	409	0.1165	0.0117
Pension	0.0295	0.2812	0.0029	0.0037	363,131	302,081	21,560	21,930	0.1183	0.0140
Islamic Pension	0.0204	0.2618	0.0025	0.0037	133,845	60,650	9,971	8,952	0.1183	0.0140

Note: Returns (%), Risk (%), Size (Millions), NCF (Million) and NSS rate (%)

On average mutual funds have volatile returns and risk factor is also not high except of balanced fund. Coming towards the control variable of National Saving Scheme rate it is evident that during the period of study the highest yield on this form of investment is 11.95% and the lowest is 11.429%, simultaneously it is less risky and the volatility in the market rates is very rare as the government announces saving rates in every quarter. The skewness and kurtosis (see Appendix) shows that the data is rightly skewed. Value of Kurtosis is greater than 3, in four variables and less than 3 for two variables which indicates that leptokurtic distribution of data exists with sharper than normal distribution with values concentrated around mean and thicker tails.

Table III: Funds Investment Profile

Fund Category	Net Assets (Millions)	Average (%)	December 2007 (%)	December 2013 (%)	Minimum (%)	Maximum (%)
Open Ended Funds						
Equity	59,936	0.07	0.04	0.21	0.44	-0.07
Income	64,955	0.09	0.08	0.08	0.13	0.07
Money Market	78,917	0.10	0.09	0.08	0.12	0.08
Aggressive Income	2,831	0.08	0.09	0.12	0.12	0.04
Asset Allocation	3,781	0.04	-0.08	0.05	0.63	-0.08
Balanced	4,536	0.05	0.02	0.11	0.29	-0.04
Capital Protected	2,675	0.04	0.05	0.02	0.14	0.02
Commodities	57	(0.09)	-	(0.07)	-0.01	-0.16
Fund of Funds	285	0.08	0.11	0.06	0.11	0.05
Index Tracker	107	0.09	-0.16	0.13	0.15	-0.16
Islamic Equity	8,274	0.08	-0.01	0.13	0.31	-0.06
Islamic Income	21,383	0.10	0.09	0.09	0.12	0.08
Islamic Money Market	5,779	0.10	0.08	0.08	0.13	0.08
Islamic Aggressive Income	324	0.07	0.05	0.12	0.10	0.03
Islamic Asset Allocation	1,181	0.04	0.05	0.08	0.23	-0.05
Islamic Balanced	897	0.06	-0.01	0.09	0.15	-0.02
Islamic Capital Protected	527	0.05	0.00	0.02	0.19	0.00
Islamic Funds of Fund	305	0.07	-	0.07	0.07	0.07
Islamic Index Tracker	196	0.11	-	0.14	0.15	0.06
Close Ended Funds						
Equity	27,167	0.13	-0.38	0.19	0.65	-0.3787
Balanced	1,104	0.06	-0.29	0.17	0.58	-0.293
Income	2,102	0.11	0.06	0.07	0.19	0.0554
Pension Funds						
General Pension Funds	752	0.08	-0.01	0.11	0.22	-0.02
Islamic Pension Funds	1,204	0.07	-0.06	0.10	0.18	0.01

Source: MUFAP Yearbook 2013

Assets Allocation Pattern of Mutual Funds in Pakistan

Table III, presents the assets allocation pattern of mutual funds in Pakistan, first objective of the study, which mainly classifies the funds into two main categories; first Open ended funds and second close ended funds. Open end funds are those funds in which new units are created on continuous basis and redeem issued units on demand, whereas close ended funds are those funds which have fixed number of shares like a public company and are floated in market as an IPO. While studying the assets allocation pattern of mutual funds in Pakistan it was noticed that the major investments by investors are in open end funds as compare to close end fund, and within open end funds the major inclination of investment is in Equity, Income, Money Market and Islamic Income funds, with respect to size. As far as returns are concerned highest yield on return is in Islamic Index tracker fund 11% and money market and Islamic income and money market funds give 10% return on average. The pattern also predicts that the Islamic funds perform better as compare to conventional funds, as Islamic funds involve less risky assets and give investors stable returns, high volatility is not witnessed in Islamic funds.

Other major finding of assets allocation pattern is that in close end funds all fund perform good and have high returns Equity fund 13%, Income fund 11% and balanced fund 6%. In comparison with open end and close end funds pension funds are also growing with an extraordinary pace, its growth is almost 54%, the objective of pension fund is to provide steady returns with a moderate risk for investors by investing in a portfolio of equity, debt, and money market instruments. Pension Funds are means for individuals to save for their retirement encompassing a broad array of savings plan from social security to individual contribution defined or benefit defined company plans. The awareness of investing in pension fund is growing among pension holders which earlier were not well informed, but now as the advertisement of various AMCs are increasing the pension holders are getting knowledge about investment into moderate risky assets and channelizing their savings in a proper way.

Correlation Matrix

Correlation matrix in Table IV presents the correlation among dependent and independent variables of 21 fund categories, the correlation between net flow and return is 9.79%, for net assets and net flows it is 67.99% statistically significant at 1% level of significance, risk and net flows is 7.31% and funds flow and NSS rate is 9.52%. The correlation between size and return is 2.12% highly significant at 5% level of significance, correlation between risk and return is 6.52%, risk and size is 15.83%, NSS with return, size and risk is 3.06%, 5.00% and 8.52% respectively. Correlation matrix indicates that the chances of multicollinearity is very low as there is no clear pattern seen in the data as not a single variable has high collinearity with another variable, the results are statistically significant at 1% level of significance.

Table IV: Correlation Matrix

	Net flows	Return	Net Assets	Risk	NSS Rate
Net flows	1.0000				
Return	0.0979	1.0000			
Net assets	0.6799**	(0.0212)	1.0000		
Risk	(0.0731)	(0.0652)**	0.1583**	1.0000	
NSS Rate	(0.0952)	(0.0306)	(0.0500)	0.0852	1.0000

**. Correlation is significant at the 0.01 level (2-tailed).

The higher correlation does not indicate that there is sufficient evidence that there will be higher cointegration among the variables. Correlation matrix only shows the magnitude of relationship among variables whereas the coefficient of correlation shows the magnitude and direction of the relationship among variables. However from the correlation matrix it is evident that NSS rate has least relationship between the variables of funds flow and past performance, this is might be because NSS is a substitute for investments in mutual funds of those investors who prefer risk free investments and fixed returns on their investments.

Panel Regression Model Selection Criteria

Table V: Model Selection Criteria

	1	2	3
	Pooled	fixed	Random
VARIABLES	NCFL	NCFL	NCFL
Return	2.409***	2.062***	2.227***
	-0.559	-0.651	-0.641
Net assets L	0.0436	-0.088	0.0111
	-0.0283	-0.0663	-0.0393
Risk	0.0195	-0.0256	0.0246
	-0.12	-0.105	-0.103
NSS rate	11.07***	(7.500)*	9.008**
	-4.255	-4.482	-4.455
NCF L1	1.35E-06	2.59E-06	1.95E-06
	-1.85E-06	-1.69E-06	-1.66E-06
Constant	2.579***	4.047***	3.062***
	-0.604	-0.777	-0.632
Observations	303	303	303
R-squared	0.70	0.560	
Number of fund	17	17	17

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

For selection of appropriate model first poolability test of Balgati (2005) was applied, the results are presented in Table V, suggests that Pooled regression model can be applied to data. Returns, size and NSS rate are significant at p<0.01, the value of rho is 0.24047 which is greater than 0 therefore fixed effect model can be applied, whereas the results of Hausman Specification test shown in Table VI; are also significant for pooled regression but the value of adjusted R square is 70.04% which is very high for panel data, therefore moving towards fixed effect it is noted that its results are also statistically significant and value of adjusted R square is 55.90% meaning that there is less probability of multicollinearity error in the data as compare to pooled results and the Hausman test favored to apply Fixed Effect model on the data. Therefore for this study we may apply both pooled and fixed effect model, but the results of fixed effect are theoretically sound as compare to pooled regression model.

Standard Error Robustness

Table VII: Standard Errors Robustness

	1	2	3	4	5
	Control	Ind1	Ind2	Ind3	Ind4
VARIABLES	NCFL	NCFL	NCFL	NCFL	NCFL
Return		2.363***	2.437***	2.440***	2.409***
		-0.512	-0.515	-0.517	-0.515
Net assets L			0.0484**	0.0486**	0.0436*
			-0.0207	-0.0208	-0.0224
Risk				0.0194	0.0195
				-0.0185	-0.0186
NSS Rae	9.520*	10.86**	10.87**	10.92**	11.07**
	-4.948	-4.809	-4.791	-4.825	-4.841
NCF L1					1.35E-06
					-9.30E-07
Constant	3.254***	2.952***	2.569***	2.560***	2.579***
	-0.605	-0.595	-0.634	-0.64	-0.641
Observations	303	303	303	303	303
R-squared	0.13	0.55	0.68	0.68	0.70

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table VII, presents the results of Robustness of standard errors for all funds, from the table it can be concluded that the control variable NSS rate is robust with all variables. While other variables returns, net assets, risk and lagged net flows are also significant as per their p-values, and showing the robustness of standard errors. By applying the different mix of variables for the regression model the value of adjusted R square is lowest at control variable and highest in the model when all the independent and control variables are used. Robust standard errors are used to correct standard errors of the model misspecification, which could give bias results.

RESULTS

An important result of this study is the statistically significant negative relationship between funds flow and size of fund, which is evident from the past studies as well, Chen et al. (2008), Pollet and Wilson (2008) Gupta and Jithendranathan (2012). The magnitude of negative relationship is high in open ended funds as compare to close end funds, however close ended fund are irresponsive to the control variable and open ended funds have statistically strong negative relationship with National Saving scheme, as they are an alternative investment for investors who are risk averse and look forward for stable return, similar relationship between risk and return is reported by Nafees and Ahmed (2012). The possible explanation of this would be that while investing in an open end fund, size of fund does not matter to them however the presence of alternatives like National Saving schemes may attract customers towards alternative investment while they give less importance to risk as a measure of future investment decisions. However, investors of open ended fund do cater credit risk factor somehow (by investing with healthy capitalized mutual fund), however they may face liquidity issues (if there exists some lock-up period), while close-ended fund investors can liquidate their holding anytime in the market.

Similarly size of fund has negative relationship with funds flow of close ended funds and negative relationship with risk, as the investors of close ended funds are risk averse and the alternative investment like NSS have impact on their investments. High yield rates on NSS are detrimental to the close ended funds, since they are traded on exchange, any systematic risk cannot be ruled out for example if NSS rates raised, the equity market will face pressure as fixed avenue is now yielding more, once equity face pressure, anything listed on exchange such as closed end funds face some systematic risk.

Panel Regression model

$$\mathrm{NCFi,t} = \mathrm{bjri,t} + \mathrm{c\sigma i,t} + \mathrm{dSizei,t} + \mathrm{eNCFi,t-1} + \mathrm{fNSSi,t} + \mathrm{\varepsilon t}$$

$$NCFi,t = 4.046 + 2.062ri,t - 0.0256\sigma i,t - 0.087Sizei,t + 0.00000259NCFi,t - 1 - 7.500\,NSSi,t + \varepsilon t$$

The results of overall panel regression of all funds are outlined above while individual funds panel regression results are attached in Appendix, of the 13 major fund categories 10 have positive relationship between excess returns and net funds flow, whereas only 3 funds show negative trend including balanced, index tracker and Islamic Equity fund, the results are significant at 1% level. The coefficients of risk are significant for all funds at 1%.

The negative sign of coefficients of risk indicates that there exists negative relationship between net flows and returns. On average small investors are very much influenced by past performance of the funds rather than analyzing the variability of the returns by standard deviation of lagged excess returns[1]. Ratings of funds are another major proxy for investors to make their investment decisions either to invest in a particular fund or invest in another fund which yields higher return and have well past performance. A possible explanation can be found in the way investors choose their funds using fund ratings. Unlike the developed countries mutual fund rating methodology, which until recently was completely based on quantitative assessment, while some rating agencies use mixture of qualitative and quantitative factors for assessment of a fund (Faff et al., 2007). Since risk is one of the quantitative variables, its relative weight within the Pakistani mutual fund rating system may be lower than in the developed countries.

Relationship between net flows and lagged net flows is insignificant for all funds while it is highly significant for aggressive income fund. Whereas for the overall panel regression model the magnitude of net flows and lagged net flows is highly significant with positive relationship, similar results are noted by Frino et al (2005), they stated that the relationship between past net flows and current quarter net flows is rather difficult to explain, however a possible explanation could be that this positive relationship is due to general growth in the particular asset class. Gruber (1996) explained such a relationship may have been due to the fact that investors are locked into a particular fund due to restricted choices allowed by their savings accounts and this restriction may also be associated with the effect of marketing and reputation of the fund.

The results of control variable NSS rate for this regression model are insignificant for individual funds except money market fund, but it is highly significant for overall panel regression model. It is due to the fact the individually funds are not affected by NSS rate but as

[1] Lagged Excess returns are calculated by: Quarter to corresponding quarter change in returns

a whole it affects the entire mutual funds industry and it is a potential alternative for channelizing savings and making effective investment decisions. While discussing the various aspects of panel regression model we should not overlook the fact the there are some differences between the investors and choice of their investment into a particular type of fund. For example, it is evident that the investors who chose equity, income and Islamic investments clearly increased the cash net flows to those funds that performed well, on contrary investors of other funds did not increase their investments based on past returns.

CONCLUSION

Pakistan's mutual fund industry has grown tremendously over the last decade, the inclination towards savings and investment has led this industry to grow and excel. This paper is an attempt to study various segments of managed funds market in Pakistan, and to examine whether there are any significant differences in how assets are allocated into various assets categories. One aspect of this paper is to evaluate how investors base their investment decisions on the basis of inflows and outflows in funds. We have analyzed our data by categorizing the funds into two major categories; open ended fund and close ended fund, on the basis of this it is concluded that there is significant differences in asset allocation pattern and investment behavior of investors.

Investors base their future investments decisions primarily based upon past performance of the fund, this is evident in this study as well, however the investment pattern in scenario of Pakistan is such that major investments are in open ended fund and a few investors invest in close ended funds, therefore the inclination is majorly towards studying the investment patterns of open ended funds. Risk is the least significant variable of this study as small investors in Pakistan are not educated about the risk involved in their investments, they are only concerned about earning returns, however corporate investors carry out complete risk analysis before making the investments decisions for their company. Risk appetite of balanced fund is highest among all other funds reason being the investments in hybrid securities, Islamic income fund in Pakistan has the lowest risk involved in investment. It is clearly evident from the results that the Islamic funds are low on risk as compare to conventional funds, as Islamic Funds has grown tremendously over the past few years.

This study is of severe importance for policy makers to study an analyze the patterns of asset allocation in Pakistan mutual fund industry in order to erode the probability of misallocation of investments by uninformed investors, who play in the market to generate artificial hype and get advantage of increased prices, similarly like stock market's major players, who artificially create bullish trend in market and when the market collapse they are safe while the small investors have loss on their investments. This study is an important contribution in the mutual fund industry of Pakistan, which is still in its growth stage and there is ample potential in this industry. Lastly, our findings are of immense importance to policy makers as far as understanding investors' behavior and creating appropriate policies, particularly in light of those strategies pointed at furnishing investors without lifting a finger of moving their investments crosswise over various types of funds.

In the words of Morgan Stanley Dean Witter,
"In the end, not all asset management (mutual fund) companies will survive, [but] for firms that have built a 'culture of excellence' over the years, have segmented their customers efficiently, built brand, and delivered performance, the ongoing opportunities to take market share have never been more significant."

Table II: Fund Category Classification

Fund Category Name	Definition
Equity	Mutual funds investors investments in shares, also known as Stock Fund
Income	A type of mutual fund that emphasizes current income, either on a monthly or quarterly basis, as opposed to capital appreciation.
Money Market	A money market fund's portfolio is comprised of short-term (less than one year) securities representing high-quality, liquid debt and monetary instruments. Investors can purchase shares of money market funds through mutual funds, brokerage firms and banks.
Aggressive Income	The investment objective of the portfolio is to provide an efficient investment medium whereby investors can participate in a portfolio that will seek to generate a high level of income, as well as the potential for capital growth.
Asset Allocation	A mutual fund that provides investors with a portfolio of a fixed or variable mix of the three main asset classes - stocks, bonds and cash equivalents - in a variety of securities.
Balanced	A fund that combines a stock component, a bond component and, sometimes, a money market component, in a single portfolio. Generally, they are called "Hybrid funds".
Capital Protected	A type of mutual fund that guarantees an investor at least the initial investment, plus any capital gains, if it is held for the contractual term.
Commodity	These funds are true commodity funds in that they have direct holdings in commodities. For example, a gold fund that holds gold bullion would be a true commodity fund.
Fund of Funds	A mutual fund that invests in other mutual funds. This method is sometimes known as "multi-management".
Index Tracker	An index fund that tracks a broad market index or a segment thereof. Such a fund invests in all, or a representative number, of the securities within the index.
Islamic Equity	Funds invested in shares in compliance with Shariah
Islamic Income	To generate superior risk adjusted returns by investing in short, medium and long-term Shariah Compliant Fixed income instruments.
Islamic Money Market	Funds invested in Money Markets in compliance with Shariah
Islamic Aggressive Income	Funds invested in Aggressive income in compliance with Shariah
Islamic Asset Allocation	Funds invested in Asset allocation in compliance with Shariah
Islamic Balanced	Funds invested in balanced fund in compliance with Shariah
Islamic Capital Protected	Funds invested in capital protected securities in compliance with Shariah
Islamic Fund of Funds	Funds invested in Mutual Funds in compliance with Shariah
Islamic Index Tracker	Funds invested in Index tracker in compliance with Shariah
Pension	A fund, from which pensions are paid, accumulated from contributions from employers, employees, or both.
Islamic Pension	Similar to Pension Fund but in Islamic way.

Table VI: Hausman Test

	1	2
	Fixed	Random
VARIABLES	NCFl	NCFl
Return	2.062***	2.227***
	-0.651	-0.641
Net assets	-0.088	0.0111
	-0.0663	-0.0393
Risk	-0.0256	0.0246
	-0.105	-0.103
NSS Rate	(7.500)*	9.008**
	-4.482	-4.455
NCF L1	2.59E-06	1.95E-06
	-1.69E-06	-1.66E-06
Constant	4.047***	3.062***
	-0.777	-0.632
Observations	303	303
R-squared	0.056	
Number of fund	17	17

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

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SOCIETY FOR SCIENCE AND EDUCATION

Poverty In The Developing Countries: A Multifold Curse

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ABSTRACT

As poverty is a systematic curse that affects many macro factors of economy, policies & planning not only in developing countries but throughout the world therefore it becomes a socioeconomic issue on national & international level and requires an effective framework. The purpose of the study is to identify the reasons of poverty & implications of allocated assistance by IMF & WB in the developing countries and exploring the responsiveness of international efforts to minimize the level of poverty. World Bank (WB) in the collaboration of IMF (International Monetary Fund) works for the international goal to reduce poverty through its planning & projects, provides aids to those countries that are economically weak or they are stabilizing their performances to improve their economy and controls it by SAP (Structural Adjustments Program).However, these aids & assistance are affected by political powers, corruption and mismanagement in developing countries and mostly it could not reach to allocated area that helps poverty to sustain. The study focuses on theoretical mechanics of poverty in the light of structural adjustments program and emphasizes on the need of effective governance and state citizen relationship. The result of descriptive analysis explained that aids & assistance do not reach to the deserving one because of political vested interests and corruption or spur inequality. These aids reach optimal levels only if there will no preferred creditor notions, state will be committed & responsible and good governance will also be required to reduce poverty with the help of unanimous efforts.

Keywords: Poverty, Political Economy, Socioeconomic, Recession.

INTRODUCTION

Easterly (1999) described "Eradication of Poverty" is the proclaimed millennium goal of the World Bank. To stress and emphasize their commitment, the World Bank even has this goal engraved in its main office. In fact, perhaps all the activities of the World Bank [WB] are directional towards achieving this goal. The WB in function provides guidance and council to those nations that are suffering from economic hardships. It works in close affiliation with the International Monetary Fund [IMF], the latter being an international financial institution. The IMF like the WB functions to assist crumbling economies, yet their mode of assistance being financial and technical makes them more influential, and their dictum more binding on their clients.

It is worth re-establishing here that the formation of the WB and the IMF were based on an international agreement after the economic backlash of the WWII. The IMF was born as the result of the famous meeting between leading nations of the world, the "Bretton Woods

Agreement". The consensus reaching the need of an international financing institution was fueled by the contingency-based provision of assistance to any country that found itself trapped in a deficit or liquidity trap. The IMF collected funds from its members, who enjoyed voting powers based on the extent of their contribution. The purpose of its existence was assistance and guidance for an economically struggling country to recover from the shock. Hence focus elements of the IMF have always been the economic performances and growth avenues; explained by Obstfeld and Krugman (2000).

Philip (2004) elaborated that the WB focuses on the complete political economy of the Country. The WB recognizes socioeconomic elements like inequality and poverty with respect to the role that they play in determining the long-term growth of the economy. Efforts of the WB have been to support countries in overcoming these barriers to success. In effect, the WB and the IMF should then be complementary organizations without any contradiction of organizational goals.

Poverty is one such element that is not only a characteristic of developing countries that the WB aims to reduce, but also a result of its policies and operations. Despite the existence of the WB and the IMF, poverty has perpetually increased in the world.

In fact, poverty is the major developmental problem of this century with more than half of the world living below the Two Dollar-a-Day benchmark; Annan (2000). To overcome this characteristic of the developing world, economic growth was stipulated as a necessary and sufficient condition. By the time mass poverty was "discovered" and acknowledged as a major developmental issue, the world was experiencing the era of growth through industrialization and poverty reduction because of the trickle down of this growth; Explained by Escobar (2001). Growth theories put forward by Harrod-Domar and Arthur Lewis dominated the economics of the developing world. The WB and other influential schools of economics picked up these theories and suggested their implementation as the path to success, based on the experience of the developed nations.

IMF initiated new programs to facilitate the indebted states in returning the outstanding loans. These included certain structural change programs, adjustment lending on prior loans, more financial assistance etc. The effect of these is widely researched and disseminated as being ambiguous in determining whether these efforts enhanced growth and alleviated the poverty levels, these two being the main goals.

It is within this framework that this paper will reassess poverty, explore its responsiveness to international efforts, its relation to economic growth and most importantly, changes in the level and extent of poverty considering the pro-poor plans and aid that is exclusively directed towards poverty reduction. In conclusion, the paper seeks to undermine the mechanics between growth, aid and poverty. Also, the highly relevant issue of the role of good governance will be included in the query. Moreover, analysis will be offered regarding the relationship between the state and the citizens, to examine the socioeconomic context of poverty.

POVERTY

Poverty can foster a lot of definitions. What economists usually limit to a certain income level is perhaps the most tangible of definitions for poverty. Escobar (2001) further explained in their discussion about poverty that the development discourse refers to a certain "problemization" of poverty, which at best is a socioeconomic construct and has established certain values and politics to the frame. It promotes that poverty has been overly objectified by the financial institutions and that it is more diverse and subjective than the WB defines it to be.

The reality and face of poverty is all but too real, and too stark for debate's sake. The appalling standard of life, the malnourishment, the almost negligible state health and education, the helplessness of those without any assets, are all too transparent. The problem of defining becomes important as it instructs us in finding who the poor are and what can be done for them effectively.

Esteva (1992) described poverty for all its variant aspects can be associated to underdevelopment. If development can be defined by Sen's freedom approach, then underdevelopment and poverty are states of being depraved of essential freedoms. These freedoms are related to the right to economic and social opportunities. Freedom has also been discussed as having access to the basic entitlements, and as having the right and opportunity to exercise your capabilities. And in a virtuous circularity, the entitlements we have increase our capabilities, which in turn increase our basic entitlements. Not being free would pertain to being deprived of one's rightful entitlements. Of being isolated from opportunities of improvement; as mentioned by Sen (1999).

For the sake of measurement and econometric study, this paper will establish poverty as living below a certain income level. In a subsequent section, which deals with the state-citizen relationship in the context of aid allocation and poverty, the paper will revert to dealing with poverty as a complex and non-monolithic concept. With the advent of time, poverty statistics have shot up. With 410 million people predicted to be living below the absolute poverty line by 2015; Annan (2000), absolute poverty has been said to decline but the number of people living in absolute poverty has increased. According to Annan there are at present 110 million children in the developing countries that don't attend primary school. Financial crises have also taken their toll on the poverty levels, with poverty increasing in Brazil, Argentina and East Asian countries after their economic fiascoes; Annan (2000). It is argued that poverty has increased because of the IMF's involvement in the economic affairs of a country. "When the IMF and the WB arrive in southern countries, corporate profits go up, but so poverty and suffering. Decades of promises that a little more short-run pain will bring long term gain have exposed the IMF and WB as false prophets whose mission is to protect those who already have too much power and wealth" MacEwan (2002).

THE GOOD, THE BAD AND THE UGLY

The IMF has been explained as an institution that functions to rid economic recessions. Despite emphatic reference to poverty as one of the main aims of its packages, the IMF is seriously challenged in evidence of its past involvement in countries. The reasons for this criticism are its structural adjustment programs and the general allocation of assistance, which has directly hurt the poor. In this way, the IMF and Aid are said to be the apparent good, which creates the ugly SAP's while poverty being the bad is perpetually burgeoning. In similar vein, the allocation of aid has great impact on poverty reduction, since the main aim of aid through international agencies and bilateral grants, has been reduction of poverty; Easterly (2001).In the aftermath of the Debt Crisis of the eighties and the subsequent dismal growth, the IMF featured as a major player in the economies of the indebted countries. Today, the IMF faces populous disrepute after the crashing of several economies that at one point exemplified the success of its structural adjustment programs. The main causes of this disrepute as mentioned are the Structural Adjustment Programs [SAP] and different adjustment loans that it mandates to indebted or repressed economies, as a precondition for financial assistance; Easterly (2001). The SAP's mainly constitute of policy reforms that compel openness in trade & the deregulation of protected sectors. Feldstein (2002) elaborated that it requires devaluation of the currency and a tight fiscal policy; shrinking out outlays like pensions, welfare spending, social safety nets, subsidies etc. Chenery & Strout (1966) explained The SAP's follow a certain economic logic, namely the Neo Liberal understanding of growth. The policy references of the SAP's garner their theoretical underpinnings from this school, which declares that for economic growth the state should be rolled back, trade should be open and interventions are minimal, protection should be removed and that market forces be deterministic rather than state decisions.

Aid granted to countries follows many reasons and benefits. While many part with it for reasons other than poverty reduction; Alesina & Dollar (1998), aid that is generated for the poor is often conditioned to similar prerequisite adjustments to enhance the effectiveness of the aid. These adjustments are similar in nature and impact as the SAP's. Collier & Dollar (2001) described furthermore that like the SAP's, aid has often been found to increase inequality and have little impact on poverty alleviation.

THE POVERTY MECAHNICS OF THE SAP

Now poverty is an essential outcome of the SAP's because the SAP's propagate policies that adversely affect the poor or the low-income households.

The SAP's are more of a precondition to further financial assistance. A country agrees to its conditions because it fails to pay back IMF's loans. The SAP's call for drastic change in the structure of the economy and more importantly in the resource allocation. The IMF assumes that the indebted country is engaged in populous spending, which caused its current deficits. Hence the first change is the cut back of fiscal expenses. These expenses involve public wages, subsidies, public investments etc. their basic affect is the loss of income and entitlements for the poorest and hence demand is thinned out as explained by Fronti, Miller & Zhang (2005). Furthermore, withdrawal of the state from enterprises introduces private ownerships that are rational agents and whose interest is profit making, not state welfare. Possible outcomes of privatization are higher prices and unemployment.

MacEwan (2002) explained that the second change involves opening the borders for trade and financial assets. This move is advocated based on the experiences of the East Asian countries, yet these very countries have had reported poverty increases after their crashes. Fronti, Miller, and Zhang (2005) described that opening of trade wipes out infant industries and often parts of the informal economy, which provides sustenance to most the people in the developing countries. Moreover, opening of financial markets opens doors to speculative attacks, and efforts to defend the currency require the increase in money supply and hence inflation is a definite outcome. The reduction in purchase power removes major nutrition and schooling from the lives of the citizens, driving them to a lower standard of life.

Now, for lowered wages in the SAP's the onset of inflation is treacherous. Many violent public riots have broken out in developing countries following inflationary pressures and falling wages. What many call the "whirlpool towards economic recession and a major collapse"; Fronti, Miller & Zhang (2005). looms as a larger reality under the SAP's. The case of Argentina is classic representation of how the IMF can ruin an otherwise healthy middle income economy.

Baker and Weisbrot (2002) described that there are yet more channels through which these SAP's affect the poor. Examples of the Peso Crash in 1997, the Mexican Crash in 1999, the Argentine Collapse in 2001 and then Euro Crises in 2012 (due to which Greece, Portugal, Ireland, Cyprus, Spain and Italy were bailed out by IMF) are some of the instances that warn against the evils of the IMF. In all the cases, one clearly observes the IMF back out as an economy shows signs of collapse after implementing the SAP. In fact, according to Thomas (2005), the IMF has been criticized for shrugging off any responsibility of the economic collapse. An economic collapse is perhaps of historic importance for the people of that country. Easterly (2001) explained that for the IMF, it is a mere instance of a country that failed to implement the SAP's appropriately.

Burnside and Dollar (1997) elaborated that naturally, the public of the SAP accepting nations must suffer intense hardships. It is worth mentioning here that growth is found not to be significantly attributed to financial assistance or aid independently. Now, growth has been witnessed in countries under the SAP's. This growth, while it was there, had no effect on the poverty levels. Ironically the responsiveness of poverty to growth has been found to be negative, which means that poverty increases as growth is experienced. Moreover, Easterly (2001) found that during recessions, the poor are not that drastically affected by the state of the economy.

GOVERNANCE AND SELECTVITY PRINCIPLE

The IMF has declared that it is lack of good governance that creates policy failure. In fact, in the debate regarding the allocation of funds and assistance to the developing countries, literature now reveals that often the failure rests on part of the recipient's commitment and transparency. Furthermore, as Burnside and Dollar (1997), it is found that growth is only positively related to foreign assistance depending on nature of the recipient country's regime.

Indeed, it has been asserted by laymen and researchers alike Boone (1994) that the SAP's do not warrant either growth characterized by inflation, speculation, unemployment and privatization of inefficient state enterprises. Whether the IMF's policy package delivers the growth it promised rests on factors that are exogenous to the entire debate. These include softer and intangible issues like governance, nature of the ruling regime, the state of macro-economy, the political condition etc. Much research has been done on the effectiveness of aid and foreign assistance from which Dollar and Pritchett (1998) elaborated that the significance of these factors on growth is much more than the postulated policy reforms and adjustment.

To maximize the effectiveness of aid, Collier & Dollar (2001) found that aid is better given to countries based on policy performance rather than mere need. This is often called the selectivity criterion. What it proposes is maximization of poverty alleviation through more efficient allocation of aid.

Rational as it sounds, this principle has been criticized for its defeating the original purpose, that being the eradication of extreme poverty. There is no doubt that the effectiveness of aid is greater for better governed countries, yet these better governed countries are less needy than the poorest ones. By giving aid to the not so poor will inevitably increase inequality and create a greater poor population. It is not fair, because having lack of institutional guarantees should not affect the aid per capita that an individual receives. Moreover, Cogneau (2005) explained that measuring good governance can be difficult and its indices are varied and often produce variant resultsxxiii.

Another interesting aspect of delving into aid allocation would be the fact that often, aid is given on political and national reasons, regardless of poverty levels. Moreover, aid has been given to regimes other than democratic solely because the country was a former colony. The fact that this kind of aid flow is present and is part of a much greater political reality, takes away from aid its chances of absolutely reducing poverty, achieving the millennium goal; as described by Alesina and Dollar (1998).

One more rather interesting aspect of the governance debate is despite the claim by the donors that they prefer transparent and committed recipients, Alesina and Weder (1999) found out through various corruption indices that being corrupt doesn't affect the aid allocated your way, in fact, empirically aid has gone more to the corrupt governments. This empirical result has more than one implication. First, it affirms after Alesina's 1998 paper that allocation of aid follows patterns other than targeting the poorest. Secondly it might also suggest that aid allocation increases corruption and aid.

The second suggestion might be more meaningful because allocation of aid not to the poorest will obviously cause corruption because that aid will be more fungible and without accountability. Considering that colonies and political allies are preferred recipients. In fact, aid if measured as a fraction of fiscal budgets, is huge for colonies and allies. Freeing so much fiscal outlays, the remaining aid is spent on wasteful consumption.

Fact that has been tested empirically by Boone (1996), now, one of the causes of bad governance is unearned state revenue as according to Moore (2001). This means income sources that are not generated from the economy. Whether it is natural resources or foreign assistance, unearned revenue has been found to cause bad governance, because the state is not accountable for service provision or the fact that there are no pressure groups. Whatever the case be, excess aid allocation to certain countries creates bad governance in the form of corruption and global inequality. So, relevance of the selectivity principle is redundant if there's the political flow of aid, because this mars poverty alleviation in several ways.

STATE-CITIZEN RELATIONSHIP AND POVERTY

Discussing the relationship between state and citizens provides meaningful indicators as well as assessing poverty more realistically.

The state citizen relationship is perhaps the most reflective index of corruption and transparency. If the state is accountable to its citizens, then there is automatic negation of any corruption or governance. If the state citizen relationship is weak, then one might anticipate that the government need not be accountable and hence chances of fraud and corruption are lower. For clarification, a strong state-citizen relationship is believed to be in Venezuela where there's a full welfare system, many demonstrations every day that demand better rights for labor and workers which are mostly granted etc. A weak state citizen relationship example can be any military regime where the state is not answerable to its people.

Moreover, poverty transcends beyond an economic reality. It is as social a reality as it is economic. Poverty isn't restricted to incomes; it is a complex measure that accounts for the individual's assets and opportunities to cash in on those assets.

The world over, one hears of the landless movements, the Zapatista movement in Mexico, the landless farmer's movement in Bangladesh, the Kachi Abadi movements in Pakistan etc. are all images and manifestations of the same problem: poverty.

For developing nations around the world, this relationship is withering away because global political economy is moving in a direction where policies like the SAP's must be implemented even though these are generic and regardless of ground realities of each country. Privatizations are a common practice. Opening of trade and lifting of barriers is being witnessed all over the world.

While there's no determined relationship between growth and openness, or financial development and growth, and economists have proved that the general macroeconomic factors play a far more important role in the development of an economy, countries are still attracted to aid packages and financial assistance, in hope of economic prosperity. At the same time, they are willing to reduce fiscal expansion to whatever amount needed, in hope that the short-term pain will result in some long run gain. However, the promised growth has not been witnessed yet.

The world GDP is said to increase by 200% because of trade liberalization, yet liberalization has not transcended into poverty alleviation for the poorest, reason being inequality and unjust distribution of resources. To a large extent, the prevalent poverty is because of a weak citizen relationship with the state, as well as economic realities that make it even more difficult to establish this relationship.

CONCLUSION

This paper examined poverty as a socioeconomic issue that is most definitely an international developmental goal. Efforts to alleviate it like IMF funding and Aid by the developed world are incomplete and insufficient in reaching the millennium goal of eradicating poverty. Reasons for this outright claim are the vested political interests on an international as well as national level that hinder aid from reaching the most deserving candidate. In effect, aid and assistance should be viewed with caution, because based on the situations on ground for the recipient country; the allocated aid might just cause corruption or spur inequality, both of which are intermediary elements towards poverty.

Aid or any kind of assistance will only reach the optimal effect, if there are no structural prerequisites or preferred creditor notions, which draws out precious resources from the already poor states. This of course, is only a necessary condition. The sufficient conditions would involve checks on governance, responsible and committed behavior by the state and allocation to the most deserving.

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Research on Ethical Problems of Chinese Food Firms and Implications for Ethical Education Based on Strategic CSR

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ABSTRACT

Strategic CSR (corporate social responsibility) can be defined as a firm's management philosophy or practice of CSR that good deeds it does will bring profits and benefits to it in the long run. Such a philosophy or practice mainly stems from the motivation of economic benefits to be brought by social programs, which may have some potential ethical problems such as such activities may include some cheatings or hypocrisy which may harm customers and businesses themselves. The paper makes an in-depth research on the ethical problems of Chinese food firms based on strategic CSR, and the underlying reasons for firms involving in ethical scandals, and on this basis puts forward some countermeasures in order to prevent the occurrence of similar problems in the future.

Key words: strategic CSR; problems; reasons; countermeasure

INTRODUCTION

China is now facing a very serious CSR problem in its food industry. A lot of food scandals have been exposed by the media such as Sanlu Tainted Milk, McDnolds and KYC overdue meet, etc. Food consumers are all worried about whether what they eat every day is safe or not. They have gradually lost their confidence about the security of Chinese food, and even world-famous foreign-brand fast-food in Chinese market.

Corporate social responsibility is defined as the corporate management philosophy and practice that highlight both social and economic effects (Boone and Kurtz, 2002). It means that firms should undertake ethical and legal obligations in addition to creating profits to investors, in order to balance the interests of stakeholders, such as consumers, employees, the community, and the government, etc. Strategic CSR refers to a firm's management philosophy or practice of CSR that good deeds it does will bring profits and benefits to it in the long run, which means that the firm is acting in a socially responsible way such as donating money to social programs or charitable causes, expecting to have some economic returns from these good deeds. Strategic CSR is the very type of CSR most firms are taking in the practice because the act of a firm's social contribution is not only good for the society but also good for the investor's long-term profitability and development.

Real facts in the current China indicate that quite a lot of Chinese food enterprises including foreign-invested companies have not ethically followed their management philosophy of balancing the interests of consumers and investors in order to maintain the long-term sustainable development of the industry. It is thus important for researchers to conduct specific researches on the potential ethical problems of Chinese food enterprises based on the theory of strategic CSR.

This paper will make an in-depth research on the potential ethical problems of Chinese food firms based on the theory of strategic CSR, analyze the underlying reasons for firms involving in ethical scandals, and on this basis, put forward some countermeasures in order to prevent the occurrence of similar problems in the future.

LITERATURE REVIEW

Status quo of CSR studies

It is generally accepted that the concept of corporate social responsibility was first put forward by Oliver Sheldon in 1923. Ever since then, as a result of consumerism, human right movement and environmental friendly campaign, its influence has been increased step by step. Different schools of CSR theory have emerged at different eras. Friedman (1953,1973) in The Methodology of Positive Economics, Essays on Positive Economics puts forward his theory of CSR which is known as the theory of shareholders. He argues that the only social responsibility of a commercial business is to make profits to its investors or shareholders as a kind of fiduciary responsibility. He even argues that any business activities other than making money for investors will be considered to be unethical, because they have damaged the interests of investors. Carroll (1991, 1999) argues that there is a four-level pyramid of corporate social responsibility toward the moral management of organizational stakeholders, which include economic responsibility, legal responsibility, ethical responsibility, and altruistic responsibility, which means that economic responsibility is only one fundamental social responsibility concerning the survival of a firm, and in addition, it should also take the legally required social responsibility, the ethical suggested social responsibility, as well as the selectively advocated social responsibility. Vaughn (1999) argues that firms find long-term rewards to investors in doing good, so they are suggested to take social responsibilities in order to realize their sustainable development.

Freeman (2000), in his book “Strategic Management: An Approach”, argues that firms’ social responsibilities should be more than creating profits to investors to consider the interests of all shareholders in business operation. Thus, the theory of stakeholders comes into being, which has a great influence over the development of CSR. Based on the theory, a firm has both internal and external stakeholders which may have impacts on the development of a firm. These stakeholders and their interests in the firm are seen as Figure 2.1:

Figure 2.1: Internal and external stakeholders and their interests

Name of Stakeholder	Type of stakeholder	Stakeholder's Interests in the firm	Impact of the firm's unethical acts on stakeholder
Owners	Internal	Investment profits, dividends	Loss of profits, no dividend payment
Employees	Internal	Job security, fair pay, fair opportunity	Job-cutting, unfair pay, various discriminations
Customers	External	Right to be safe, right to choose, right to be informed, and right to be heard	Loss of product security, and other consumer rights
Suppliers	External	In-time pay for product or service delivery according to contract	Delayed pay for delivery, no pay for delivery
Creditors	External	In-time repay of principals and interests	Delayed repay or no-repay of principals and interests
Government	External	Compliance with laws and regulations in the market, taxation	Breaking laws and regulations, unfair competition, loss of tax
Community	External	Job creation, environmental protection, community development	Loss of job opportunity, Pollution of the environment

It is important to notice that an unethical action of a firm may negatively impact the interests of a stakeholder directly or even several stakeholders indirectly at the same time. Alternatively, the stakeholder impacted by the firm's unethical behavior may also in turn negatively impact the development of the firm. For example, if the firm hurts its customers by selling unreliable or even dangerous products to them, they will in turn refuse to buy its products any more, which may put the business out of business. Thus, as a commercial business, it is essential to balance the interests of all stakeholders in its business operations.

Review of strategic CSR

Lantos (2000) in his paper The Boundaries of Strategic Corporate Social Responsibility defines the concept of strategic corporate social responsibility as strategic philanthropic cause which means that a firm considers the taking of social responsibility or charitable cause to be a kind of marketing campaign to realize its strategic objective of enlarging sales and profits as it believes that doing good to the society equals to promoting a firm's reputation and increasing its return. Vaughn (1999) also argues that strategic CSR is good for the long term benefit of a firm, since doing good will generate returns in the long run. Hatman (2002), and Ebert & Griffin (2006) in their publications make discussions on the types of CSR covering ethical CSR, altruistic CSR and strategic, among which ethical CSR means supporting social causes based on clearly defined values and corporate consciousness norms, and altruistic CSR means contributing to the society without the purpose of getting returns. Furthermore, simply speaking, strategic CSR refers to a firm's good deed with the expectation or purpose of getting returns. It is commendable that strategic CSR should taken by firms because it balances the interests of both owners and the society. See Figure 2.2:

Figure 2.2: Comparison between altruistic CSR and strategic CSR

Type of CSR	Definition	Advantage	Disadvantage
Altruistic	Taking social responsibility for no future returns	High ethical standard and great deed	Neglecting the interests of owners
Strategic	Taking social responsibility for future returns	Balancing the interests of both owners and the society	Tools of marketing or even cheating

In China, there have been some research findings on the issue of strategic CSR. Based on the reveiw, the paper finds that: Zhu (2006) makes an analysis of the strategic adjustment of business public relations under CSR, and argues that firms should develop the marketing strategy of strategic public relations to increase brand image and sales. (2009) made a study on the relationship between strategic CSR and corporate competitive advantages, confirming that strategic CSR initiatives provide some degree of support to the enhancement of a firm's competitiveness. Xia (2010) Mai also makes an empirical research on the impact of strategic CSR on the brand capital in China and argues that there is a positive relationship between the performance of strategic CSR and the increase of corporate brand. Li (2011) makes a related research and argues that there are three values of strategic CSR added to the increase of China's CSR management level. Xuan and Feng (2011) makes a detailed review of the basis, features, paths of strategic CSR. Luo (2011) develops a conceptual model for the recognition of strategic CSR initiatives. Zhang (2014) makes a review of research progress in strategic CSR in China.

Researches on food firms' CSR issues

From the review of literature, it can be seen that there are some Chinese researchers who have done some studies on food firms' CSR, such as Wang (2009) who makes a research on the relationship between food security and modern CSR, Zuo (2010) who makes analysis of Chinese food security management based on the perspective of ISO26000, Feng and Wu (2011) who explore into the problem of food firms' CSR triggered by food safety scandals, and so on. However, there is no research finding found out on the issue of food firms' CSR based on the view of strategic CSR. Therefore, it is of realistic importance to do the related in that it will enrich the scope of related study filed, and what is important is that it will help to better understand the food safety issue and ethical problem of food firms in China and put forward some suggestions for improvement.

The paper will try to answer the following questions: Are Chinese food firms regarding strategic CSR initiatives as tools of marketing or even cheating customers? What causes the ethical problems of Chinese food firms? What can be done to reduce and even prevent these problems?

ANALYSIS OF ETHICAL PROBLEMS OF CHINESE FOOD FIRMS BASED ON STRATEGIC CSR

Status of ethical problems of Chinese food firms

Ever since 2008, the report of Sanlu Tainted Milk scandal has triggered the attention of the media and government as well as the general public to the ethical problems of Chinese food firms. The subsequently reported milk firms with a high profile cover nearly all the Chinese domestic and even foreign brand food firms such as Mengniu, Yili, Guangming, Nestle, KFC, McDonalds, and so forth. What is strange is that these firms are promoting themselves with the marketing strategy of actively participating in CSR initiatives, caring about the food safety and contributing to the society, such as their slogans of donating a cup of milk for the poor child a day, and advocating the management philosophy of "drink a cup of milk a day and strengthen the health of Chinese people". But in fact, they are not doing good deed when driven by the big money behind. They are maximizing their profits on the excuse of taking fiduciary responsibilities to their owners on the basis of sacrificing the interests of their customers. Simply speaking, these firms actually consider strategic CSR initiatives as tools of promoting their products and brands or even cheating their customers.

As a result of the media's transparency and customers' increasing awareness, more and more business ethical scandals are made public and punished in these years. These ethical problems can be summarized as three features, first, the scope of food safety problem is quickly widening to cover from milk, eggs, fish, and beans to nearly all the other types of food like fruit, wine, food oil, medicine, etc. Second, the method of immoral and illegal production and sales of food becomes more and more hidden and various. The food firms are using all kinds of chances and methods to cheat customers. Third, the degree of loss caused by the food safety problem is becoming more and more serious. The general public may feel unconfident for whatever they are eating. They are in doubt about anything they put into their mouth. The status of the people's concern reflects the bad consequence caused by the business scandals of food firms in the recent years, which can be seen in Figure 3.1:

Figure 3.1 Examples of ethical problems of Chinese food firms reported by the mass media in recent years

Type of unsecure food	Food firms involved	Potential harms to health	Year of report
Tainted milk	Sanlu, and other milk firms	Causing the renal and urogenital disorder or even death of drinkers	2008
Nitrofuran hairy crabs	Crab sellers	Leading the cancer of eaters	2009
Pork with lean meat powder	Pig husbandry firms	Leading the heart disorder or death of eaters	2010
Drainage oil	Food oil producers and sellers	Causing harm to the stomach of eaters and even death	2010
Forged green pork	Walmart Chengdu Store	Pricing cheating to the customer	2012
Glazed fruit adding bleach preservatives	Glazed fruit producers and sellers	Leading to the cancer of eaters	2012
Over-due meet	McDonalds and KFC	Leading to the health problems of eaters	2015

Source: Adapted from reports of the mass media

In a summary, the current status quo of ethical problems of Chinese food firms is worrying and serious. It is commonly recognized that Chinese food firms in the current stage of development tend to regard strategic CSR initiatives as tools of marketing or even cheating customers from the fact or evidence that what they are saying is one thing while what they are doing is another. In the following is the analysis of the underlying reasons for the ethical problems.

Underlying reasons for ethical problems of Chinese food firms

The first reason is the natural consequence of people's living condition improvement. The concentrated breaking-out of the food safety problem in the recent years originates from the historical change of the Chinese food consumers. Dating back to the period before the opening-up policy of earlier 1980s, there was a shortage of food in the whole country so how to fill our stomach was the most important issue to be concerned, and no one concerned about the ethical problem of food firms. But from 1984 to 2000, the country's food safety concern began to be in infantry. The government issued the Law of Food and Medicine Safety to enhance the supervision on organic food or green food. Ever since 2001, with the improvement of people's living condition, there have been more and more concerns about food safety, especially since the 2008 business scandal of Sanlu Tainted Milk, the ethical problem of Chinese food firms has been the systematic problem of large food firms in the industry rather that of smaller family food businesses.

In the current stage of Chinese economic development, a majority of Chinese food firms are regarding profit-making as its primary objectives, thus still tending to lose their bottom line in face of opportunities of making big money or regarding their CSR initiatives as tools of making more profits strategically. And at the same time, people or consumers in recent years begin to consider the quality of food as more and more important because of the improvement of people's living condition. Therefore, naturally, there concentrated breaking-out of food firms' business scandals becomes possible as a result of the people's increasing awareness of food safety and better eating for healthy life.

The second reason is the imperfect external institutional environment of the country. On the one hand, the related law and regulation on food safety need to be perfected to cover all types of food and all sections of the whole food supply chain. On the other hand, the whole-process supervision and investigation on food safety and food firms from the farm plantation to the dinner table has not be established to ensure that there is no ethical problem of food production and processing along the whole supply chain or value chain. For example, in the case of Sanlu Tainted Milk, the lack of whole-process regulation and investigation leads to the loss of the food firm's bottom line in operation. These issues include the leaping hole of governmental whole-process supervision mechanism for food firms, the lack of proactive supervision of the government authorities, the special care or loosened control given by the local government to the food firm in the local region. Therefore, the shortcoming of the external institutional condition is likely to result in the possibility or chance that food firms seek to maximize their profits by sacrificing the interests of stakeholders like customers or the general public with the advocating of strategic CSR initiatives such as donations to charity or green marketing activities.

The third reason is the imperfect internal management philosophy and practice of food firms. The reported immoral food firms have a common shortcoming in their internal management practice that is they have not established a correct management philosophy and a sound CSR management and supervision system within the organization to direct and control the behaviors of all functional departments along the whole value chain. For example, they have not established a well-defined code of ethics or shared core values for the whole organization to let all employees and managers know what is right and what is wrong, or what can be done and what can not be done. They have not put CSR strategic objectives into the overall organization's strategic plans so that there are clearly-stated evaluation standards of CSR performance each year, and in the corporate governance system, they have established a directly responsible CSR department with a director to be in charge of social audit and CSR performance in the whole organization. In addition, there are not 100% independent outside directors in the board to represent the interests of different stakeholders, because the directors or members are actually filled with their relatives and acquaintances in the board and control committees.

As a result of these above-mentioned shortcomings existing in the internal institutional system of these food firms, when facing the pressure of intensified market competition and highly-set profit-making target, managers of these food firms choose to ignore the quality of raw materials and finished in the upper value chain to seek for the reduction of operation costs and the maximization of profits. Immoral or illegal behaviors become fatal in the end because there is no person in charge. What is important is that the whole organization have a wrong management value that they consider CSR contributions as purely a marketing tool or tactics to retain existing customers or attract potential customers strategically. They say that they are pursuing the value of high quality, green production and social contribution, but in fact, what they are saying is one thing, but what they are doing is another, simply they are cheating the customers and causing damages to the public health with an outer clothing of making special contribution to the society.

CONCLUSION AND SUGGESTION

In conclusion, strategic CSR refers to the good deed of firms that is regarded as a means of marketing to improve their profits in the long term. Simply, the practice of CSR initiatives is designed to seek the increase of reputation and profit return. Based on the theoretical review and the case analysis of Chinese food firms' strategic CSR practices, the paper finds that Chinese food firms tend to regard strategic CSR initiatives as tools of marketing or even cheating customers. The underlying reasons for the ethical problems of food firms include the increase of consumers' awareness of the food quality and safety as a result of economic development and living condition improvement in recent years, the imperfect external institutional system of the country such as the related law and regulation as well as the control flaw in the whole-process of food production along the value chain, and the imperfect internal management philosophy and practice of food firms in China. It is thus suggested to take the following countermeasures from the joint force of both external and internal institutional systems so as to improve or even prevent the ethical problems of food firms:

First, in the construction of external institution, the legal authority should amend and perfect the related law and regulation on food safety, for example, the adding of provisions on more serious punishment on food-safety-related crimes and unethical acts by increasing the costs of illegal and immoral behaviors. The government agency should strengthen the control of market entry and whole-process supervision on food firms along the whole value. And at the same time, it is necessary to enhance the media's transparency and social organizations' norming roles in the regulation on food firms' conducts.

Second, in the construction of internal institution, food firms should be required to develop the code of conducts and enlist the objective of CSR strategies into their strategic plans for implementation to let managers and workers have the awareness of ethics and the target of

CSR performance. Food firms are suggested to establish an effective corporate governance system to balance the interests of different stakeholders.

Third, food firms are suggested to appoint a director in charge of social audit and CSR strategy implementation. But of course, leaders of the firms should support the CSR efforts with the fostering or cultivating of a CSR culture awareness and correct management values, so that all staff are clear about the values, rules and norms.

Third, food firms are suggested to enhance the training and education for employees to be able to make proper ethical decisions and reasoning when faced the ethical issue in their daily work environment and business management practices.

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Challenges MSMEs Face And Benefits In The Adoption Of Open Collaborative Innovation: A Principal Component Approach

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ABSTRACT
This study investigates the use of open collaborative innovation practices by MSMEs in Botswana and uses the opinions of a stratified sample of 206 MSMEs' owners/managers to identify the benefits and challenges that MSMEs face in engaging in open collaborative innovations to scale up their businesses. The results show that majority of the enterprises (81.1%) were not engaged in open collaborative innovations, had owners/managers with first degree qualification or below (59.7%), lacked access to financial resources, and had below 5 years of experience (69.4%) in running the enterprises. Using the Principal component analysis, the identified benefits are increased financial revenue, improved market strategy, better incentives and improved knowledge; while the challenges are lack of networks, lack of financial support, market demands and previous innovation experiences. The study recommends that there is need for agencies charged with MSME Development in Botswana (LEA, CEDA) to sensitize MSMEs to engage in open collaborative innovation to enhance growth; enterprises should be encouraged to collaborate with universities to bridge the gap in the lack of qualified research experts with PhD ; policies to enable the MSMEs access finance for the businesses and protect the intellectual property rights abuse of businesses are imperative; and policies that would protect micro and small enterprises from unnecessary market competition with larger enterprises need to be put in place.

Keywords: Open collaborative innovations, MSMEs, benefits, challenges, businesses

INTRODUCTION

Micro, small, and medium enterprises (MSMEs) represent a very important contributor to the economy of many nations. They are argued to promote inclusive growth through the creation of employment opportunities for the poor especially women (Mead, 1994; Wohlmuth, et al, 2009; Lin & Lin, 2001; Daniels, 1999). MSMEs are the key to a country's economic growth and their success can help reduce poverty, improve health of families and communities, raise literacy and educational levels, and empower women (Op cit). MSMEs are the dominant form of business organization, representing roughly 95 – 99% of all companies of which 91.8% were micro-enterprises (Carnazza, n.d). According to the Organization for Economic Cooperation and Development (OECD), MSMEs represent more than 95% of enterprises and account for 60-70% of the employments in most countries (OECD, 1998) while in US the percentage of enterprises classified as MSMEs is 96 (Robu, 2011; OECD, 2000). MSMEs are the biggest contributors to the gross domestic product and make up over 99 % of all enterprises in all EU countries and in Norway (Airaksinen et al. 2015). The contribution of MSMEs tends to be somewhat lower in manufacturing, although it varies between 40 to 80 per cent of employment in manufacturing (OECD, 2000). In countries like Japan or China, 60% of GDP comes from MSMEs, in the USA that percentage goes up to 65%, and in the UE MSMEs generate 52% of GDP (Ayyagari et al, 2011). In 2010 the degree of employment generated by MSMEs in

EU was 67%. Micro companies contribute to approximately 30% of that percentage, small enterprises with approximately 20% and middle companies with 17% (Carnazza, n.d; Airaksinen et al. 2015; Edinburg Group, 2012).

In India, MSMEs contribute nearly 45% to manufacturing and about 40% to the Indian export sector. Their contribution to the Indian GDP is 8% and the sector has registered growth rate of 10.8%. MSMEs provide employment to almost 60 million people, and it is the largest source of employment in India, after the agriculture sector (Price water house Coopers Private Limited, 2011). MSMEs brought about 30% of the total export value in Asia on average in 2007–2012. In the People's Republic of China (PRC), MSMEs accounted for 41.5% of total export value in 2012, up 6.8% year-on-year, while in Thailand they made up 28.8% of total export value with 3.7% year-on-year growth. MSMEs have the potential to promote international trade and mobilize domestic demand (ADB 2014). MSMEs contributed 59.1% of nominal gross domestic product (GDP) in Indonesia in 2012. In Thailand, it contributed 37% of nominal GDP in 2012, and in Malaysia, 32.7% of real GDP in the same year (Yoshino and Taghizadeh-Hesary, 2016). In Bangladesh, enterprises of less than 100 employees account for 99% of firms and 58% of employment. Similarly, in Ecuador, 99% of all private companies have less than 50 employees and account for 55% of employment (WBCSD, 2007). According to the International Finance Corporation (IFC), there is a positive relationship between a country's overall level of income and the number of MSMEs per 1,000 people (IFC, 2006).

In Africa there is also boom in small and medium-sized enterprises including microenterprises. More than 90% of all firms outside the agricultural sector are SMEs and microenterprises, generating a significant portion of GDP. For example, in Morocco, 93% of industrial firms are MSMEs and account for 38% of production, 33% of investment, 30% of exports and 46% of employment.These small and growing businesses create around 80% of the region's employment, establishing a new middle class and fuelling demand for new goods and services (dos Santos, 2015). MSMEs in South Africa account for about 91% of the formal business entities, contribute to about 51% of GDP, and provide almost 60% of employment. The Government of South Africa sees the advancement of Small, Medium and Micro-sized Enterprises (MSMEs) as the catalyst to achieving economic growth, development, job creation, mitigation of poverty, and as an economic empowerment vehicle for previously disadvantaged people (Masarira and Msweli, 2013). It is estimated that MSMEs account for 70 percent of Ghana's gross domestic product (GDP) and 92 percent of its businesses, and 70 percent of the manufacturing sector in Nigeria (Frimpong, 2013). The MSMEs serve as a means for economic diversification through the development of new and unsaturated sectors of the economy. In many African countries MSMEs account for about 50% of job creation. In Tanzania for example, it is estimated that more than a third of the GDP originates from the MSME sector (Frimpong, 2013; Akugri, 2015).

However, despite this high growth rates, MSMEs are also facing a number of problems. For instance, in India they face suboptimal scale of operation, technological obsolescence, supply chain inefficiencies, increasing domestic and global competition, fund shortages, change in manufacturing strategies and turbulent and uncertain market scenario (Pricewater house Coopers Private Limited, 2011). The main challenges affecting MSMEs in South Africa include lack of management skills, finance, access to bank credit, access to markets, and skills shortage (Masarira and Msweli, 2013).

Although the level of awareness of MSMEs is remarkable and MSMEs contribute to the development of African economies, yet the growth of MSMEs in Africa faces a number of challenges. They include the lack of access to appropriate capital from both the banking sector and the capital markets. There is a general perception in the financial sector that lending or provision of capital to MSMEs is risky business due to high mortality rates of MSME businesses, suspect management capabilities and skills, poorly prepared business proposals, obscure historical records of the operations of the MSMEs and the lack of reliable collateral or collateral mismatch between type of assets held by MSMEs and type of assets required by banks for collateral (Frimpong, 2013). Yoshino and Taghizadeh-Hesary (2016) outline limited access to finance, lack of a database, low research and development (R&D) expenditures, undeveloped sales channels, and a low level of financial inclusion as some of the reasons behind the slow growth of MSMEs. Chimucheka and Mandipaka (2015) identified lack of networking opportunities and lack of government support as some of the impediments to the establishment, survival and growth of MSMEs in the Nkonkobe Municipality in Eastern Cape Province of South Africa.

In Botswana, the MSME policy identifies three different categories of micro, small, and medium sized enterprises (MSMEs) (Government of Botswana, 1999) based on the size and annual turnover (see Table 1).

Table 1: Categorization of MSME in Botswana

Enterprise	Size (employees)	Annual turnover
Micro	1- 5 (including owner)	P 60,000 ($ 7, 500)
Small	6- 24	P60,000–P1,500,000 ($7,500 - $187,500)
Medium	25-100	P1, 500,000 - P8, 000,000 ($187,500 - $1,000,000)

Exchange rate US$1 = P8; Source: Government of Botswana (2009)

Definitions of MSMEs are different country by country. In some countries the criteria for the categorization is capital, in some countries it is based on the number of employees, and others use a mixed criteria and it varies in each business. In the European Union, the upper limit is 250 employees while in United States MSMEs include firms with fewer than 500 employees. Small firms are those with fewer than 50 employees while micro-enterprises have at most 10 or in some cases five workers (OECD, 2000).

Table 2: Definition of MSMEs based on firm size and percentage of enterprises

Enterprise type	United States of America		European Union	
	Size of enterprise	Percentage (%)	Size of enterprise	Percentage (%)
Micro	0-9	50	Less than 10	93
Small	10-99	38	10-49	5.9
Medium	100-499	8	50-249	0.9
Large	500 or more	4	More than 249	0.2

Source: OECD/Eurostat database on SME Statistics; OECD (2000)

The MSMEs in Botswana are generally owned by citizens, whereas the larger firms are predominantly foreign owned. Therefore, for this sector to grow, the citizens have to be economically empowered. MSMEs in Botswana account for 50% of the private sector employment, 32% of employment (Micro, 14%; Small, 14% and Medium, 4%) and 15-20% of the GDP (Jefferis,n.d). Approximately 80% of the small enterprises cease trading within five years of the establishment phase (Jefferis,n.d; Okurut et al., 2015; Modisane, n.d). The main constraints to the growth of the MSME have been identified to include lack of entrepreneurial and management skills and experience, problems of accessing finance, restrictive regulations, lack of market, poor quality products, lack of commitment by promoters on their business and lack of qualified mentors to oversee projects, shortage of business premises especially for small enterprises, and lack technology, innovation and expertise (LEA,2007; BIDPA, 2007; Modisane, n.d; Lall and Peedoly, 2006).

The Government of Botswana has put up structures and institutions to assist the MSMEs. They include:

- ***Citizen Entrepreneurial Development Agency (CEDA)-***provides subsidized credit, along with monitoring, mentoring, business advisory services and training, to selected citizen entrepreneurs (CEDA, 2016);
- ***The Local Enterprise Authority (LEA)-*** provides development and support services to the local industry needs of MSMEs, encompassing training, mentoring, business plan finalization, market access facilitation, and facilitation of technology adaptation and adoption (LEA, 2008);
- ***The Youth Development Fund (YDF)*** -It caters for out-of-school youth, marginalized youth, unemployed youth and underemployed youth (working youth earning less than P600 monthly) who are citizens of Botswana aged between 18-29 years (Molelu, 2010). The Youth Development Fund is 50 percent grant and 50 percent interest free loan of the total approved amount.
- **Young Farmers Fund (YFF)-** provides funding to all young people (aged between 18 and 35 years) who are citizens of Botswana or wholly citizen owned companies, wishing to start or expand agricultural projects (Ministry of Finance and Development Planning, 2006).
- ***Botswana Textile and Small Business Owners Association (BOTSBOA)-*** develop business linkages between small, medium and large scale entrepreneurs to further entrepreneurial development and growth; creates opportunities for members of the association to interact with Government and other organisations and to facilitate the benefit from Government programmes and incentives; facilitates bulk buying of raw materials for the members to reduce the costs through buying for the association. Membership to BOTSBOA is open to small and medium scale entrepreneurs of all sectors i.e. small business owners (Government of Botswana, 2011).
- ***Botswana Innovation Hub:*** The premises of BIH are designed based on four main principles: orientation to high-tech customers, flexibility, ample common-use premises/shared facilities and use of environmentally-friendly technologies; offers tailor-made solutions, with high standards of security and data connections; BIH services are designed to support tenants' competitiveness by allowing them to concentrate on their core business; provides advanced telecommunications infrastructure and services, modern and fully equipped meeting and conference facilities, human resources services, reception and helpdesk, professional facilities management, security and access control, telephone, cleaning, mail, cafeteria & catering. Additional services as furniture leasing, removal services, travel services, transportation, shipping agent, courier services, short-term legal advisory services are provided. BIH will regularly develop a range of services based on companies' needs and feedback (Government of Botswana, 2011).
- ***Private sector institutions***, which support MSME development, include commercial banks, microfinance institutions and non-government organizations (such as Women in Business Association Botswana [WIBA]).

Despite the support given to MSMEs by the Government, institutions and the private sectors, the growth of the MSMEs in Botswana has been minimal. One of the areas of support from the institutions has been for MSMEs to establish linkages or collaborate with each other to enhance their growth through innovations. As a strategy for young firms or enterprises to scale up their businesses, open innovation collaboration with larger and established enterprises or firms has been seen to be an important and a valuable option. This is so that younger enterprises are able to access capacity building in financial and organizational management from the larger and established enterprises/firms, while the established firms seeking to improve their external innovation capabilities can take advantage of the different perspectives, approaches and risk outlooks of young firms (World Economic Forum, 2015).

Chesbrough (2006) defined open innovation as the use of “purposeful inflows and outflows of knowledge to accelerate innovation internally while also expanding the markets for the external use of innovation”. This model involves strategic, managed exchanges of information. Friedman and Angelus (n.d) defined collaborative innovation as an open innovation strategy that enables consumer packaged goods (CPG) manufacturers and retailers to partner for profit and provide shoppers and consumers with more innovative offerings. Open collaborative innovation allows for the utilization of external ideas from different interinstitutional and transdisciplinary entities, and looks towards the common goal of providing practical solutions to business challenges that arise in a globalized world (Ramirez, 2016). Between 30 and 60 per cent of MSMEs can be characterised as innovative, of which some 10 per cent are technology-based. Innovative MSMEs are more market-driven rather than research-driven, and respond very fast to new opportunities than large firms (OECD, 1998). Open innovation has a wide range of potential opportunities for significantly improving the innovative performance of MSMEs. Open innovation practices, for example, can offer alternative and more viable strategies by which growth-oriented MSMEs can access inter-firm resources at a lower cost, addressing obstacles such as technological and internal financial and human resources that hinder new product development and the ability to enter new markets. Additionally, open innovation can enable greater access to information, technologies and laboratory facilities that could have taken years and require significant R&D investment to acquire in-house (Wynarczyk, 2014).

A study by the OECD found that only 5-20% of MSMEs are actively using open innovation approach (Hossain, 2015). Studies on open innovation in MSMEs are also fragmented (Bianchi et al. 2010; Colombo et al. 2014). Some researchers argue that MSMEs can achieve greater benefits from the open innovation than larger firms because of their less bureaucracy, increased willingness to take risks, and faster ability to react to changing environments (Parida et al. 2012). Gassmann et al. (2010) have shown that open innovation is a promising means for MSMEs to overcome their challenges and increase their profitability.

MSMEs face a number of unique challenges to innovate. Abouzeedan et al. (2013) argue that these challenges include scarcity of resources, complexity of scientific field, coordination of the operative functions of the firm, and access to up-to-date scientific excellence. Studies by Van de Vrande et al. (2009) and Saguy (2011) have shown that despite the widespread applications of Open Innovation, MSMEs still struggle with its implementation due to their relatively low level of absorptive capacity, policy and financial constraints, and perceived management challenges (Rahman and Ramos, 2013). Companies that begin to interact with external partners tend to face organizational and cultural issues; negative attitudes to knowledge sharing are the most prevalent among MSMEs and act as the main barrier to the implementation of OI approaches (Yoon et al. 2016). Other challenges faced by MMSMEs which still are related to organisational and cultural issues include: venturing, customer involvement, external networking, research and development (R&D) outsourcing, and external participations (van de Vrande et al. 2009). How these apply to MSMEs in Botswana together with the challenges they encounter in Open Collaborative Innovations (OCI) to improve the growth of the enterprises are not very clear and constitute the crux of this paper.

This study investigates the use of open collaborative innovation practices by MSMEs in Botswana and identifies the challenges that the MSMEs face and the benefits when pursuing a more open approach towards innovation.

METHODOLOGY

The study covered three cities, namely, Gaborone, Lobatse and Francistown in Botswana and their environs, purposively selected because of concentration of MSMEs. Data were collected from stratified sample of 206 micro, small and medium enterprises (MSMEs) that were interviewed (Table 3). This sample size was determined with the use of Raosoft (2004), a sample size calculator, which shows that a statistically appropriate sample size for a population of 56,450 MSMEs (50, 000 Micro enterprises, 6,000 small enterprises and 450 medium size enterprises) (Sentsho, n.d.) at 95% confidence interval and allowing an error margin of 5% is 382. However, this statistically acceptable sample size was reduced to 206 because of the limited budget for the study.

Table 3: Number of interviewed MSME

Type of enterprise	Number interviewed	Percent
Micro	101	49
Small	80	39
Medium	25	12
Total	206	100

Two types of data, qualitative and quantitative data, were collected in the main study from which this paper emanated, through documentary review, focus group discussions/key informant interviews, and MSME survey. The key issues captured from the interviews included: the perceptions of the MSMEs about open collaborative innovations, their experiences with open collaborative innovation initiatives, the benefits and challenges of open collaborative innovations to the enterprises, the cost of these collaborative innovations to the enterprises, what should be done to enhance collaborative innovations and forestall any intellectual property violations in the open collaborative innovations adopted. This paper focusses only on the quantitative results from the survey using questionnaires.

Trained research assistants administered the questionnaires on the owners or managers of the sampled enterprises in their offices. They explained to the participants the purpose of the study, assured them of confidentiality of information supplied and anonymity of individuals participating in the study. The participants were further informed that participation in the study was voluntary; there would be no payment for participation and they could back out of the study any time they desired. Those who accepted to participate in the study were requested to sign a consent form before the interviews were started. The questionnaire used in this study was developed with the help of Oslo Manual (OECD, 2005). At the end of the data collection, 206 fully completed questionnaires were returned.

The study was approved by the University of Botswana Institutional Review Board (IRB) and the Ministry of Trade and Industry research committee before the execution of the study. The study covers only a small area of the country. However, information generated will be useful in developing a national study with the excellent methodology.

RESULTS

Characteristics of sampled enterprises

Table 4 shows the characteristics of the sampled respondents from the different businesses. The male respondents constituted 49% while 51% were females. The highest level of education attained by most of the respondents (31.6%) was secondary, undergraduate degree (19.4%), postgraduate degree (13.1%), vocational/technical (18.4%), professional qualifications (5.8%), while 8.7% had primary education. Over half of the respondents (54.9%) were owner manager, while 13.1% were owners of businesses, managing directors (17.5%) and others (14.5%). A little less than half or the respondents (44.7%) were single (never married), married (37.4%), separated (4.4%), divorced (5.3%), widowed (1.9%) and cohabiting (6.3%). Majority of the businesses (66%) started between the years 2010 and 2016, while 28.2% started between the years 2000 and 2009, and the rest (5.9%) started between the years 1980 and 1999. More than half the businesses (52.4%) were located in rented premises from the private sector. Others were located in own premises (18%), open market (11.2%), industrial site (3.9%), free premises offered by friend or relative (3.9%), backyard (4.4%) and premises subsidized by Government/Public Agencies (4.4%). Close to half of the businesses (47.1%) were sole proprietorship, limited private company (12.6%), partnership (12.1%), and others (24.8%). The best description of the sectors in which the businesses operate are: Wholesale / Retail Trade (41.3%), Agriculture (35%), Manufacturing (8.7%), Construction (7.3%) and Transport and Communication (3.9%). Majority of the businesses (56.3%) were start-ups. Others originated as linkage to an existing business (14.6%), inherited family business (12.6%), bought an existing business (9.2%) and managers buying the business (7.3%). Most of the businesses could be classified as business in the growth stage (45.6%) followed by those in the start-up stage (24.3%), and those in the maturity stage (17.5%). The majority of businesses (81.6%) were formal. Most of the business owners/managers (69.4%) had between 0 and 5 completed years of experience while 19.4% had between 6 and 10 completed years of experience. The majority of them (81.1%) had not been involved in any open collaborative innovations. About half of the enterprises (49%) had only between 1 and 5 employees including the owner (Micro enterprises) while 38.8% had between 6 and 24 employees (Small enterprises) and 12.1% had between 25 and 99 employees (Medium enterprises). The average number of years of existence of businesses is 6.6.

Table 4: Characteristics of the sampled MSME owners/managers

Characteristics of respondents		Number	%
Sex of respondent	Male	101	49.0
	Female	105	51.0
Highest Level of Education	Primary level	18	8.7
	Secondary level	65	31.6
	Undergraduate degree	40	19.4
	Postgraduate degree	27	13.1
	Vocational/Technical Professional qualification	38	18.4
	Professional qualification	12	5.8
	Non Formal Education	6	2.9
Position/role in the enterprise	Owner manager	113	54.9
	Owner	27	13.1
	Managing director	36	17.5
	Accountant	5	2.4
	Shop attendant	1	0.5
	Human resource admin officer	1	0.5
	Sales and marketing	12	5.8
	Supervisor	4	1.9
	HR manager	3	1.5
	Manager	2	1.0
	Sales representative	2	1.0
Marital status	Single	92	44.7
	Married	77	37.4
	Separated	9	4.4
	Widow	4	1.9
	Divorced	11	5.3
	Cohabiting	13	6.3
Year the business started	1980-1989	3	1.5
	1990-1999	9	4.4
	2000-2009	58	28.2
	2010-date	136	66
District	Gaborone	90	43.7
	Lobatse	45	21.8
	Francistown	71	34.5
Physical Location of Enterprise	Backyard	9	4.4
	Premises subsidized by Government/Public Agencies	9	4.4
	Own premises	37	18.0
	Rented premises from private sector	108	52.4
	Free Premises offered by friend/relative	8	3.9
	Open Market	23	11.2
	Industrial site	8	3.9
	Mobile	4	1.9
Legal status of your	Sole Proprietorship	97	47.1

registered business entity	Partnership	25	12.1
	Cooperative	2	1.0
	Limited Private Co.	26	12.6
	Society/Group	5	2.4
	Registered Businesses	41	19.9
	Auto Mechanic	10	4.9
Best description of the sector in which you operate	Manufacturing	18	8.7
	Transport and Communication	8	3.9
	Construction Services	15	7.3
	Wholesale / Retail Trade	85	41.3
	Agriculture	72	35.0
	Others	8	3.9
How business originated	Linkage to an existing business	30	14.6
	Inherited family business	26	12.6
	Bought an existing business	19	9.2
	Managers buying the business)	15	7.3
	Completely new start-up	116	56.3
How would you classify your business growth	A business in the Seed stage	10	4.9
	A business in the Start-up stage	50	24.3
	A business in the Growth stage	94	45.6
	A business in the Maturity stage	36	17.5
	A business in the Decline stage	16	7.8
Classification of your business	Formal	168	81.6
	Informal	38	18.4
Firm has been engaged in some form of open collaborations	Yes	39	18.9
	No	167	81.1
Years of experience in business	0-5	143	69.4
	6-10	40	19.4
	11-15	12	5.8
	16 and over	11	5.3
Number of employees in your company	1-5	101	49.0
	6-24	80	38.9
	25-99	25	12.1

Engagement in Open Collaborative Innovation

On the question as to whether the enterprises have ever been engaged in any form of open collaborative innovation, only 18.9% (n = 39) were in the affirmative while 81.1% (n = 167) had never engaged in open collaborative innovation. Of the enterprises that had been engaged in open collaborative innovation, 44% were formal enterprises collaborating with other formal enterprises; 33% were informal collaborating with formal enterprises while 23% were informal enterprises collaborating with other informal enterprises (Figure 1).

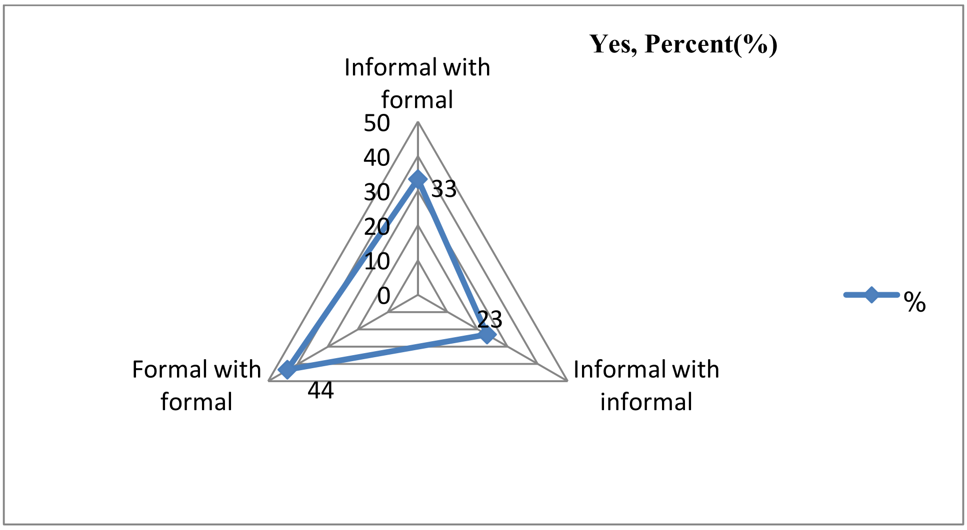

Figure 1: Form of open collaborative innovation

Benefits of the open collaborative innovation to enterprises (scale up)

The benefits of OCI to enterprises in this study were assessed by the responses of the enterprises to 23 suggested options of possible benefits in terms of scaling up their businesses on a five point Likert scale of 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree and 5 = strongly agree.

The responses were subjected to Principal Component Analysis, a data reduction process, so as to determine the variables that best describe the benefits of OCI in scaling up the enterprises based on the components that explain the highest percentage of total variation in the variables. Table 5 shows the four components that best describes the benefits, namely, increased financial revenue which explains over half (58.3%) of the total variation in all the variables and heavily loaded on financial (e.g. increased valuation)(0.841), agility to adopt more quickly to market changes (0.813), business (increased revenue)(0.801), investment (0.789), access to key contacts (0.743), increased visibility and enhanced publicity or reputation (0.678), relationship with experts in scaling up (0.61), access to markets (0.54). The second component which explains 8.8% of the total variation is improved market strategy and is heavily loaded on increased profit (0.836), improved strategy on markets (0.835), new products and services (0.742), provision of tools and training staff (0.6), increase in shareholder value (0.571), and creation of strategic plans (0.559). The third component, best described as better incentives, explains 7.7% of the total variation and is loaded heavily on recognition and reward of achievement (0.795), communication effectiveness (0.777), motivation of staff (0.756), and improved hiring process to find best professionals to take the business to next level (0.692). The fourth component is improved knowledge which explains 6% of the total variation and heavily loaded on gaining market knowledge (0.86), business development (entering new markets or gaining new customers) (0.835), start-ups may bring fresh thinking to help solve core business problems (0.657), increased number of skilled employees (0.552). The four components explain 80.8% of the total variance.

Table 5: Principal Components that best describes the benefits of OCI to enterprises

Benefits of open collaborative innovations	Component: Increased financial revenue (1)	Improved market strategy (2)	Better incentives (3)	Improved knowledge (4)
Financial (e.g. increased valuation)	0.841			
Agility to adapt more quickly to market changes	0.813			
Business (increased revenue)	0.801			
Investment	0.789			
Access to key contacts	0.743			
Visibility and enhanced publicity or reputation	0.678			
Relationship with experts in scaling up	0.61			
Access to new markets	0.54			
Increased profit		0.836		
Improved strategy on markets		0.835		
New products and services		0.742		
Provision of tools and training to staff		0.600		
Increase in shareholder value		0.571		
Creation of strategic plans		0.559		
Alliances with other firms or with universities		0.547		
Recognition and reward of achievement			0.795	
Communication effectiveness			0.777	
Motivation of staff			0.756	
Improved hiring process to find best professionals to take the business to next level			0.692	
Gaining market knowledge				0.860
Business development (entering new markets or gaining new customers),				0.835
Start-ups may bring fresh thinking to help solve core business problems				0.657
Increased number of skilled employees				0.552

Table 6 gives the models for the four principal components. The first principal component is positively correlated with business (increased revenue) (X_{21}), investment (X_{20}), financial (e.g. increased valuation)(X_{21}), agility to adapt more quickly to market changes, visibility and enhanced publicity or reputation (X_{22}) and relationship with experts in scaling up (X_{23}). The second component is positively correlated with increased profit (X_{11}), improved strategy on markets (X_{12}), new products and services (X_1) while the third component is positively correlated with improved hiring process to find best professionals to take the business to next level (X_3), motivation of staff (X_4), communication effectiveness (X_5)and recognition and reward of achievement (X_6). The fourth component is positively correlated with gaining market knowledge (X_{16}), business development (entering new markets or gaining new customers) (X_{17}), start-ups may bring fresh thinking to help solve core business problems (X_{18}), and increased number of skilled employees (X_2).

Table 6: Principal Component models of benefits of OCI to enterprises

Variables	Principal Component				Variable names
	1	2	3	4	
New products and services	-0.17	**0.32**	-0.14	0.15	X_1
Increased number of skilled employees	-0.16	-0.05	0.14	**0.24**	X_2
Improved hiring process to find best professionals to take the business to next level	-0.13	-0.04	**0.25**	0.11	X_3
Motivation of staff	-0.02	-0.11	**0.27**	-0.02	X_4
Communication effectiveness	-0.05	-0.06	**0.29**	-0.04	X_5
Recognition and reward of achievement	-0.09	-0.11	**0.34**	-0.02	X_6
Provision of tools and training to staff	-0.25	**0.18**	0.22	0.07	X_7
Creation of strategic plans	-0.08	**0.15**	0.05	0.04	X_8
Increase in shareholder value	0.08	**0.15**	-0.01	-0.13	X_9
Relationship with experts in scaling up	**0.12**	-0.01	0.12	-0.17	X_{10}
Increased profit	-0.01	**0.30**	-0.02	-0.17	X_{11}
Improved strategy on markets	0.03	**0.30**	-0.11	-0.13	X_{12}
Alliances with other firms or with universities	0.06	**0.13**	-0.07	-0.01	X_{13}
Visibility and enhanced publicity or reputation	**0.12**	-0.02	-0.05	0.06	X_{14}
Access to new markets	**0.08**	0.13	-0.17	0.07	X_{15}
Gaining market knowledge	-0.09	-0.02	-0.04	**0.34**	X_{16}
Business development (entering new markets or gaining new customers),	0.00	-0.10	-0.09	**0.32**	X_{17}
Start-ups may bring fresh thinking to help solve core business problems	0.03	-0.08	-0.01	**0.20**	X_{18}
Access to key contacts	**0.16**	-0.03	-0.05	0.02	X_{19}
Investment	**0.22**	-0.07	-0.13	0.02	X_{20}
Financial (e.g. increased valuation)	**0.22**	-0.09	-0.03	-0.04	X_{21}
Business (increased revenue)	**0.23**	-0.06	-0.02	-0.11	X_{22}
Agility to adapt more quickly to market changes	**0.21**	-0.08	-0.04	-0.04	X_{23}

Challenges faced by the MSMEs in embracing open collaborative innovations.

The enterprises were asked to rate how important some defined 13 variables were to them in hampering their innovation activities on a four point scale of 1 = Not used; 2 = Low and 3= Medium and 4 = High. To underscore the most important factors hindering embracing open collaborative innovation, the variables were subjected to a Principal Component analysis (PCA) and four factors, namely, networking, financial support, market demands and previous innovation experiences with the highest eigen values of 4.94, 1.55, 1.34 and 1.12, respectively, were identified as challenges to open collaborative innovations. These components account for 68.9% of the total variation in the observed variables (Table 7).

Networking (F1)

This component was highly loaded on six variables: Difficulty in finding cooperation partners for innovation with component loading 0.785, which represents the strength of the relationship between the variable and the component; Lack of information on technology (0.716); Violation of intellectual property rights (0.636); High cost of these collaborative innovations to the enterprises (0.597); Free-rider syndrome (0.577) and Lack of qualified personnel (0.517). The component explained 38.02% of the total variance.

Financial Support (F2)
This component was heavily loaded on three variables: Lack of finance from other sources outside the enterprise with component loading 0.876, Lack of funds within your enterprise or group (0.820) and Lack of information on markets (0.638). This factor explained 11.95% of the total variance.

Market demands (F3)
This component is heavily loaded on two variables: Market dominated by established enterprises with component loading 0.825 and uncertain demand for innovative goods or services (0.763). The component explained 10.34% of the total variance.

Previous innovation experience (F4)
This component is loaded highly on two variables: No need because there are no demands for innovation with component loading 0.864 and No need due to prior innovations (0.669). The factor explained 8.57% of the total variance.

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy with value of approximately 0.7 (good) shows that we should be confident that the sample size is adequate for PCA. The Bartlett's measure tests the null hypothesis that the original correlation matrix is an identity matrix against the alternative that it is not an identity matrix. Thus they are some relationships between the variables that are in the analysis. The Bartlett's test is significant ($p < 0.01$) showing that the variables are highly correlated lending themselves for PCA.

Table 7: Principal Components that best describe the challenges to open collaborative innovation

Variables	Factors			
	Networking	Financial support	Market demands	Previous innovation experience
Difficulty in finding cooperation partners for innovation	0.785			
Lack of information on technology	0.716			
Violation of intellectual property rights	0.636			
High cost of these collaborative innovations to the enterprises	0.597			
Free-rider syndrome	0.577			
Lack of qualified personnel	0.517			
Lack of finance from sources outside your enterprise		0.876		
Lack of funds within your enterprise or group		0.820		
Lack of information on markets		0.638		
Market dominated by established enterprises			0.825	
Uncertain demand for innovative goods or services			0.763	
No need because of no demands for innovation				0.864
No need due to prior innovations				0.669
% Variance explained	38.02	11.95	10.34	8.57
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			0.7	
Bartlett's Test of Sphericity			df =78	sig. = 0.000

Table 8 shows the models for the four components (factors). The factor score or beta coefficient indicates the level of relationship between a component and the various variables. Thus in the first equation (component 1), the networking factor, is positively correlated with difficulty in finding cooperation partners for innovation (X_8), violation of intellectual property rights (X_{13}), lack of information on technology (X_6) and high cost of these collaborative innovations to the enterprises (X_3). It has the highest regression weight of 0.373 on the variable X_8 (difficulty in finding cooperation partners for innovation). The second component (Financial support) is positively correlated with lack of funds within the enterprise or group (X_1), lack of finance from sources outside the enterprise (X_2) and lack of information on markets (X_7). The market demands component is positively correlated with Uncertain demand for innovative goods or services (X_{10}) and Market dominated by established enterprises (X_9) while the fourth component, previous innovation experience, is highly positively correlated with no need due to prior innovations (X_{11}) and no need because of no demands for innovation (X_{12})

Table 8: Principal component models for the different components

Variables	Factors				Variable names
	Networking	Financial support	Market demands	Previous Innovation experience	
Lack of funds within the enterprise or group	-0.195	**0.349**	0.074	0.105	X_1
Lack of finance from sources outside your enterprise	-0.101	**0.414**	-0.086	-0.088	X_2
High cost of these collaborative innovations to the enterprises	**0.232**	0.119	-0.251	-0.015	X_3
Free-rider syndrome	**0.163**	0.089	-0.101	0.114	X_4
Lack of qualified personnel	**0.142**	0.082	0.016	-0.026	X_5
Lack of information on technology	**0.251**	0.058	-0.024	-0.105	X_6
Lack of information on markets	0.051	**0.197**	0.109	-0.122	X_7
Difficulty in finding cooperation partners for innovation	**0.373**	-0.187	0.057	-0.167	X_8
Market dominated by established enterprises	-0.081	-0.059	**0.500**	0.01	X_9
Uncertain demand for innovative goods or services	-0.043	-0.029	**0.464**	-0.107	X_{10}
No need due to prior innovations	0.104	0.031	-0.274	**0.497**	X_{11}
No need because of no demands for innovation	-0.171	-0.079	0.101	**0.683**	X_{12}
Violation of intellectual property rights	**0.282**	-0.306	0.169	0.086	X_{13}

DISCUSSION OF THE RESULTS

This paper investigated the use of open collaborative innovation by MSMEs in Botswana and identified the benefits that studied MSMEs derived in adopting the open collaborative innovations and the challenges they face. The study revealed that majority of the businesses (69.4%) did not have experienced owners /managers running them; had only between 1 and 5 employees (49%), with average age of existence, 6.6 years; and had not been involved in any open collaborative innovations (81.1%). Close to half (47.1%) of the businesses were sole proprietorship and were in their growth stage (business is growing steadily and sales are increasing) (45.6%) while 56.3% of them originated as new start up. The findings of the study are in line with those of Hossain (2015) that stated that only between 5% and 20% of MSMEs are adopting open innovations in the OECD countries. van de Vrande et al. (2009) and Teirlinck and Spithoven (2013) found that the smaller the size of an SME, the less the degree of collaboration and medium-sized firms have lower involvement in R&D outsourcing than the smaller enterprises. However, the small sizes of the enterprises can be capitalized on to enhance open collaborative innovations since the enterprises can be more homogeneous and therefore unlikely to be affected by bureaucratic manipulations. The enterprises are also more likely to have strong desires to take risks which are essential ingredients in business expansion (Parida et al. 2012).

The study revealed that 60% of the enterprises' owners/managers had a first degree qualification or below. This explains to some degree why most of the enterprises studied were not engaged in open collaborative innovations. Studies have shown that the urge to engage in research cooperation is positively associated with the number of PhD holders among the research managers and R&D experts (Teirlinck and Spithoven, 2013) and also, the craving to outsource increases with the formal qualification level of the R&D personnel and with R&D training (Op cit).

The youthful nature of the businesses, and with owners/managers who are inexperienced are likely to have affected the desire of the enterprises to get engaged in open collaborative innovation. Rahman and Ramos, (2013) advocated that MSMEs with these characteristics are bound to have relatively low level of absorptive capacity, policy and financial constraints, and perceived management challenges to be effectively engaged in open collaborative innovations and to realize its benefits (Van de Vrande et al., 2009; Saguy, 2011). Open collaborative innovation requires that managers/owners must be able to identify the critical knowledge associated with every step of their enterprises' innovative processes and be able to institute processes for integrating knowledge into their collaborative efforts (Gassmann et al, 2010). This move requires experience and necessary skills which might be lacking in the youthful enterprises. It is important, therefore, to have leadership of enterprises with absorptive capacity to drive several organizational changes, including the institution of an effective knowledge management strategy. In their paper, Tushman and Nadler (1986) identified that visionary leadership is an important factor that affect whether an organization realizes benefits from innovation. Ashurst, Freer, Ekdahl, and Gibbons (2012) emphasized that organizations can gain competitive advantage not only by managing effectively for today, but at the same time by creating innovation for tomorrow.

The main challenges that the studied MSMEs had are categorized as: networking deficiencies, lack of financial support, inability to meet the market demands and unhealthy previous innovation experiences. The enterprises had difficulties in finding cooperation partners for innovation, lacked information on appropriate technologies and found collaborative innovation very costly to embark on. They found the markets were dominated by the established enterprises with uncertain demand for their innovative goods or services. About one out of every four businesses is at the start-up stage making competition for the market extremely difficult. Most of the businesses could not attract resources from financial houses but relied on internal resources. For some of the enterprises, previous experiences at collaboration with other enterprises have been very awful. These findings are in line with previous studies. For instance, Abouzeedan et al. (2013) identified the challenges facing MSMEs to include scarcity of resources, complexity of the scientific field, coordination of the operative functions of the firm, and access to up-to-date scientific excellence. Christensen et al. (2005) highlighted that open innovation sometimes incurs high transaction costs. Wynarczyk (2013) argued that to remain competitive locally and internationally, MSMEs are highly dependent on R&D capacity, managerial structure and competencies, open innovation practices and the ability of the enterprises to attract government grants for R&D and technological development.

Notwithstanding the above challenges that MSMEs have, most of the few enterprises that were involved in OCI still realized some benefits which included: increased financial benefits, businesses having added value, experienced increased agility to adapt more quickly to market changes, realized increased revenue and investments, more access to key contacts, increased visibility and enhanced publicity or reputation in the public domain with improved relationship with experts on how businesses can be scaled up. Improvement in market strategy, better business incentives and improved knowledge of business management principles were some other benefits realized. These results are in line with Wynarczyk (2014) who showed that open innovation can enable greater access to information, technologies and laboratory facilities that could have taken years and which require significant R&D investment to acquire in-house. Although Lee et al. (2009) found that the open innovation is not an attractive option especially for enterprises at the early-stage (start-ups) because they do not have adequate capabilities regarding R&D investment, Lee et al. (2010) showed that open innovation has high potential for MSMEs, including micro enterprises.

It is, therefore, imperative that if the MSMEs are equipped with appropriate resources such as finances for the businesses, appropriate information on innovation practices and technology, higher education and appropriate IP environment, the challenges of small size and inability to conduct research and participate in development can be overcome. Enterprises owners/managers need higher education and training which encourage and appreciate creativity, critical thinking, self-discipline, self-motivation, desire for knowledge and life-long learning, openness, and cooperation to sensitize MSMEs towards open innovation practices and establishments of networks to enhance productivity of the businesses through launching products and services.

RECOMMENDATIONS

The study, therefore, recommend as follows:

- There is need for agencies charged with MSME Development in Botswana (LEA, CEDA) to sensitize MSMEs to engage in open collaborative innovation to enhance growth.
- Owner/managers of MSMEs need to be trained in management of enterprises which include knowledge of government regulations, new technologies and innovation parameters, customer responsiveness, IP rights and practices, and information on new markets.
- Enterprises should be encouraged to collaborate with universities to bridge the gap in the lack of qualified research experts with PhD to enhance their R&D needs for innovation.
- Policies to enable the MSMEs access finance for the businesses and protect the intellectual property rights abuse of businesses are imperative.
- Policies that would protect micro and small enterprises from unnecessary market competition with larger enterprises need to be put in place.

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The Impact Of Globalization On The Performance Of Commercial Banks In Nigeria: A Long –Run Equilibrium Analysis

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ABSTRACT

The research examined the effects of globalization on the performance of Nigerian Commercial banks between 1986 and 2015. Specifically, the research accomplished this task using proxies such as foreign private investment policy, foreign trade policy and exchange rate policy to represent globalization, and using profits before taxes as a proxy for commercial banks' performance. The research employed panel data econometrics in a pooled regression, utilizing autoregressive (dynamic) models in which time series observations were estimated. Tests of model adequacy and normality of residuals, including the test of heteroskedasticity were conducted. The t and F statistics, Durbin-Watson and Breusch-Godfrey tests for the overall significance of the estimated regression and serial autocorrelation first-order were also conducted. Variance decomposition test of the banks' profits before taxes was carried out to establish (for the next 10-year period) the short-run equilibrium swings of the banks' future performance shocks and the ability to recover from the shocks. The results of econometric regression analyses confirmed the following: The autoregressive models were adequate (i.e. they were stable); that is, the model variables and residuals were normally distributed and equally spread (homoscedasticity).There were no first-order serial autocorrelation, a confirmation of the overall significance and non-spuriosity of the findings of the research. In all, foreign private investment and exchange rates had positive and significant effects on the current profits before taxes of commercial banks in Nigeria. However, foreign trade policies had less positive and significant effects on bank performance in Nigeria in the past 30 years; and the 10-year period variance decomposition of the variables showed that the banks would face their own short-run shocks 100% in the first- year period and recover at zero percent in the same year. However, they would face 42.4% of such a shock and recover about 58% of it in the 10th year. The research recommended greater integration of banks in Nigeria to the global community for greater business earnings.

INTRODUCTION

Recently, there has been a lot of clamour toward making the world a great village. Also, there have been intense efforts to make the world a global charity. For instance, in the field of technology the world has become a global village due to the invention of communication and information technology. You cannot imagine where someone in Nigeria sends a message to another in Germany or United State of America and receives instant respond. You cannot imagine where a football match being played in one country can be instantly witnessed by over three hundred million people, scattered all over the world, through electronic means. You cannot imagine how goods produced in a particular country can be consumed in far away countries. This is the same with the banking industry. Imagine where someone in one continent transacts with another in a different continent and makes payment through electronic means, irrevocable letters of bill of lading, etc.

The banking system has become the bridge between one country and another with respect to international trade, foreign investments and exchange rates .The direction of the volume of these trades, investments and exchange rate movements can have profound impact on the banking activities in an open economy. Globalization – a greater integration of trade, investments, politics, cultures, etc. across international borders – can significantly affect a country's banking system. It is this relationship between globalization and the banking system of Nigeria that this paper investigated.

Statement of the Problem

Research has shown that a banking system's soundness and stability significantly place it in a better stead to gain from business. Such a steady state is believed to insulate the banking system against distress, contagious and moral hazard. It determines the efficiency and productivity of the banking system

Research has it that the capital base of the largest bank in Nigeria is USD240 million while the smallest bank in Malaysia has USD526 million capital base. An average bank in Nigeria operates with less than USD 10 million (Akinlabi, et al,2013). This situation has relegated Nigerian banks to the background in the world financial markets. Most banks, in response to the real sector, have continued to engage in unprofessional and unethical conducts. Most have shifted from core banking activities to money laundering, and market targeting for all levels of workforce (requiring pressure) to win deposits. Unethical marketing practices have become the norm for many banks. This inhibits the banks' ability to meet the demands of world financial markets.

There has been a liquidity and insolvency problems faced by banks, which are evidenced by negative capital base, poor adequacy ratios, poor liquidity ratio and poor shareholders funds. Profits are being eroded by rising operating costs. These problems tend to contribute to the banks' inability to meet certain degrees of soundness needed for the sustenance of the globalized banking operations. Curtailment of excessive risk taking by Nigerian banks, as a policy in the banking industry when compared with the global banking standards, has been thrown overboard. As the competitive struggle for survival with inadequate capital base intensified, marginal banks resorted to excessive risk taking and constant breaking of regulating rules. Insider dealing, which is the use of information and other resources obtained through the bank to effect transactions that benefit others related to self, has also blossomed, resulting to preferential credit granting without collateral. These emerging problems have necessitated the course of the study which aims at determining the extent to which global participation of Nigerian commercial banks contribute to the banks' performance.

Objectives of the Study

Specifically, the objectives of this paper are:

1. To identify the various ways by which globalization could influence e the banking sectors' performance.
2. To explore theoretical issues in bank performance and globalization.
3. To establish statistical relationships between Nigerian commercial banks' performance and globalization.

Research Questions

The following research questions are raised:

1. To what extent does foreign direct investment (FDI) inflow affect the efficiency and productivity growth of Nigerian commercial banks?
2. To what extent has foreign exchange rate volatility affected the efficiency and

productivity growth of Nigerian commercial banks?
3. How does foreign trade affect the efficiency and productivity growth of Nigerian commercial banks?

Research Hypotheses

1. Ho_1: There is no significant and positive relationship between Nigerian commercial banks' performance and inflows of foreign direct investment in the last thirty years.
2. Ho_2: There is no significant and positive relationship between Nigerian commercial banks' performance and foreign exchange rate movements in the last thirty years.
3. Ho_3: There is no significant and positive relationship between Nigerian commercial banks' performance and foreign trade in the last thirty years.

Significance of the Study

For continuous existence and progress in service delivery, banks need to always meet the required standard in the global setting. One of the significance of this study is that it serves as a reading research document that provides a better understanding of bank-global transfer relationships. The study is of immense values to the students of economics and business because it will remain a source of data for them and others who may wish to carry out further researches on similar research problems. The research will also be a source of inspiration to monetary authorities to boost their policy strategies.

Scope and Limitations of the Study

For the purpose of this study, the researchers restricted the scope to the impact of globalization on the Nigerian banking industry. The main focus is on the application of the globalization indices to service delivery of commercial banks in Nigeria to determine their aggregate performance in the last thirty years (1986-2015). The study is limited to a specific-country analysis in Africa. Nigeria was chosen because of its outstanding position in Africa as one of the emerging economies with strong and virile global participations and multilateral agreements. Again, the study is limited to the recent econometric techniques which establish interactive long-run equilibrium state of a given model.

LITERATURE REVIEW

Considering the importance of the advent of globalization in the banking sector, especially commercial banks, researchers around the world have conducted different studies with varying levels of interest and details. Though much have been written regarding the benefits and downsides of globalization, there are few concrete, empirical evidences and discussions on financial globalization for the financial industry especially the banking industry. Few available researches in Nigeria focused on effects of globalization on financial markets and financial sector development (i.e. see Baba et al., 2006). Financial globalization has grown in size and scale in Nigeria.

The evolution of Globalization

Egware (2009) traced the history of globalization back to the post World War II phenomenon. Globalization may in many ways be viewed as a resumption of a trend observed in the world economy in the 19th century. The process observed before 1914 could hardly be called "globalization" however, since most regions of the world did not participate and because the speed of transmission and communication was much less feasible than it is today, to organize markets, or to operate firms at the global level. Furthermore, international financial markets today are characterized by much larger gross flows, with a much larger variety of financial instruments being trader across borders. The period from the mid 19th century to World War I exhibited relatively rapid growth in world trade, as the expansion of exports significantly outpaced that of real output. The share of exports in world output reached a peak in 1913. Growth in trade occurred partly as a consequent of reduced tariff and greatly reduced transportation costs reflecting the proliferation of railroads and steamships (Akinlabi, Osamor, 2013).

The process of trade liberation in Europe began with Britain's unilateral movement to free trade with the abolition of the Corn Laws of 1846. It spreads to other countries with the Cobden Hevallier Treaty of 1860 between Britain and France. The Treaty in addition to reducing French tariff rates, incorporated a Most-Favoured-Nation (MFN) clause in which each contradicting party agreed to extend to the other any reduction in tariff rates are introduced vis-a vis a third party. Due to the reduction of tariff only to the Britain, it gave other trading partners an incentive to sign similar treaties with it. Within the next two decades, virtually all of Europe reduced tariffs in a series of bilateral agreements with MFN clauses (Eqware,2009). The fact was that the non-tariff barriers were of secondary importance and foreign exchange transactions were not controlled under the classical gold standard that prevailed before 1914. The network of bilateral commercial treaties constituted a liberal multi-lateral trade regime. However, the system had two major shortcomings, which are: it did not guarantee tariff reductions and the treaties were subject to renegotiation upon expiration. These two defects were rectified in the multilateral arrangement instituted after World War II.

The first World War led to a series of quantitative restrictions on trade by the belligerents. After the War, many countries reduced their restrictions but substituted tariffs in 1929 following an increase of twenty-three percent (23%) on import duties by the United States in mid 1930. Most countries retaliated, while some countries instituted quantitative restrictions and other trade barriers in an attempt to stimulate their economies. The deflation of the 1930's caused some countries including the United Kingdom and the United States to abandon the gold standard, devalued their countries and pursed expansionary polices. On the other hand, the gold bloc (France, Italy, Belgium, the Netherlands, and Switzerland) staged on gold, but raised tariffs. A third group (Germany, Australia, and the central European countries) used exchange controls to create a series of bilateral trade agreements. By the mid 1930's tariff protection in US was reduced following the Reciprocal Trade Agreement Act of 1934, under which the United States negotiated a series of bilateral agreements. At the end of the Second World War, the general Agreement on Tariffs and Trade (GATT) was created by the international community along with the IMF and the World Bank. Based On the principles f multilateral cooperation, the GATT had a mandate to roll back tariffs from their pre-war levels and to continue reducing the tariffs by a least 35 percent. Successive Rounds in the 1950's and 1960's (the kenedy Round) and the 1970s (Tokyo Rounds) and the Uruguay Round have to a large extent eliminated tariffs on manufacture red goods. The World Trade Organization (WTO), which succeeded GATT in 1994, is currently engaged in reducing non-tariff barriers and protection, including the areas not covered by the GATT (Akinlabi, Osamor, 2013).

The Evolution of the Nigerian Banking Sector

The banking operation began in Nigeria in 1892 under the control of the expatriates and by 1945, some Nigerians and Africans had established their own banks. The first era of consolidation ever recorded in Nigeria banking industry was between 1959 and 1969. This was occasioned by bank failures during 1953-1959 due to liquidity problems of banks. Banks, then, did not have enough liquid assets to meet customers demand. There was no well-organized financial system with enough financial instruments to invest in. Hence, banks merely invested in real assets which could not be easily realized to cash without loss of value in time of need. This prompted the Federal Government then, backed by the World Bank Report, to institute the Loyne's Commission on September 1958. The outcome was the promulgation of the Ordinance Act of 1958, which established the Central Bank of Nigerian (CBN).The year 1959 was remarkable in the Nigerian banking history not only because of the establishment of the Central Bank of Nigeria(CBN), but that the Treasury Bill Ordinance was enacted which led to the issuance of Nigeria's first treasury bills in April, 1960.

The period (1959-1969) marked the establishment of formal money, capital markets and portfolio management in Nigeria. In addition, the Company's Act of 1968 was enacted. This period could be said to be the genesis of serious banking regulations in Nigeria. With the CBN in operation, the minimum paid-up capital was set at ₦400,000 (USD$480,000) in 1958. By January 2001, the banking sector was fully deregulated with the adoption of universal banking system in Nigeria which merged merchant bank operations with the commercial bank system, preparatory towards consolidation programme in 2004.

In the 1990s proliferation of banks which also resulted in the failure of many of them, led to another recapitalization exercise that saw banks' capital being increased to ₦500million (USD$5.88) and subsequently ₦2billion (USD$0.0166billion) in 2004 with the institution of a 13-point reform agenda aimed at addressing the fragile nature of the banking system, stopping the boom-burst cycle that characterized the sector and evolving a banking system that would not only serve the Nigerian economy, but also the West African regional economies. The agenda by the monetary authorities is also to consolidate the Nigerian banks and to make them capable of playing in international financial system. However, there appears to be divergence between the state of the banking industry in Nigeria and the vision of the government and regulatory authorities for the industry. This, in the main, was the reason for the policy of mandatory consolidation, which was not open to dialogue and its components also seemed cast in concrete.

In terms of number of banks and minimum paid-up-capital, between 1952 and 1978, the banking sector recorded forty-five (45) banks with varying minimum paid-up-capital for merchant and commercial banks. The number of banks increased to fifty-four (54) between 1976 and 1987. The number of banks rose to one hundred and twelve (112) between 1988 and 1996 with substantial varying increase in the minimum capital. The number of banks dropped to one hundred and ten (110) with another in minimum paid-up capital and finally dropped to twenty-five (25) in 2005 with a big increase in minimum paid-up capital from ₦2billion (USD$0.0166billion) in January 2004 to ₦25billion (USD$0.2billion) in July 2004 (Somoye, 2008). After the consolidation, the number of banks later reduced to twenty-three (23), due to the merger of some banks. These banks are saddled with the following functions among others: acceptance of deposits from customers; provision of credit facilities in form of loan and overdraft; management of customer's portfolio of investment and provision of investment advice.

Prior Studies on the Impact of Globalisation and Performance of Banks

Goyal (2006) carried out a study on the impact of globalization on developing countries with special reference to India, he discovered that globalization in India had a favourable impact on the overall growth rate of the economy. The growth rate was as low as 3% in 1970, but almost double to 5.9% in the eighties as a result of globalization. Studies have proven that globalization has impacted different economy in different ways.

The efficiency and performance of commercial banks have been studied extensively over the last several decades. For instance, Ferrier and Lovell (1990), Elyasiani and Mehdian (1992), Grabowski et al. (1993) and Alam (2001), among others, use the Data Envelope Analysis (DEA) approach to assess the production performance of U.S. commercial banks relative to several best practiced frontiers. The empirical findings of these studies suggest that the overall efficiency of the U.S. banking industry ranged from 65% to 90% in the 1980s and 1990s. The performance of banks operating in countries outside the U.S. has also been studied extensively. For example, Berg et al. (1992) and Berger et al. (1993) evaluate the efficiency and productivity growth of banking industries in Nordic countries, and conclude that Swedish banks are the most efficient, followed by Norwegian banks and then Finnish banks. Pastor et al. (1997) analyze and compare the efficiency of the banking industries in Europe and U.S. These authors report that banks operating in France, Spain and Belgium are the most efficient banks in their samples, whereas banks operating in the U.K., Austria and Germany illustrate the lowest efficiency levels.

Lozano-Vivas et al. (2002) examine the performance of a sample of banks in ten European countries, and conclude that country-specific environmental conditions exert a significant influence on the performance of each country's banking industry. Most recently, Casu et al. (2004) employ both parametric and non-parametric approaches to estimate productivity change in European banking systems from 1994 to 2000. They find that productivity growth was highest for Spanish and Italian banks, and more modest for France, German and British banks. There are a limited number of papers in which the authors have studied the efficiency of banks in Asia (see for instance, Fukuyama (1995) for Japan, Yeh (1996) for Taiwan, Leightner and Lovell (1998) for Thailand, Gilbert and Wilson (1998) for Korea, and Lim and Chu (1998) and Rezvanian and Mehdian (2002) for Singapore). The results of most of these studies show that, in general, depository institutions have an average efficiency of approximately 77%.

Banking And Globalization

The banking industry gradually spread outward from the classical civilizations of Greece and Rome into Northern and Western Europe (Rose, 1999). The development of new overland trade routes and improvements in navigation in the 15th,16th and 17th centuries gradually shifted the centre of world commerce from the Mediterranean region to Europe and the British Isles where banking became a leading industry. During this period were planted seeds of the Industrial Revolution, which demanded a well – developed financial system because of the more need to make payments and credits. Banks that could deliver on these needs grow rapidly.

When colonies were established in North and South America, old World banking practices were transferred to the New World. Colonialists dealt primarily with established banks in the countries for which they had come.

Banking presence on the World Wide Web has exploded into great prominence in the most recent era, with thousands of banks displaying their own individual web sites and well over 100 sites tracking industry trends. Banks have rushed onto globalization in greater numbers making it easier all the time to evaluate this fascinating industry's globalized performance space.

RESEARCH METHODOLOGY

Preamble

The purpose of this section is to present the models employed in conducting the research. Specifically, the section discusses the instruments used, the research design, area of study, population, etc.

Research Design

Design means the structure of investigation aimed at identifying variables and their relationships with one another. According to Abosede and Déji (2001), this is to enable the researchers test hypothesis or answer research questions. It is an outline of a scheme that serves as a useful guide to the researcher in his effort to generate data for this study. A de facto co-relational research design is adopted in this study.

Area of Study

The area of the study centres on the impact of globalization on the Performance of the banking industry. It tries to study the implications and challenges posed by globalization on the banking industry. The area of the study is strictly on commercial banking.

Population for the Study

Population refers to the totality of the individual items whether of peoples or things that are to be investigated in a given problem or situation. The population of this study is made up of the aggregate commercial banks operating in Nigeria.

Method of Data Collection

There are basically two methods in data collection for any study. These are: the primary data and secondary data. In this study, a wholesome secondary data was adopted.

Model Specification

Using the panel data regression model, the researchers state as follows:

$$Y_t = a_0 + a_1X_{1t} + a_2X_{2t} + a_3X_{3t} + U_t \text{ ……………. (1)}$$

Where,
$t = t_{th}$ time period
U_t = the error term
a_1, a_2, a_3 = the coefficients of X_i
a_0 = fixed effect or the intercept.

Taking account of "individuality" of each bank and its cross sectional effects, the researchers vary the intercept for each, but still keep the slope coefficient constant.
Therefore, the model can be shown as:

$$Y_{it} = a_0 + a_1X_{1it} + a_2X_{2it} + a_3X_{3it} + U_{it} \text{ ……………. (2)}$$

Where;
i stands for the ith cross sectional unit
X_{1i} are random variables
U = the error term

Data Analysis Technique

The study employed the analytical method using data from secondary sources. The analysis enables us to either accept our null hypothesis, H_O, or accept the alternative hypothesis, H_A. Essentially, the study aims at evolving an empirical analysis of the impact of globalization on performance of Nigerian commercial banks. The E-view Computer software was used to analyze the data, while Panel Data Regression model was used to capture the cross-sectional data and time series analysis of aggregate commercial bank performance in Nigeria.

DATA PRESENTATION , ANALYSIS AND INTERPRETATION.

Data Presentation

The impact of globalization is measured by the indices of globalization, such as cumulative foreign private investment (FPI), foreign trade (FTR) and exchange rate (FXR). The chosen index of commercial bank performance is profit before tax (PBT). The indices are shown in Appendix Table 4.1. They were sourced from CBN Statistical Bulletins and Annual Statements of Account (various years).

Cumulative foreign private investments are foreign capital inflow from one country to another. Foreign trade is the net exports of goods and services across international borders. Exchange rate is the amount of one currency that buys another currency (In this case, the amount of Nigeria's Naira that buys one US dollar on average).

Data Analysis

Test of Model Adequacy and Normality of Residuals

Table 4.2 in the Appendix shows the Jarque-Bera (JB) test of normality which is used to find out whether the OLS residuals follow the normal distribution. This is done to satisfy the normality assumption requirements of the 't' and 'F' stats. Since the p-value of JB stats are sufficiently low (i.e. p- value <0.05) JB stats are very different from zero, we reject the H_o that the error terms are normally distributed. But we keep in mind that the sample size of 30 observations may be large enough to estimate the OLS coefficients. The graphical representation of the test of normality of residuals is shown in figure 4.2. We reject the null hypothesis that the residuals are normally distributed.

Heteroscedasticity Test

This test is one of fulfilling a major assumption of the classical linear regression model which specifies that the variance of the error, or disturbance term is the same regardless of the value of the explanatory variable (i.e. var [ui] = $E[ui/Xi]^2$). This means that the variance of ui for each explanatory variable must be some positive constant number, i.e. they are equally (homo) spread or of equal variance (homoscedasticity or constance variance). Where the opposite of (var [ui] = $E[ui/xi]^2$) occurs, the situation is known as heteroscedasticity or unequal spread of variance (see table 4.3). Since the prob. of F stats.is greater than 0.05 (0.9994>0.05), we conclude that there is no heteroscedasticity or unequal spread of variance, hence the assurance of the stability of the regression model.

Estimated Distributed – lag Model

The autoregressive model (or dynamic model) as shown in Table 4.4 includes lagged values of the dependent variable among its explanatory variables. It shows the time series path of the dependent variable in relation to its past values. Table 4.3 is an estimated distributed-lag model –a sequential procedural model in which we first regress Y_t on Y_{t-1}, then regress Y_t on X_t and X_{t-1}, X_{t-2}, etc, and stop when the regression coefficients of the lagged variables start becoming statistically insignificant. The rise in globalization is spread or distributed on commercial banks' performance over a period of 30 years, and it is reflected in the short-run – long-run relationships. We adopted distributed lag model because of the individual bank domestic and institutional and contractual obligations and changes in global technologies.

From Table 4.4, we find that the recent past two years rise in bank performance significantly affect the current performance. The estimated distributed-lag model obeyed the Koyck approach where the coefficients are all of the same sign and they decline geometrically, with the rate of decline, λ, such that $0< \lambda<1$ (Gujarati, 2013). In this case, PBT(-2) significantly affects the current bank performance but of less degree of impact.

In the table, one year lagged FPI significantly affects the current performance. Also, one year lagged FXR significantly affects the current bank performance. From the analysis, one year lagged PBT, FPI and FXR significantly influence current commercial banks' performance. At the fourth lagged model, FTR does not significantly influence the current performance of commercial banks in Nigeria.

R^2, which measures the overall goodness of fit of the regression model is 0.94486 (about 94%). It tells that 94% of the variation in the bank performance (regressed) is explained by the explanatory variables (regressors). Allowing for n-k degree of freedom (DF), the adjusted R^2, a supplementary measure of goodness of fit, as expected,is 0.846829 (about 85%) which is less than R^2 (94%). The F test, a measure of the overall significance of the estimated regression and a test of significance of R^2 is 9.638516, is significant at about 5% level, since the p-value is actually 0.000816, which is less than 0.05. Therefore, we can reject the null hypothesis that the regressors, FPI and FXR have no impact on commercial banks' performance.

The Durbin-Watson, d, test reported along with the summary measures in table 4.3 is used not only to necessarily indicate autocorrelation but to indicate omission of relevant variables in a model. The d-value of 2.075837 suggests that there is no (first-order) autocorrelation in our model. Thus, there is a built-in bias against discovering (first-order) autocorrelation in VAR models.

According to Fomby, et al (1984), the fact that VAR models have built-in biases against discovering (first-order) autocorrelation, and that such an assumption that d-value is not applicable to a regression model that includes lagged value(s) of the dependent variable (regressand), it does not mean that VAR models do not suffer from the autocorrelation problems. As a matter of fact, d-value tests of such VAR models are usually weak. The more powerful Breusch-Godfrey (BG) test (LM test) is employed here (see table 4.5). This is a general test of autocorrelation. The BG test or LM test allows for non stochastic regressors such as the lagged values of the regressand and higher-order autoregressive schemes, such as AR (1), AR (2), etc, and simple or higher-order moving averages of white noise error terms, such as E. Each of the BG test value or p-value of the lag length of AR (1) – AR (4) coefficients being less than one (i.e. $p \neq 1$), shows that there is no first order autocorrelation. The d-value of 2.000503 gives a better, perfect non-serial first-order autocorrelation seen in our model.

Forecasting

Assuming that the features of our model are constant through time, and particularly over the future 10-year period, and that the variables are stationary or stable, we forecast commercial banks performances by interpreting their own savings of shock for this extended period, using variance decomposition of PBT. In period 1, the forecast due to own shock emanating from banks performance is 100%. In period 2, the forecast is 80.4% and it declines to 42.4 % in the 10th period (see Table 4.6).

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary of Findings

This study examined the long-run impact of globalization on performance of Nigerian commercial banks between 1986 and 2015. It specifically exermined the long-run effects of policies of foreign private investment, foreign trade and exchange rate on performance of Nigerian banks. The study utilized panel data econometrics in autoregressive models (dynamic models). Jarque-Bera (JB) and residuals normality tests were used to determine the adequacy (stability) of the models. Heterosked asticity test (Breusch-Pagan-Godfrey test) was also carried out to determine the constancy of variance (homoscedasticity or equal spread of variance). Breusch-Godfrey (GB) serial correlation test or LM test) was used to determine a higher-order serial autocorrelation in the dynamic models. We forecast bank performance by noting its own swings of shocks for an extended 10-year periods, using variance decomposition test.

The estimated models show that the current commercial banks' performance is significantly influenced by its past first and second performances, first and past values of foreign private investment and first and fourth past values of exchange rates. However, there is no significant relationship between commercial banks' current performance and the lagged values of foreign trade in the last 30 years. Our dynamic models maintained the stability criteria and there is an absence of serial autocorrelation in the estimates.

Conclusion

From the summary of findings, globalization has significant influence on performance of banks in Nigeria. However, the magnitude of the influence of foreign trade on bank performance remains insignificant. This is glaring, as Nigeria has continued to lag behind in global trades, depending wholly on a mono-product international trade (oil).

Globalization is a development that should not be taken likely because it exposes an economy to the world at large. In considering the impact of globalization, it is pertinent to analyze aspects of globalization that are significant in influencing the sector of the economy under discussion. Commercial bank performance is vital to the growth of any economy. Therefore, its strong relationship with the global sector is as well important. Government policies must take these relationships into cognizance.

Recommendations

Based on the above findings, this research recommends that commercial banks in Nigeria should not relent in their interactions with the global community in doing business in order to increase their foreign earnings. Banks should invest more on global technologies to be able to enjoy a greater percentage of global trades and investments. The researchers further recommend that more banks should embrace international banking in order to increase their foreign participation and earn more profits.

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APPENDIX I

Table 4:1 Nigeria: Bank Performance and Globalization Indices

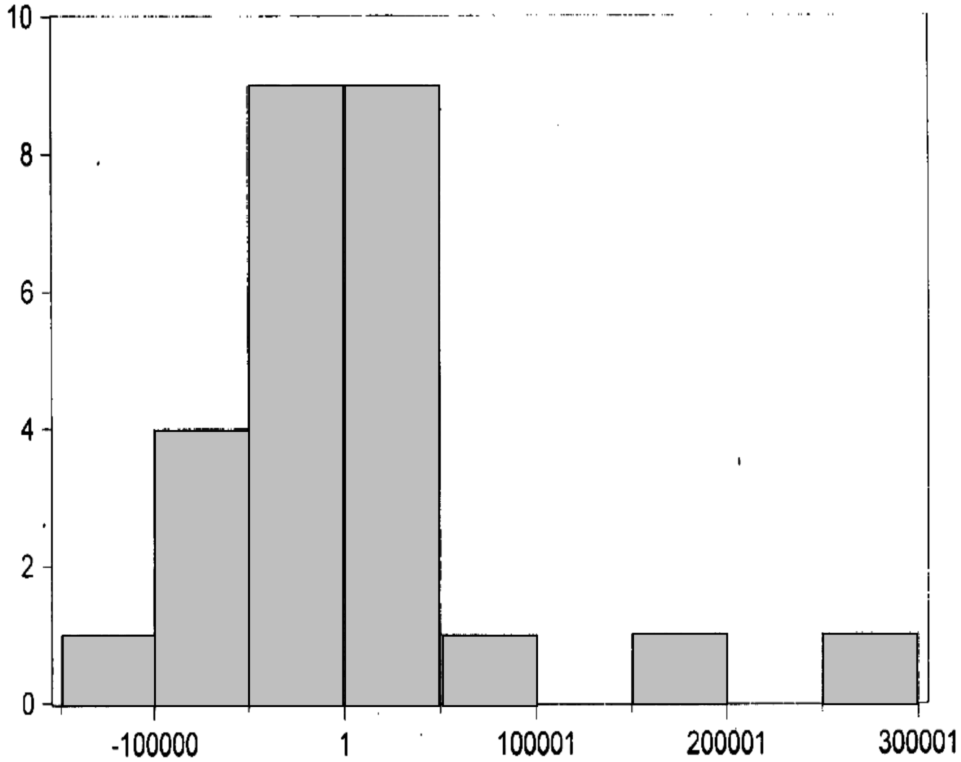
	YEAR	PBT	CFPI	FT	ER
1	1986.00	470.000	9313.6000	3443.9000	2.0206
2	1987.00	1636.000	9993.6000	133968.1000	4.0179
3	1988.00	1335.100	11339.2000	11435.000	4.5367
4	1989.00	1118.0000	10899.6000	30770 3000	7.3916
5	1990.00	2473.9000	10436.1000	70114.9000	8 0378
6	1991.00	2210.8000	12243.5000	44677.9000	9.9095
7	1992.00	24196.2000	20512.7000	81000.4000	17.2984
8	1993.00	35516.6000	66787.0000	72060.4000	22.0511
9	1994.00	41588.5000	70714.6000	61335.9000	21.8861
10	1995.00	470124000	119391 6000	247177.7000	21.8861
11	1996.00	52802.3000	122600.9000	678557.2000	21.8861
12	1997.00	50460.2000	128331.9000	409408.4000	21.8861
13	1998.00	47144 1000	152410.9000	-18449.4000	21.8861
14	1999.00	96630.1000	154190.4000	395972.4000	92.6934
15	2000.00	132654.3000	157508.6000	1059203.200	102.1052
16	2001.00	254151.4000	161441.6000	766962 6000	111.9432
17	2002.00	245284 2000	166631.6000	382751.9000	120.9702
18	2003.00	272300.6000	178478.6000	1215674.700	129.3565
19	2004.00	186507.3000	249220.6000	2615736.300	133 5004
20	2005.00	120391.1000	3432490.100	3832995.800	132.1470
21	2006.00	88806.4000	4007515.200	4495928.100	128.6516
22	2007.00	186407.3000	4403765.800	4749881.400	125.8331
23	2008.00	206507.3000	6041843.500	5438769.700	118.5669
24	2009.00	-1373330.00	8111380.900	377.3346.400	148.8802
25	2010.00	607340.000	9088816.400	4546102.400	150.2980
26	2011.00	-6710.0000	10544633.10	4746349.300	153.8616
27	2012.00	458784.0000	11573120.30	5218151.500	157.4994
28	2013.00484780.000	13511020.00	60233131.10	157.3112	
29	2014.00	495680.2000	14110341.10	65548112.40	158.5526
30	2015.00	201203.1000	91733170.50	50343611.10	198.6810
Source: CBN Statistical Bulletins and Annual Statements of Accounts (Various Years)					

Table 4:2: Test of Model Adequacy

Date: 08/02/16 Time: 19:36
Sample: 1986 2015

	FPI	FTR	FXR	PBT
Mean	5945685.	7372939.	83.45152	98845.74
Median	159475.1	722759.9	107.0243	70804.35
Maximum	91733171	65548112	196.6810	607340.0
Minimum	9313.600	-18449.40	2.020600	-1373330.
Std. Dev.	16829399	17627399	64.58400	325219.4
Skewness	4.626787	2.671747	-0.031555	-2.941366
Kurtosis	24.09906	8.393254	1.373182	15.40442
Jarque-Bera	663.4987	72.05016	3.313150	235.5951
Probability	0.000000	0.000000	0.190791	0.000000
Sum	1.78E+08	2.21E+08	2503.546	2965372.
Sum Sq. Dev.	8.21E+15	9.01E+15	120961.7	3.07E+12
Observations	30	30	30	30

Figures 4:2 Graphical Representation of normality of the residual test



Series: Residuals
Sample 1990 2015
Observations 26

Mean	3.01e-11
Median	-5350.334
Maximum	288495.9
Minimum	-120984.8
Std. Dev.	81658.87
Skewness	1.953027
Kurtosis	7.887704
Jarque-Bera	42.40915
Probability	0.000000

Table 4.3

Heteroskedasticity Test	Breusch-Pagan-Godfrey		
F-statistic	0153966	Prob.	0.9994
Obs*R-squared	5.587302	Prob Chi-Square(16)	0.9920
Scaled explained SS	2.305605	Prob. Chi-Sqi are(16)	1.0000

Test Equation.

Dependent Variable: RESID^2
Method:Least Squares
Date: 08/04/16 Time: 14:01
Sample: 1990 2015
Included
observations:

Variable	Coefficient	Std Error	t-	Prob
c	9.28E+09	9.78E+09	Statistic	0.3674
PBT(-1)	19223.93	55890.05	0.343960	0.7388
PBT(-2)	4973457	123878.9	0.401477	0.6974
PBT(-3)	66309.31	189450.8	0.350008	0.7344
PBT(-4)	123666.2	275631 5	0448665	0.6643
FPI(-1)	-8613293	13009.63	-0662071	0.5245
FPI(-2)	8264.160	2458102	0.336201	0.7444
FPI(-3)	10251.34	30423.08	0.336959	0.7439
FPI(-4)	17274.67	20332.33	0849616	
FTR(-1)	-4282 722	9750694	-0439222	0.6709
FTR(-2)	391 5723	1302 650	0300597	0.7706
FTR(-3)	5169.633	24068.32	0 214790	0.8347
FT.R.(-4)	-19815.65	47955.78	-	
FXR(-1)	-93330723	4.33E+08	-	0.8342
FXR(-2)	-55405749	5.91E+08	-	0.9274
FXR(-3)	-2.41E+08	7.61E+08	-0316975	0.7585
FXR(-4)	1.41E+08	6.56E+08	0215540	0.8342

R-squared	0.214896	Mean dependent var	6.41 E+
Adjusted R-squared	-1 180844	S.D dependent var	1.72E+10
S E. of regression	2.53E+10	Akaike info criterion	50.
Sum squared resid	5.78E+21	Schwarz criterion	51.81875
Log likelihood	-645.9499	Hannan-Quinn criter.	51.23303
F-statistic	0 153966	Durbin n stat	2.351511
Prob(F-statistic)	0 999366		

Table 4.4 : Autoregressive Model

Dependent Variable: PBT
Method: Least Squares
Date: 08/04/16 Time: 13:54
Sample (adjusted): 1990 2015
Included observations: 26 after adjustments
PBT = C(1)*PBT(-1) + C(2)*PBT(-2) + C(3)*PBT(-3) + C(4)*PBT(-4) + C(5)*FPI(-1) + C(6)*FPI(-2) + C(7)*FPI(-3) + C(8)*FPI(-4) + C(9)*FTR(-1) + C(10)*FTR(-2) + C(11)*FTR(-3) + C(12)*FTR(-4) + C(13)*FXR(-1) + C(14)*FXR(-2) + C(15)*FXR(-3) + C(16)*FXR(-4) + C(17)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-1.666221	0.300156	-5.551183	0.0004
C(2)	-1.845704	0.665288	-2.774294	0.0216
C(3)	-2.144169	1.017440	-2.107415	0.0643
C(4)	-2.196867	1.480271	-1.484097	0.1719
C(5)	-0.200635	0.069868	-2.871636	0.0184
C(6)	0.100408	0.132012	0.760596	0.4664
C(7)	0.147263	0.163386	0.901317	0.3909
C(8)	-0.232238	0.109194	-2.126839	0.0623
C(9)	0.082495	0.052366	1.575357	0.1496
C(10)	-0.015053	0.006996	-2.151697	0.0599
C(11)	-0.121865	0.129258	-0.942806	0.3704
C(12)	-0.368039	0.257545	-1.429026	0.1868
C(13)	7000.026	2325.924	3.009567	0.0147
C(14)	-172.0422	3173.418	-0.054214	0.9579
C(15)	3329.064	4088.838	0.814183	0.4366
C(16)	9080.399	3523.774	2.576896	0.0298
C(17)	-15999.62	52524.48	-0.304613	0.7676

R-squared	0.944858	Mean dependent var	113876.6
Adjusted R-squared	0.846829	S.D. dependent var	347747.4
S.E. of regression	136098.1	Akaike info criterion	26.72696
Sum squared resid	1.67E+11	Schwarz criterion	27.54956
Log likelihood	-330.4505	Hannan-Quinn criter.	26.96384
F-statistic	9.638516	Durbin-Watson stat	2.075837
Prob(F-statistic)	0.000816		

Table 4.5

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.463946	Prob. F(4,5)	0.7616
Obs*R-squared	7.037907	Prob. Chi-Square(4)	0.1339

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 08/04/16 Time: 14:01
Sample: 1990 2015
Included observations: 26
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-1.090521	2.197159	-0.496332	0.6407
C(2)	-1.954893	3.793030	-0.515391	0.6282
C(3)	-2.880817	5.954542	-0.483802	0.6490
C(4)	-3.024982	6.999010	-0.432201	0.6836
C(5)	-0.330138	0.326302	-1.011756	0.3581
C(6)	-0.138730	0.804556	-0.172431	0.8699
C(7)	-0.143012	0.405795	-0.352424	0.7389
C(8)	-0.008215	0.339363	-0.024207	0.9816
C(9)	0.114678	0.251496	0.455982	0.6675
C(10)	-0.011822	0.019720	-0.599509	0.5750
C(11)	0.436912	0.736226	0.593448	0.5787
C(12)	-0.125205	0.468520	-0.267234	0.8000
C(13)	155.8304	7095.116	0.021963	0.9833
C(14)	-10.62955	13367.21	-0.000795	0.9994
C(15)	10572.78	12278.41	0.861087	0.4285
C(16)	6481.325	21641.28	0.299489	0.7766
C(17)	-86906.45	176999.8	-0.490998	0.6442
RESID(-1)	0.265444	1.618569	0.163999	0.8762
RESID(-2)	1.291446	1.558969	0.828397	0.4452
RESID(-3)	-0.452060	1.821856	-0.248131	0.8139
RESID(-4)	-1.843791	2.833635	-0.650681	0.5440

R-squared	0.270689	Mean dependent var	3.01E-11
Adjusted R-squared	-2.646556	S.D. dependent var	81658.87
S.E. of regression	155935.4	Akaike info criterion	26.71900
Sum squared resid	1.22E+11	Schwarz criterion	27.73515
Log likelihood	-326.3470	Hannan-Quinn criter.	27.01161
F-statistic	0.092789	Durbin-Watson stat	2.000503
Prob(F-statistic)	0.999961		

Table 4.6 Variance Decomposition

Variance Decomposition of PBT:

Period	S.E.	PBT	FPI	FTR	FXR
1	136098.1	100.0000	0.000000	0.000000	0.000000
2	167368.3	80.35840	3.460404	8.068730	8.112468
3	191957.9	62.90096	19.44572	11.03610	6.617223
4	316909.8	23.86963	52.22633	19.43714	4.466903
5	404476.5	22.87481	50.57304	22.14290	4.409246
6	414729.7	23.08871	51.37516	21.12033	4.415807
7	565830.3	54.27546	27.74345	11.75624	6.224844
8	2329059.	79.54818	14.25958	5.639893	0.552342
9	2901014.	61.39330	23.69140	7.300855	7.614445
10	3492869.	42.35190	32.36704	17.86425	7.416812

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Workforce Big Data Analytics and Production Efficiency: A Manager's Guide

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ABSTRACT

The study investigates the use of workforce big data analytics as a tool to guide production managers to boost production efficiency while also ascertaining the level of awareness in the use workforce analytics amongst production managers. The study adopted survey research design and questionnaire were distributed to 20 respondents comprising of all Production Managers of the 20 Manufacturing Companies understudied. Data generated was analyzed using averages and scores. The outcome of the analyses showed that only 30% of the manufacturing companies had established and understood workforce plan while 70% did not have. Again the study showed that only 25% production managers agreed that the use of workforce big data analytics is necessary to boost production efficiency. Further findings showed that 75% of the managers admitted that their production was below average of which 40% of the managers ascribed their dismal performance to excessive manpower downtime which is a by-product of workforce scheduling. Based on the findings, it can be concluded that the use of workforce big data analytics is a more significant and important factor in boosting production efficiency.

Keywords: Big data, capacity utilization, employee productivity, production efficiency, workforce,

INTRODUCTION

The world has gradually evolved into a global entity and firms are striving to keep afloat of the ever increasing demand to withstand competition and remain in business through attaining and maintaining efficiency in production. Remaining in business will mean having an edge over competitors and maintaining a large market share by satisfying the customers. To achieve this, organizations have adopted several strategies such as total quality management, six sigma etc and other production and expansion strategies, yet there seems not to be a satisfying answer to this age long challenge of keeping a firm in the lead at the market place. Even when firms succeed in adopting a strategy that helps it work through becoming a market leader, it's not able to maintain the position for long, thus the search for better a strategy continues. The big question then is; 'what are they not doing right' or 'how can firms enhance production to maintain or expand their market share'.

In addressing the issue of maintaining competitive advantage, Porter (1998) proposed that the basis of competitive advantage is on the organizational resources categorized as; human resources, knowledge resources, natural resources, capital resources and infrastructural resources. Du Plessis (2009) posited that the human resource is one of the organization's most effective and valuable resources. Following his position, it becomes imperative for organizations to formulate and execute strategies that will boost the performance of their workforce to achieve efficiency in production.

One of the strategies adopted by successful organizations like Deliotte has been the use of workforce big data or analytics in managing its workforce. With the evidence based outcome achieved by Deliotte, lots of organizations like Biogen have embraced the use of big data analytics in their workforce management in order to boost the efficiency of their production process.

The Problem
Organizations need to attain efficiency in production in order to satisfy their customers. Also, the need to reduce waste and loss of man hour and at the same time boost performance of the workforce in the production process contributed to why this study was carried out.

The Question
To what extent does workforce big data analytics influence production efficiency?

The Workforce metric
The start off point in understanding the workforce big data analytics is to understand what the workforce metric is. This is because workforce metrics is the basis upon which workforce analytics is carried out.

Missildine (2013) gave an overview of what workforce or human resource metric is, stating that workforce metric is the data used to calculate the cost implication of talent management practices and human resource processes to ascertain the success of HR programs. She emphasized that the place of metrics in adding value to organizations is by making available the information the organization need to make precise decisions about their workforce. According to her, metrics informs the decision maker on current and past data for the workforce management such as employee engagement, performance and retention. For example "Our average hiring time is 90%," "Our annual attrition rate is 20%," "Our highest performance score is 70%." She further posits that although metrics monitor activity, it doesn't necessarily give insight to a causal relationship. Like the example earlier, those metrics are not enough to know what limits recruitment, what brings about attrition or what enhances performance. Workforce metrics are said to be data (numbers) that reveal some vivid detail about given processes or outcomes (Carlson and Kavanagh, 2011).

The Workforce Big Data Analytics
Although the big data concept may be a relatively new concept in business, it has been in use for a while without any descriptive name to it. For the past few years, it has made a buzz in business, particularly in the area of sales and finance. Despite being a buzz word in the business world today, it still remains an unknown or 'never-heard-of' term for a lot of persons and this has brought about some confusion to the term 'big data'. Due to these confusions and misinterpretations surrounding the big data concept, it is important to ask if every chief officer or strategist in organisations are on the same page with what it is, and stands for? Therefore the question needs to be asked about what the big data means.

What precisely comes to play in our minds when the 'big data' concept is mentioned? Do we see it as just a data that is very huge, cumbersome, voluminous or too weighty for download, assessing and accessing? Well, it may not necessarily follow these connotations.

The big data is referred to as a buzzword, or catch-phrase, that illustrates or depicts a substantial quantity of organized and unorganized data that is too large and complex to manage using conventional filing system and software methods (Beal, 2015). This shows that big data is a budding term that explains any voluminous amount of structured, semi-structured and unstructured data that has the potential to produce valuable information when explored.

The big data buzz has gradually made its way into the human resources arena and is being accepted with a lot of enthusiasm judging from the numerous empirical studies in the subject area (Lawler, Levenson and Boudreau, 2005; Ulrich, 2013; Bassi, 2011). The talk about big data in the human resource arena means making use of big data analytics in workforce management. It has become imperative that human resource management professionals clinch it with enthusiasm. This implies that where the management of workforce is concerned, big data becomes a big deal because it empowers employers and human resources managers to make more knowledgeable and up-to-date business decisions. It helps to reveal significant information and offer fact based insights that point the decision maker to corrective action thus bringing about informed decisions that will boost efficiency and enhance productivity.

The Big data analytics for workforce management is often referred to as workforce analytics. It is the process of looking at workforce metrics with the aim of searching for trends, patterns, correlations and insights about human behavior (Fitz-Enz and Mattox, 2014). Generally, analytics identify patterns of connections linking metrics. Its goal is to reveal what the firm didn't know and to position the firm to be predictive when it comes to workforce management functions like hiring, training and work scheduling. It creates the backdrop against which firms use to reduce non-productive paid time by helping the firm to boost workforce utilization without increasing costs. The ultimate goal is to make labor performance improvement decisions that lead to enhanced workforce effectiveness. The result is better use of labor resources while maintaining quality output.

I believe the big data trend in workforce management is here to stay because as firms search for ways to reduce waste and improve production, they are required to look past the usual workforce measurements such as attendance rate, output logged in time etc in order to understand the link among resources such as machines, work-in-progress and labor. This is necessary because, by investigating or studying how the workforce and machines combine to bring about production goals, firms can build a lasting competitive advantage and achieve production efficiency. Applying the concept of workforce big data analytics in achieving production efficiency significantly centers on scheduling and other workforce related practices to maximize the capabilities of the workforce.

Workforce Scheduling

According to William (2012), scheduling the workforce is an important assignment in capacity management. Capacity management on the other hand, entails the scheduling and management of system competency and performance in order to equate the intensity of operations with the intensity of demand. It is the uncertainty of demand level that gives rise to the problem of determining the level of workforce and the big-data matrices in arriving at an optimal level of workforce that will maximize production efficiency. Everett, Eatherley and Slater, (1992) stated that the workforce level constitutes the number of productive employees required in a productive system. It is the determined number of employees required for each period's output requirement. They explained that what determines the workforce level in any system is the level of output on demand. This means workforce level increases as output increases and decreases as output decreases.

This method of scheduling workforce involves investment in multi-job training that will enable labour to be effective and efficient in handling work operations. However, this results to lower performance during learning periods. Another strategy of scheduling workforce is to maintain a constant workforce size where there is high specialized division of labour. During periods of low-demand, the workforce should be scheduled such that only the forecasted amount is produced, thereby giving room for idle working hours. In times of high-demand, extra work hours would be required to meet the demand intensity. The implication of this is that the utilization of the workforce would vary from high to low at different times. An important advantage of this strategy is the avoidance of hiring and lay-off cost. The task of scheduling workforce therefore, is to make sure that a good number of people are working at any point in time to provide a capacity appropriate for the level of demand at that point in time.

However, it is the responsibility of the management of the firms to determine the capacity of production and the required workforce needed to meet with the changing attitudes towards demand.

In view of the foregoing findings and conclusions, the following recommendations are made: that in order to minimize the level of impact of demand uncertainties on production scheduling and workforce level, periodic scheduling of production capacity taken week by week adopting a uniform workforce level. Differences in output levels and actual demand can be taken care of by overtime, backorders and subcontracting where demand is far in excess of output. In cases of lower demand level compared to the output level, then excess output can be accommodated as inventory but care must be taken as to avoid inventory build-up bearing in mind total inventory cost. Also, in a situation where the demand for the firms' product is low, the firm should employ the just-in-time system of scheduling production. For minimizing total production cost production scheduling with the required workforce should be commensurate with the level of demand of the firms' products.

The workforce levels are often altered to equate with production and demand requirement through varying processes such as hiring, firing or lay off of production employees. Determining the intensity of labour in production operations relies on the strategic approach adopted in hiring and layoff. Decisions on hire and lay off is usually based on collective bargaining agreements with regards to the production demand requirement. Also affecting workforce level are constraints imposed by labour law on employment or employee engagement which the organizations are bound to abide by; and union protests in shielding current employee. It is important also that organizational policy on hire and layoffs has to consider the availability of skilled workers that in some cases in more difficult to find compared to that of lower skilled worker, and recruiting them involves greater costs.

Developing the big data matrix attracts some associated costs. These cost estimates according to Banjoko, (2002) include cost from recruitment such as; screening, selection and training; cost from separation which includes severity package and its associated costs of readjusting the remaining workforce and finally, the indirect cost of low employee morale. These days, workers are seen as assets rather than variable costs and therefore managers of organizations will not likely apply layoff policy especially in specialized skill employees, for instance automated machine operators.

Overtime/slack time is the other essential strategic alternative used in adjusting employees' utilization to match with varying output levels. It is a more useful approach adopted when adjusting capacity to meet demand. Despite its usefulness, overtime may result in decreased productivity, decline in quality, increased accidents, production errors and increased payroll costs while on the other hand, slack\or idle time causes underutilization and inefficient use of machines and other fixed assets.

A firm may accept employment stability, especially where jobs are critical and skills scarce. Here employees are stable, and inventory adjusted as to maintain fluctuation in demand. Other firms use employees to maintain the expected aggregate output level by varying the workforce size as to hire and fire employees. When higher demand levels are anticipated, employees are hired to meet such demand increases. When demand is low, employees are fired-changes in employee level as a response to varied output levels.

PRODUCTION EFFICIENCY

In the previous section, we discussed the big data matrix and its strategic role in workforce level determination. Here, we will examine each of the specific measures of production efficiency as employee productivity and capacity utilization and the intervening variables of flexibility and lead time.

Lovell (2011) describes the efficiency of a production unit by comparing the observed and best possible values of its output and efforts. It is the measurement of the degree to which the production level is optimally assigned between the firms in the short run. An efficient productive outcome uses the least cost input mix required to produce a given output. A firm can possibly attain efficiency in production with its existing fixed assets without any significant increase in unit costs by taking appropriate decisions as a result of the application of workforce big data analytics, thereby, influencing an approximate scheduling of the workforce in achieving high levels of employee output and the resultant level of capacity utilization.

Employee Productivity

Productivity measures the relationship between outputs produced and inputs in the form of labour, capital, material and other resources (Hill, 2000).

The labour productivity data is shown on the performance of the manufacturing through increase in efficiency firm while contributing to the firm’s market share and acting as a key factor in the comparative success of firms.

Production Managers are mostly occupied with operational tasks such as scheduling to maintain optimal utilization and efficiency levels, monitoring, controlling and resolving floor labour issues. However, the task of managing production has moved from the traditional production routine of product range, product mix, volume changes, process flexibility, inventory, and production cost to a more demanding challenge of maximizing the work force matrix in achieving the big-data complexity of employee awareness due to the implication of globalization on labour demand.

To perform the needed task complexities in the production process, the effective application of the big-data employ matrices are imperative to the production efficiency of manufacturing firms. Productivity is seen as one of the key index for determining the efficiency of business units in transforming inputs into outputs (Chen and Liaw, 2001). Productivity measured in man-hours, ensures that labour used in the production process are effectively utilized in converting input to output.

Just as the economic growth of a country is ascertained by its increase in production or the gross domestic product (GDP), which comes from a larger quantity of production factors used (inputs) and/or an increase in productivity (Output), likewise, in the manufacturing sector, productivity is seen as a key component of growth. To the manufacturing firm, the productivity measure can be used by production managers to evaluate production efficiency, and in thus the extent the concept of big-data utilization of the firm have been met.

Increase in productivity is ascertained when the quantity of inputs decreases while the quantity of goods and services produced remain constant, or the amount of goods and services produced is boosted with the same quantity of inputs. Productivity is usually clarified to mean the simple ratio of output to input. Productivity goes up when there is more output for the same resource input or the same output with a lower resource input.

A commonly widely used measure of productivity is employee productivity, measured in terms of output per employee or per man-hour. However, productivity can be examined in terms of the full range of production factors - capital, labour (employee) and intermediate goods and services. This is known as total productivity (Craig and Harris, 1973; Sumanth, 1984). Others are total factor productivity (Taylor and Davis, 1977) and capital productivity (Craig and Harris, 1973; Sumanth, 1984).

Capacity Utilization

The utilization rate is also expressed as the system efficiency (SE). It is the measure with which the firm's actual output which depends on the production capacity is described. The capacity utilization rate or the production system efficiency varies with the employee workforce levels employed in the production process.

The economic significance of capacity utilization can be expressed in the level of demand. If market demand grows, capacity utilization will rise as it is expected that output will increase. Also, if demand decreases, capacity utilization will likely reduce. This can be explained as a function of the big-data management of the employee levels in the production process.

The average rate of capacity utilization rate is about 44 per cent, and comparatively low with international standards (UNIDO, 2015). Identifying the capacity utilization rate can provide evidence in taking decisions on the long run expansion required of the firm especially in situations of increase in demand that can be accommodated by the increase output levels. This may create employment opportunities especially where increases in output is matched with a corresponding increase in the demand for the firm's product.

Flexibility

Flexibility is the responsiveness to changes in level of workforce that can match the required employee data in response to change in mix of products and services for the consumption of the customer. Changes in consumer tastes influence demand levels and the product variety needed. Manufacturing firms are expected to respond to demand uncertainties such as increase or decrease in output levels. It needs to be able to act in response to these alterations with appropriate employee matrix flexibility in product delivery in meeting customers' demand and to remain competitive in the market.

Flexibility has been well recognized as one of the answers to attaining competitive edge for any manufacturing firm. It is particularly important in addressing the current challenges in the manufacturing environment with an increasing domination of high employee mix and low volume production, increased customer expectations, increased uncertainty in customer behaviour along with the prevailing uncertainties (Chang, Yang and Wen, 2002). Firms then turn to redundancy and retrenchment as high employee mix creates disequilibrium on low production volume due to harsh economic environment experienced by manufacturing firms in Nigeria.

Walter, Sommer, and Zimmermann,(2011) stated that the goal of flexibility is to enable manufacturing firms to plan, monitor and manage the workforce level in response to minimizing resources, particularly in situations when future demands are not easy to anticipate and error acceptance is rather small.

Lead time reduction

Addressing on-time delivery expects the firm to pay concentrate to the cycle time involved in their existing products as well as in developing new products. The manufacturing firm also has to pay attention to its workforce scheduling and capacity planning to meet on-time delivery dates. The time covering when the customer places an order to when the customer receives the order is an increasingly important part of the production cycle (Dumaine, 2009). The big-data analytics is one of several methods for reducing lead time and improving the overall performance of the manufacturing firm.

Furthermore, the firm should be dependable. Dependability is, of course, about consistency in meeting promised delivery deadlines for a product or service. However, it is worthy to note that customers may not be satisfied by swift delivery speed if it doesn’t follow a consistent performance pattern.

RESEARCH METHODOLOGY

A survey identifying twenty (20) manufacturing firms registered with the Manufacturers Association of Nigeria (MAN) in Rivers State Nigeria as at September, 2016 was carried out. Due to the purpose of the survey, the sample used were 20 Production Managers each representing each of the manufacturing firms. The Production Managers were used because of the supervisory role they play in the Production floor and the fact that they are the front liners responsible for taking decisions that would influence the performance of the production department.

The questionnaire was simple structured with 5 distinct questions or items of ‘Yes’ and ‘No’ responses, except for the fifth question that gave room for respondents to choose options.
A total of 20 copies of questionnaires were distributed and retrieved. The 20 copies of questionnaires retrieved were accurately completed representing 100% response rate. This value (20) was therefore used as the sample size in the data presentation and data analysis.

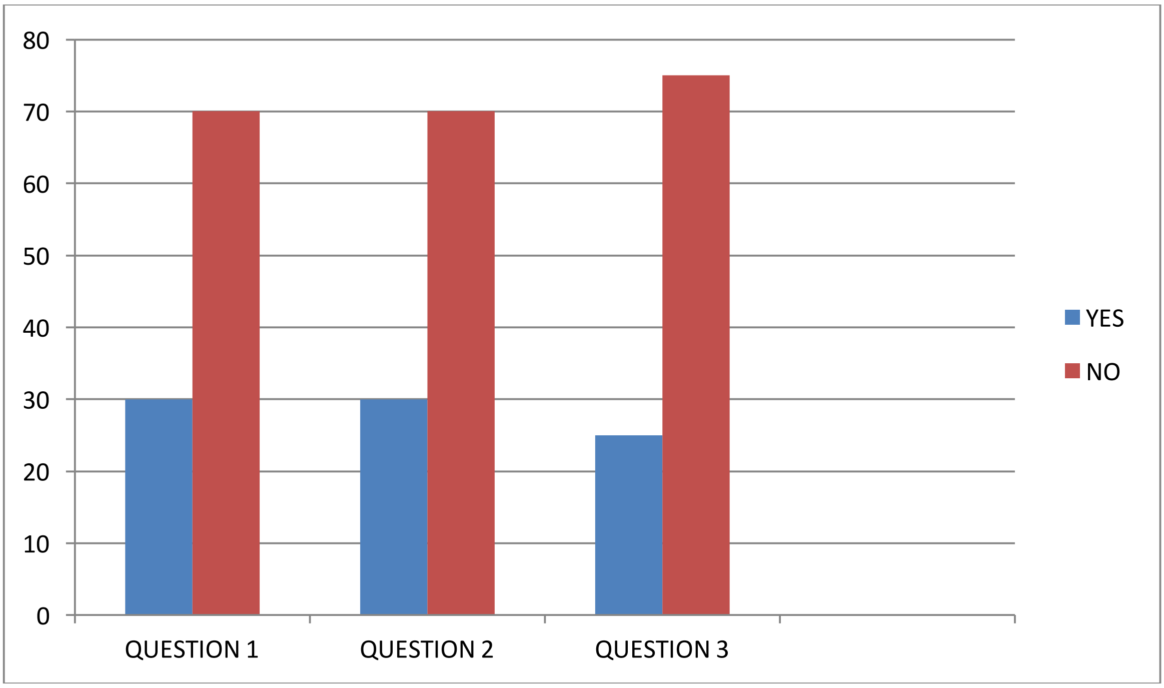
Research Question

To what extent does workforce big data analytics influence production efficiency?

The items below were used to provide data to address the research question.

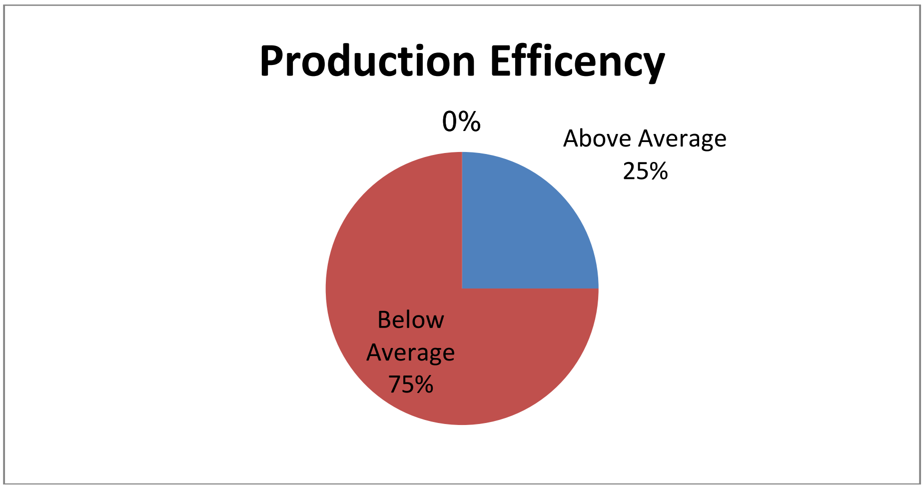
Summary of Items Responses

S/N	QUESTION	YES	%	NO	%
	Workforce Analytics				
1	Does your organization have a well understood workforce planning framework?	6	30	14	70
2	Is the production department a major focus when it comes to workforce planning and analytics?	6	30	14	70
3	Is it necessary to combine more than one business process data when taking workforce scheduling decisions?	5	25	15	75



Corresponding bar chart item responses

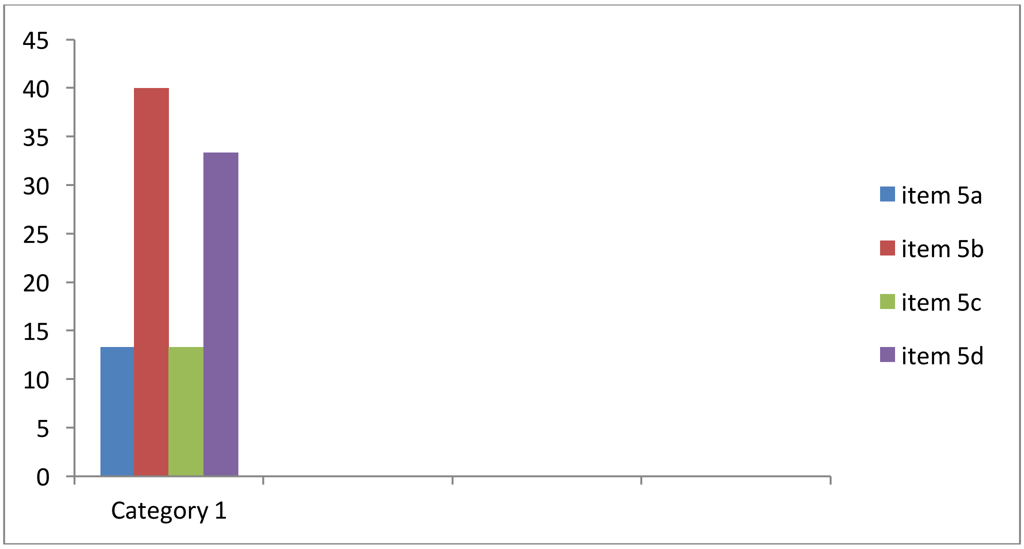
	Production Efficiency	Above Average	%	Below Average	%
4	What is the current level of utilization of your company's production capacity?	5	25	15	75



Corresponding pie chart of item responses

5. What are the reasons for the below average level of Production capacity?		
Reasons	**No of Responses**	**%**
Lack of adequate supply of raw materials	2	13.3
Excessive manpower downtime e.g. absenteeism, accidents, lockouts, strikes, illnesses, attrition etc)	6	40.0
Excessive machine downtime	2	13.3
Other reasons e.g. strike action, low productivity levels of employees, employees' transport problems, materials/products	5	33.3

***Source:* From research study, 2016**



Corresponding bar chart item responses

From the Table above, only 30% of the 20 Production Managers surveyed agreed that their firms have an established and understood workforce planning system (workforce analytics) in place while 70% disagreed. Again from item 3, 25% of the respondents agreed that workforce analytics is necessary while 75% disagreed that it is necessary. For Production Efficiency, only 25% admitted that their firms were operating above average while 75% said that their firms were operating below average. From the 15 production Managers who admitted that their firms were operating below average, 13.3% chose 'Lack of adequate supply of raw materials' as the reason for the below average performance; 40% picked 'Excessive manpower downtime' (absenteeism, accidents, lockouts, strikes, illnesses, attrition) as the reason for their below average performance; 13.3% said 'Excessive machine downtime' was responsible for their below average performance and 33.3% said that it was reasons such as strike action, low productivity levels of employees, employees' transport problems, materials/products that was responsible for their below average performance.

Based on the result presented, we can see that the number of Managers that admitted that they have workforce analytics in place for their production unit (which is the summary of items 1 to 3) is very small compared to those who said they do not have any in place, subsequently, the number of Managers who agreed that they were operating at a below average level is higher than those operating at above average. This clearly indicates a linear relationship that the more firms make use of workforce analytics, the more their production efficiency. This can also be deduced from the fact that most of the reasons responsible for the firms to operate below average bothered mostly on manpower as shown from the responses presented.

From the result of the analyses above, it is adequate to establish that workforce big data analytics influence production efficiency of the firms which addresses the research question.

CONCLUSIONS

It has been established that one of the major challenge faced by the Production Manager is the task of attaining production efficiency in which goods and services are produced at the possible lowest cost. There seems to be a challenge in achieving this objective by the Production Manager because it involves the use of manpower in combination with machines. Being that the employees are endowed with capacities and deficiencies and machines are prune to breakdown, the Production Manager is constantly constrained to make decisions that would maximize these potentials or capacities and accommodate the deficiencies such that workers and machines are utilized at the best possible capacity.

Thus, workforce analytics attempts to put into consideration the human competences and deficiencies when planning the workforce to ensure efficiency. Work analytics is concerned with adapting the system to cost reductions, time reduction, new production and optimized offerings and smart decision making. It seeks to guide the decisions of the manager such that the right number of manpower is scheduled at the right time to minimize cost and maximize production.

Firms are yet to embrace the use of workforce analytics because it is still a complexity to them. This is in agreement with the low result gotten from firms making use of workforce analytics. The reason for this can be traced to the analytics capability and knowledge gap amongst managers in production unit.

RECOMMENDATIONS

Operations Managers need to pay critical attention to how they can harness the use of manpower and machine through workforce analytics such that efficiency in production is attained and maintained. It is also imperative that Managers seek to bridge their knowledge and capability gap in the use workforce analytics in production management through training. Operations Managers should constantly seek for the right and appropriate workforce metrics required for production management.

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