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Whistle - Blowing as a Panacea for Corruption in Nigeria: An Impetus of Whistleblowers' Protection Policies Satisfaction

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ABSTRACT

The scourge of corruption which has almost eaten up the entire Nigeria's economy is not in any way a new phenomenon in the country. Series of attempt have been made by Nigeria's past administrations to stop the cankerworm from its manifestation which yielded little or no success. However, the giant stride made by present administration through the introduction of whistle-blowing as a mechanism to fight corruption and other misconduct in Nigeria has been a welcome development in the country. This has given Nigerians the opportunity to expose wrongdoing and all sorts of unethical activities in the society as part of contributing their quotas to the development of the country. The study emphasized on the significant contribution and the role played by whistle-blowers towards the recovery of looted funds in Nigeria. Similarly, the study has discovered that the government can do more by making adequate legal protection for the whistle-blowers in order to encour-

age them towards their participation in the fight against corruption and nefarious activities in the country. If otherwise, the Nigerian government may not achieve its objective. The study equally sensitises Nigerian policy makers and the citizens on the likely dangers if the whistle-blower's protection law is not passed and ratified by the highest law-making body of Nigeria (The National Assembly). The paper therefore, employs exploratory research method through the use of secondary data to examine the influence of whistle-blowing on corruption and other misconduct in Nigeria.

Keywords: *corruption, whistle-blowing, policy protection, economic and financial crime commission (EFCC), Nigeria*

INTRODUCTION

If we (Nigerians) don't kill corruption, it will kill us.
- Muhammadu Buhari[1]

Corruption as endemic has embedded deep into the fabric of most nations (Rose-Ackerman & Palifka, 2016). The corruption in Africa has become a phenomenon that many people in the society perceive it as being normal. Africans have seen the positions of authority as an avenue for everyone to come and take what they think is their righteousness. In fact, the society itself celebrates corrupt men and women who have robbed and duped their resources while serving them (Osah *et al.*, 2014).

The issue of corruption, particularly in Nigeria, has taken another dimension where the looters take the glory of the illicit acts perpetrated while serving the people. Those who looted the treasury entrusted to them by the public while serving turned to be people that were given series of traditional titles and decorated with highest honours of the lands (Adenugba & Omolawal, 2014; Dauda, Ahmad & Keling, 2017). In fact, this cuts beyond the traditional rulers to the religious sphere where the fear and words of God is perhaps not the rule of the day again but the love of money (Osah et al., 2014). This is simply because, people with ill-gotten wealth will be those that are conferred with a high religious title and at the same

time found at the first congregational roll during ceremonial functions and other formal religious activities in the society. Hence, corruption and its perpetrators have become what been celebrated in Nigeria's society due to what people tend to benefit from it.

Fraud has done much harm to the Nigerian economy and the citizenry (Efiong, Inyang & Joshua, 2016; Dauda & Ameen, 2017). This has made Nigerian government to device series of efforts to combat the scourge of corruption in the society as for every serious nation that tends to develop must take the fight against corruption seriously (Rose-Ackerman & Palifka, 2016). This position has also been supported by the former United Nations Secretary-General, Kofi Annan that, 'in ways large and small, corruption hurts us all. It impedes social and economic development. It erodes the public's trust, hurts investment and undermines democracy and the rule of law. It facilitates terrorism, conflict and organised crime' (Bracking, 2007). Hence, the fight against corruption should be seen as a war that must be won in order for a society to move forward (Rachagan & Kuppusamy, 2013).

As part of the ways to eradicate the scourge of corruption in Nigeria, the present administration under the leadership of President Mohammadu Buhari introduced whistle-blowing as a mechanism to combat corruption in the country. The government initiated the programme as a way of exposing misconducts and other bad practices in Nigeria and at the same time a way of involving Nigerians in safeguarding public funds, treasury and other valuable goods belonging to the public (Akinnaso, 2016; Gabriel, 2017). This is an indirect way of involving people or masses in the inculcation and maintenance of moral and sanity back to Nigeria's system.

The introduction of whistle-blowing by Nigerian government have significantly assisted the present administration in the recovery of country's loots especially the looted money that are kept secretly in various hidden locations such as underground, abandoned building and wardrobes among others (Efiong, Inyang & Joshua, 2016; Ncheta, 2016). The whistle-blowing practice has become one of the best practices so far introduced to curb the menace of corruption in Nigeria. The attitudes demonstrated by whistleblowers have shown that Nigerians masses are tired of corruption and thereby ready to assist the government in tackling the corruption endemic in the society. It is against this backdrop that the paper examined the success of

whistle blowing in Nigeria, the needs by the Nigerian government to protect the whistle-blowers (masses) through its policies, and how the government can motivate/incorporate Nigerians, especially the masses in the fight against corruption. Since the fight against corruption involves maximum cooperation and supports of all and sundry, it will be proper for Nigerian government to ensure all hands are on deck to have a corruption free society.

METHODOLOGY AND THEORETICAL FRAMEWORK

The adoption of exploratory research method by the study is to focus more on issues related to corruption and the effect of policies of whistle-blowing on such nefarious practices among countries with particular focus on Nigeria. Based on this, the study attempts to review literature on the essence and possible benefits of protection policies for whistle-blower in order to encourage them in the fights against corrupt practices in the country. This study is a qualitative type that utilised secondary data source and reports from Transparency International, journal articles, books, newspapers reports and other policy documents.

Similarly, as argued by Kurt Lewin that, 'there is nothing so practical as a good theory' (Lewin, 1951, p. 169). Therefore, a good theory assists researcher to explain and predict situations or events between social and natural system. It shapes what researcher sees and how it is seeing. Hence, the study makes use of two theories; the Opportunity Theory and Public Service Motivation (PSM) Theory.

The first theory is the Opportunity Theory. The theory is of the assumption that the attractive criminal tendencies arise at the public sectors or government establishment due to weak policies or controls and lack of oversight check on the employees' activities (Benson & Simpson, 2014; Benson *et al.*, 2009). This is in line with the perception of people who see every opportunity that comes on one's way as an avenue to get rich and make away with treasuries or public goods within one's possession.

Secondly, PSM theory explains the motive behind an individual reasoning to choose working with public sector or private setup (Kjeldsen & Jacobsen, 2013; Perry, Hondeghem & Wise, 2010). The theory studies how

the employee's abilities or self-concept, employees' motivational context, and the environment outside and within the working place can facilitate public service motivation (Perry, 2000). It also explains the reason why some people prefer to work in non-profit sectors like government establishments rather than private-profit making oriented companies (Perry & Wise, 1990) although the employments at the private sectors can be financially lucrative with limited scope and little or no impact on the society.

Job position in government or public establishments are mostly less financially lucrative instead of having a wider scope and great potential influence on society. In spite of the fact that the employment at the private enterprises where profits oriented is the order of the day, the level of corruption known as the white-collar crime has been drastically shifted to the public/government enterprises (Benson & Gottschalk, 2017). The adoption of PSM theory in the study has to do with the tendency that the previous studies have revealed that the whistle-blowers were more cooperative and willing to expose any wrongdoing in public enterprises than private sectors. This is because they were of the hope that most federal and state government enterprises give adequate protections of their identities which safe them from any unforeseen humiliation or harassment (Miceli & Near, 1992). Again, the whistle-blowers have access to series of information (such as awarding of contracts or grants) under the government establishments that will draw their attention to where fraud or abuse of public trust is being perpetrated (Callahan & Dworkin, 1992).

In a nutshell, the adoption of the theories in the study is to sensitise the public on the need for them not to abuse the trusts/public resources in their care for personal gain. Similarly, the theories also encourage people at the public sector to always expose corruption and unethical practices happening in their environment as being practiced in private sector which has accounted for the low level of corruption in the latter than the former. The two theories, therefore informed the study on the necessity of protection policies for whistle-blowers in order to encourage them to uncover nefarious activities in their environment.

CONCEPTUAL DISCOURSE ON WHISTLE-BLOWING

The term whistle-blowing has been viewed differently by different scholars. One of these definitions is given by Nader et al quoted in Rachagan and Kuppusamy (2013), as 'an act of a man or woman who, believing that the public interest overrides the interest of the organisation he serves, blows the whistle that the organisation is involved in corrupt, illegal, fraudulent or harmful activity' (p. 368). Also, Miceli and Near see whistle-blowing as 'the disclosure by an organisation's member (current or former member) of illegal, immoral or illegitimate practices under the control of their employers to persons or organisations that might be able to effect action' (Miceli & Near, 1992, p. 15). The definition connotes that the whistle-blowing is majorly announced only by members of an organisation.

According to the federal government of Nigeria, a whistle-blower is 'any person who voluntarily discloses information in good faith about a possible misconduct or violation that has occurred, is on-going, or is about to occur' (Tukur, 2016, p.2). Whistle-blowing can also be described as disclosure made by subordinate or employee to the public on immoral or illegal behaviour in an organisation (either public or private) that capable of causing harm to a third party or the public (Shaw, 2002). Therefore, a whistle-blower is a person who raises alarm about wrongdoing perpetrating in an organisational setting. Whistle-blowing is a kind of organisational voice which aimed to correct policies, practices and ill activities through the higher authority (Hirschman, 1970; Rusbult *et al*., 1988). If appropriately implemented, the whistle-blowing policy can assist timely discovery of fraud, put measure to correct the wrongdoing or imbalances before such get out of hands which may eventually minimise the costs and losses incurred as a result of fraud (Chung, Monroe & Thorne, 2004)

There are five classical stages of whistle-blowing as purported by Greenberger, Miceli & Cohen (1987), Miceli & Near (1985) and McLain & Keenan, (1999) in their model. The stages as shown in Figure 1, informed that the Stage 1 of the model postulates the occurrence of the event. The Stage 2 and 3 of the model decides on the actions to be taken. The reactions of the organisation to the event happens on Stage 4. The whistle-blowers study and monitor the activities of the organisation is depicted in Stage 5 in order to be guided on the next line of action in the future.
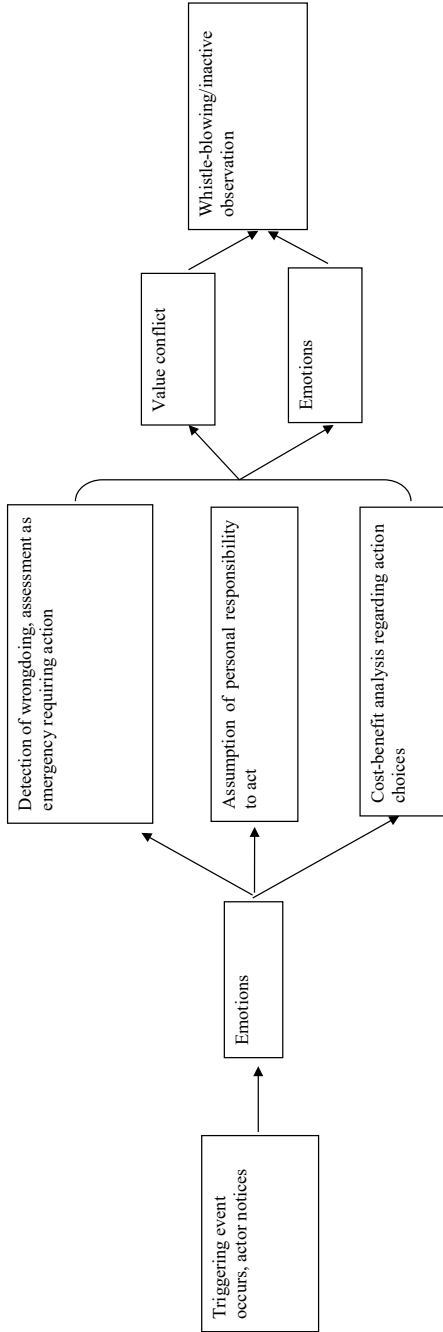
Figure 1: Process of Whistle-Blowing Decision Models

Having observed the whistle-blowing through the whistle-blowers' activities, it would be appropriate to conclude that the ability to inculcate or transform the spirit of moral standards in people's behaviour is the motive behind whether to blow the whistle or not (Jos, Tompkins & Hays, 1989; Henik, 2014). Upon the changes perceived by the public on the role of whistle-blowing in the society, people mostly viewed the whistle-blowers differently. Some see whistle-blowers' activities as heroes or selfless martyrs who are bothered with public welfare, while others tagged the acts negatively and categorized them as traitors, disgruntled or disloyal employees (Onakoya & Moses, 2016).

TYPES OF WHISTLE-BLOWING

The whistle-blowing can be either internal or external form. It is internal whistle-blowing if a person reporting the misconduct to superiors or fellow colleagues within the organisation. While the external whistle-blowing is regarded as the wrongdoing perceived and reported to outsiders such as the law enforcement agencies, media, anti-graft bodies, state or federal agencies. Previous studies such as Brown (2007); Guthrie & Taylor (2017); Near & Miceli (2015) and Cheng, Bai &Yang (2017) revealed that whistle-blowers mostly use internal forms or channels first. While few number of individuals channel their whistle-blowing through external means as a result of the nonchalant attitude they receive from the management to whom they report the wrongdoing.

THE NATURE OF WRONGDOING

The classification of misconduct depends on the manner the potential whistle-blower perceives the wrongdoing in an organisational setting or a given society. For instance, stealing office-pin or its sorts may be perceived wrong to some employees, perhaps to others it is a minor distraction. The nature and gravity of the wrongdoing to be perceived by the potential whistle-blowers need to be well agreed upon and defined before the whistle-blowing is valid. This has made different disciplines or professions to come up with their yardstick to determine the gravity of wrongdoing or misconduct before a valid whistle can be blown.

From a legal viewpoint, whistle-blowing is allowed if the whistle-blowers think that the misconducts perceived has great implications on public policy (Miceli & Near, 1992; Vinten, 1994). The auditors from their own profession determine wrongdoing through materiality. This is done by weighing the misconduct on the basis of whether it is costly or not before challenging such (Miceli & Near, 1988). Lastly, the perception of philosophers on what constitutes misconduct or wrongdoing? Philosophers see whistle-blowing over wrongdoing as an ethical act which should be carried out irrespective of the gravity of the misconduct. According to Bowie, whistle-blowing or whistle-blowers' requirement 'stem from appropriate moral motives of preventing unnecessary harm to others… that the whistle-blowers have evidence that would persuade a reasonable person… that the whistle-blowers perceive serious danger that can result from the violation' (Bowie 1982, p.143). Under this doctrine, the whistle-blower is advised to utilise internal channels first in order to avoid of being exposed to moral violation and at same time for the brighter chances of whistle-blower in the pursuance of his claims.

At this juncture, it is safe for one to conclude that the impact of whistle-blowing in any organisational setup is great due to the fact that greater percentage of the wrongdoing in every organisation is reported by the whistle-blowers through either internal channels or external channels. The previous findings revealed that some organisations prefer whistle-blowers to use internal channels in order to avoid negative publicity and litigation costs that may accompany the external whistle-blowing (Near & Miceli, 1996; Taylor, 2014).

CAUTION WHILE TAKING A WHISTLE-BLOWING DECISION

There are some precautionary measures needed to be taken before blowing a whistle on any wrongdoing perceived in an organisation or any given society as asserted by Sehgal (2014). These include the following:

- Proper evidence; it is paramount for a whistle-blower to have enough and concrete evidence to buttress his claims or allegations.
- Valid motive; no whistle-blowing should be made on the ground of

frustration, enmity or some personal grudges. It must be on a clearly motive.

- Willingness or desire to blow whistle; individuals are charged to weigh the consequences or the likely repercussion in exposing the misconducts in an organisation, particularly where there is no proper policy or legal provisions for whistle-blowers. This is because if there is no adequate security or policy that protects the identity and the integrity of whistle-blowers in an organisation or society, both the whistle-blowers and their families may be subjected to series of humiliation and maltreatment ranging from loss of job, reputation and even loss of life in severe circumstances.

- Last resort: the whistle-blowers must have device several means if possible, to correct the wrongdoing before considering whistle-blowing as the last option. This option however, has been criticized on the ground that subordinates are those mostly observe or perceive wrongdoing committed by the superiors which may likely difficult for the subordinates to correct the superiors on their misconduct (Culiberg & Mihelic, 2016)

REASONS FOR MISTRUST OR UNETHICAL CONDUCT IN NIGERIA

Many scholars had given varieties of opinions on the reasons for mistrust or unethical behaviour and immoral act in Africa, particularly in Nigeria where the act is more pronounced (Olufemi, 2014). Muganda (1999) emphasizes on factors responsible for corruption in Africa. These include patronage and societal pressures, political factors, lack of transparency, and weak enforcement of government rules and regulations.

Additionally, family role on corruption is another contributing factor to misconduct in many societies (Laut, Mariano, Ontolan, Baracamonte, Aguano & Ponce, 2013). The attempt by family members or relations to encourage the person at the helm of affairs especially perceiving such as their opportunity to take advantage of the system. This mostly happens in

Nigeria by using any available opportunity such as the political appointments or public offices or trust to acquire wealth illegitimately. This equally resulted to all sorts of embezzlement and fraud in various public and private establishments (Ponce & Cahiles, 2013).

Furthermore, Raditchokwa (1999) and Asuru (2015) relate the causes of unethical behaviour or corruption in Africa to poverty, bureaucratic inefficiency, under-development, inadequate people's participation in the policy making process and the leadership crisis which led some political elites into all sorts of indiscipline acts. Similarly, Aniele (2004) attached the reasons for corruption in Nigeria to under-development, level of orientation in the society; lack of proper sanctions against wrongdoers, ethnicity and the individual mentality that force people to acquire material wealth by all means.

Nonetheless, scholars like Osahon (1981), Oji (1982), Bolaji (1985), Nzeribe (1986), Ayaji (1990), Arena (1990), Ekpo-Ufot (1990), Oseni (1993), Nwakwo (1995), Oluwole (2000) and Olufemi (2014) were also of the opinions that lack of ethics generally in Nigerian society has led to mistrust or corruption in the country. Their findings so far indicated that the misconduct and unethical behaviour in Nigeria have negative influence on the performance of both government and business enterprises in the country. This is one of the serious blunders in bureaucracy as asserted by Admiral Hyman Rickover that, 'if you must sin, sin against God, not against the bureaucracy. God may forgive you, but the bureaucracy never will' (Ft. Belvoir, 2008, p.211). Therefore, one can rightly argue that the root cause of corruption in Nigeria has to do with greediness and ill motive among individuals in the country. Thus, the level of corruption in Nigeria increases daily, particularly during the democratic era.

EFFORTS OF GOVERNMENT TOWARDS PROHIBITION OF WRONGDOING IN NIGERIA

The organisational setups in Nigeria (both private and public enterprises) were characterised with series of unethical behaviours and misconducts (Adenugba & Omolawal, 2014). The degree of atrocities committed in both private and public enterprises makes it differ. The perpetrators of these wrongdoings are the employees.

Sokefun (2004) describes Nigerian workers as indolent, apathetic, and unresponsive to motivation and generally, not willing to put forth maximum productive efforts. The government of Nigeria has being trying its effort in ensuring the appropriate sanity and work ethics is inculcated in the Nigerian workers. Series of mechanisms were introduced by the past governments (both military and civilian administrations) in order to get maximum productivity out of the Nigerian workers for positive development.

These measures have been dated back to 1975 where the federal government of Nigeria under Generals Murtala Muhammed and Olusegun Obasanjo introduced legislation to curb the monster of indiscipline in Nigerian society. Between 1975 and 1979 the administrations of Generals Murtala Muhammed and Olusegun Obasanjo ensured some measure of discipline in the civil service. Many people found of misconduct were dismissed and some were forced to retire without being given proper fair hearings due to the decrees used by the military administration (Olufemi, 2014).

Serious about the misconduct among the civil servants in the country, the civilian administration under President Shehu Shagari in 1979 to 1983 came on board with a programme called Nigerian Ethical Revolution (Ejumudo & Ikenga, 2015; Nwaodu, Adam & Okereke, 2014). The programme introduced by President Shehu Shagari was able to curb wrongdoings in Nigeria particularly in the civil service before the administration was truncated by another military government.

General Muhammadu Buhari and General Tunde Idiagbon military government that took over in 1984 introduced another anti-corruption programme known as the War Against Indiscipline (WAI) (Nwaodu, Adam & Okereke, 2014). The regime fought corruption in Nigeria to zero level to the extent that discipline or moral culture has been imbibed in people which translated in their behaviour and reflected all homes in the country. Similarly, another military Head of State came on board in 1985 under the headship of General Ibrahim Badamosi Babangida who replaced WAI with another anti-corruption programme, 'Mass Mobilization for Social and Economic Recovery' (MAMSER). The programme was described by many as been cosmetic in its approach to serious misconducts (Olufemi, 2014; Ejumudo & Ikenga, 2015).

In 1993, General Sanni Abacha military government changed MAMSER to National Orientation Agency (NOA). NOA was designed by Abacha's government to orientate the general public particularly the civil servants on the need for positive change in their behaviour. However, the programme was perceived by many for not having significant impact to positive change in Nigeria (Olufemi, 2014).

In 1999 when Nigeria was returned to civil rule, President Olusegun Obasanjo engineered the anti-corruption Act known as 'Corrupt Practices and Other Related Offences'. This was later extended to the National Assembly Act backing in the year 2000 which led to the formation the Independent Corrupt Practices and Other Related Offences Commission (ICPC) (Nwaodu, Adam & Okereke, 2014). Having empowered, the ICPC as anti-corruption commission performs its assigned duties, the Commission started its investigations in 2003 on some Principal Officers of the National Assembly, the Highest Law-Making Organisation of Nigerian society over corruption charges against them. This made the National Assembly of Nigeria then to pass a bill to repeal the ICPC Act which was not only refused to be signed by President Olusegun Obasanjo but also considered it as impunity and immorality protection from the National Assembly. The attitude of Nigerian Legislators attests to the extent of corruption in Nigerian society among the elites, particularly the ruling class (Olufemi, 2014).

Similar to the ICPC, the Economic and Financial Crime Commission (EFCC) is another anti-crime commission set up by President Olusegun Obasanjo administration to combat corruption in Nigeria (Nwaodu, Adam & Okereke, 2014; Dauda & Ameen, 2017). The two agencies play significant roles in regulating the affairs of both public and private enterprises or organisations in Nigeria in order to ensure sanity and ethical conduct in the course of transactions (Ogundele & Opeifa, 2004).

From all the initiatives to fight corruption in Nigeria, the most important is the giant stride taken by the present administration under President Muhammadu Buhari to introduce whistle-blowing mechanism as a way of exposing corruption and wrongdoing in Nigeria. This according to Kemi Adeosun, the former Minister of Finance to President Muhammadu Buhari, will serve as a deterrent to corrupt minded people of Nigeria and indirectly reduce the level of corruption in the country (Ncheta, 2016).

The whistle-blowing mechanism introduced by the present administration has been worldly applauded and highly supported by Nigerians both home and abroad as part of sanitising the country from the scourge of corruption. Table 1. below shows the corruption trends in Nigeria since 1996 – 2016.

Table 1:Corruption Trends in Nigeria from 1996 -2016

Year	Ranking	Scores (using 10% scale)
1996	54 out of 54	0.69
1997	52 out of 52	1.7
1998	81 out of 85	1.9
1999	98 out of 99	1.6
2000	90 out of 90	1.2
2001	90 out of 91	1.0
2002	101 out of 102	1.6
2003	132 out of 133	1.4
2004	144 out of 146	1.6
2005	152 out of 158	1.9
2006	150 out of 163	2.2
2007	147 out of 179	2.2
2008	141 out of 180	2.7
2009	130 out of 180	2.5
2010	138 out of 178	2.4
2011	143 out of 183	2.4
2012	139 out of 176	27
2013	144 out of 177	25
2014	136 out of 175	27
2015	136 out of 168	28
2016	148 out of 180	27

Source: Compiled from the Transparency International Report - https://www.transparency.org/news/feature/corruption_perceptions_index_2017

Table 1 above indicated that Nigeria in 1996 was the most corrupt country as shown by the Transparency International ranking. Similarly, the corruption index in 2001 indicated that Nigeria was rated as the second most corrupt country in the world. While in 2012, Nigeria was scored 27 to make it assumed 139 positions out of 176 countries in the world. In 2014 and

2015 the country was rated 136 out of 175, and 136 out of 168 respectively (Transparency International Report, 2017).

WHISTLE-BLOWING AND ITS SUCCESS IN NIGERIA SO FAR

Whistle-blowing is a programme planned to encourage anyone with genuine information about any misconduct, violation or illegal activity that is capable of affecting Nigerian people and government affairs, to report it (Tukur, 2016). This gives Nigerians the opportunity to expose the wrongdoing and misconduct noticed in the society. Nigeria's whistle-blowing mechanism gives every Nigerian the advantage to announce the misconduct perceived in their domains irrespective of whether the whistle-blower is an employee or not of an enterprise, but as long as the person can support his claims with concrete proof, the reports of corruption will be taken up (Ncheta, 2016).

Nigeria government has encouraged the whistle-blowers through incentives provision for exposing wrongdoing in the country. According to Kemi Adeosu, the (then) finance minister quoted in Soniyi (2016) and Adetayo (2016):

If there is a voluntary return of stolen or concealed public funds or assets on the account of the information provided, the whistle-blower may be entitled to anywhere between 2.5 percent (minimum) and 5.0 per cent (maximum) of the total amount recovered (Soniyi, 2016, p.3; Adetayo, 2016, p.1).

This will serve as a motivator for anyone to expose wrongdoing in Nigeria. Doing this will drastically reduce the level of corruption and serve as a deterrent to wrongdoing in Nigeria. Similarly, in America under the US False Claims Act, the whistle-blower is allowed to receive up to 30% of recovery funds from the offender by the government (Braithwaite 2013; Andon *et al.*, 2018). The Canadian government equally provided a bountiful reward of up to 15% of international tax recoveries that exceed CA$100,000 (Fekete, 2013). Also, in South Korea where the Anti-Corruption Act 2001 provide for the whistle-blowers to be rewarded up to US$2 million for information on the recovery of country's looted fund (OECD, 2012).

Since the official proclamation of whistle-blowing as an anti-corruption way of exposing the misconduct and immoral act in Nigeria, series of looted funds recoveries have been made by the government through the anti-corruption commission known as the EFCC headed by Ibrahim Magu. Some of the recoveries looted funds include the cash sum of $9,772,800, and £74,000 discovered on Friday, February 3rd, 2017 from a building in Kaduna belonging to Mr. Andrew Yakubu, the former Chief Executive of Nigerian National Petroleum Corporation (NNPC) (Daniel, 2017a).

Again, on March 2017 a huge sum of money was discovered in Kaduna Airport in five different unmarked bags (Momodu, 2017). Also, a sum of €547,730, £21,090 and N5,648,500 found in a Bureau De Change (BDC) office at Balogun Market, Lagos by EFCC (Daniel, 2017b).

Similarly, another sum reaching N500 million in N500 and N1000 denominations found loaded in several bags on 7th April 2017 at an abandoned Bureau De Change building which has been used a long time ago in LEGICO Shopping Plaza, Victoria Island Lagos (Momodu, 2017). Also, on April 10th, 2017 a sum equivalent to N250 million and other various foreign currencies was discovered in a Bureau De Change in Balogun Market area of Lagos (Momodu, 2017).

In addition to the recoveries of the looted funds, huge sum of $38,000,000, N 23,000,000 and £27,000 discovered on Wednesday, 12th April 2017 by EFCC from an apartment in Osborne Towers, Ikoyi Lagos (Gabriel, 2017). The detail analysis of some of the recovered loots through whistle-blowers could be found on Table 2.

Table 2: Records of some of the Looted Recovered through the Whistle-blowing

Names / Locations of the money recovered	Amount				Date
	Dollar ($)	Pound (£)	Euro (€)	Naira (N)	
Mr. Andrew Yakubu	9,772,800	74,000	-	-	3rd February, 2017

Bureau De Change (BDC), at LEGICO Shopping Plaza, Victoria Island, Lagos, Nigeria	-	-	-	500,000,000	7th April, 2017
Bureau De Change (BDC), at Balogun Market, Lagos, Nigeria.	-	21, 090	547,730	5,648,500	10th April, 2017
Discovered from an Apartment in Osborne Towers, Ikoyi, Lagos, Nigeria	38,000,000	27, 000	-	23,000,000	12th April, 2017

Source: Chinwo & Ajimotokan, (2017)

Additionally, according to Alhaji Lai Mohammed, the Minister of Information and Culture, Nigerian government has recovered above $151million and N8billion looted funds through the whistle-blowing mechanism (Gabriel, 2017). All the glory toward the recovery of some looted funds was credited to the effort of whistle-blowers to compliment the government's plan to reduce corruption in Nigeria. This shows that the people's cooperation and participation in the fight against corruption in Nigeria are highly important.

However, there is a need for proper protection of whistle-blowers' by Nigerian government similar to other countries that have used the whistle-blowing mechanism as a channel to expose corruption and misconducts in their countries. Making adequate protection for the whistle-blowers' will encourage more volunteers to participate actively by reporting any misconducts or corruption to the government or the appropriate anti-corruption agencies.

PROTECTION POLICIES OR LEGISLATION FOR WHISTLE-BLOWER

Some of the advanced countries that have made use of whistle-blowing mechanism as a means of taming corruption has provided some guard and protection policies or laws for the whistle-blowers. Example of such practices could be seen in the following countries:

- The United State of America (USA or US): the US's government has the higher number of whistle-blowers' protection laws both at the State and Federal Levels. This is done in order to achieve peoples' maximum support on the programme and at the same time to safeguard the rights of the whistle-blowers (Sehgal, 2014). The US whistle-blower Protection policies include; the Whistle-blower Protection Act 1989 (was amended in 1994), Sarbanes-Oxley Act (SOX), and False Claims Act. The three Acts protect the whistle-blowers against any retaliatory action on them and at the same time proffer sanction for anyone who go against the rule. For example, anyone caught retaliate against a whistle-blower can be imprisoned for maximum ten years. Also, the adjudication of cases of whistle-blower on either to be reinstated, compensated for damages, pay back among others, is expected to complete within 180 days (Sehgal, 2014).
- United Kingdom (UK): The UK protection policy for a whistle-blower is known as Public Interest Disclosure Act of 1998 (Sehgal, 2014). The Act provides protection for employees in private, public and non-profit making enterprises.
- European Union (EU): Out of the six countries of EU that have dedicated whistle-blower policy – Hungary, Netherlands, Norway, Romania, Switzerland, and UK, only two - Norway and UK have a more dedicated whistle-blower protection policies or laws that accommodate all employees in both private and public sectors (Sehgal, 2014). While other EU member countries have either a very limited or no legal backup or protection for whistle-blowers.
- Canada: The Canadian government enacted Act known as Public Servants Disclosure Protection Act in 2007 in order to protect the whistle-blowers in the society. Although, the Act has been criticised for protecting wrongdoers at the expense of the whistle-blowers due to many conditions or long procedures before any wrongdoing can be reported appropriately (Sehgal, 2014).
- India: The whistle-blowers' protection law was passed and approved in India as a channel to tame corruption in the country. The Bill was passed by the Lok Sabha in December 2011. In February 21, 2016 the Bill was again passed by Rajya Sahba in order to strengthen the Act more in its enforcement against corruption in the country (Sehgal, 2014).
- Malaysia: There are some improvement in Malaysian's law to

encourage whistle-blowing in the country. The introduction of Malaysian Anti-Corruption Commission (MACC) Act 2009 to replace the old Anti-Corruption Act (ACA) is an improvement which motivate whistle-blowers to expose any corruption or misconduct perceived in the society (Rachagan & Kuppusamy, 2013).

• South Africa: The country was one of those that see whistle-blowing as sin, but due to the pervasive corruption level in South Africa, it later emulated UK through the enactment of its Protection Disclosures Act of 2000 that encourage employees who have useful information about any ongoing wrongdoing in all organisations in the country (Sehgal, 2014).

Having observed, some of the countries where whistle-blowing mechanism has being practiced to discourage corruption have taken whistle-blowers' protection policies serious in order to encourage people participation in the fight against corruption. Hence, Nigeria's case should not be exceptional if the federal government really wants people's involvement in its fight against bad practices in the country. An example of the havoc that is likely to happen when there is no policy or legal protection for the whistle-blower is the unethical disengagement of Mr. Ntia Thompson, an assistant director of an agency at the ministry of Foreign Affairs in Nigeria for blowing whistle over wrongdoing in his agency (Daniel, 2017c; Salau, 2017). Similarly, the treatment meted to Mr. Murtala Ibrahim of the Federal Mortgage Bank of Nigeria over exposing the illegal act happening in the establishment, is another havoc that may occur when there is no effective legal or policy protection for the whistle blower (Odunsi, 2017).

The Federal Government of Nigeria has taken a move by initiating a whistle-blower policy to safeguard the rights of Nigerians who have vital information on corruption and other misconduct in the country (Akinnaso, 2016). According to Mrs. Kemi Adeosun, the purpose of the policy is to encourage and protect the whistle-blowers from harassment with the hope that information on looted funds will be more coming to the government from the public (Tukur, 2016). The protection policy for whistle-blowing in Nigeria was approved on Wednesday 14th December, 2016 at the Federal Executive Council meeting chaired by President Muhammadu Buhari. However, the policy remains inactive until it is formally passed and ratified by the National Assembly into a law (Tukur, 2016; Akinnaso, 2016).

Hence, Nigerians expectation is high on the National Assembly for quick passage of the whistle-blowing protection policy into law. In fact, some concern Nigerians are in doubt that the people's expectation on whistle-blowing policy may not see the light of the day from the National Assembly. This is due to some controversies surrounding Nigerian Lawmakers such as the issue of budget padding, non-confirmation of Ibrahim Magu as the EFCC chairman (Akinnaso, 2016) among others.

However, if the expected protection policy by Nigerians failed to receive the blessing from the National Assembly, the whistle-blowers may need to be conscious of their self-protection before exposing misconduct or wrongdoing in Nigerian society. If this happens, the fight against corruption in Nigeria may be left for government alone to fish-out whoever is suspected of violating the rule. Hence, the fight against corruption cannot be fought and won alone, without the supports of the masses and no individual will take the risk to be a whistle-blower when there is no legal protection for his conduct (Agnihotri & Bhattacharya, 2015; Blenkinsopp & Snowden, 2016).

CONCLUSION AND RECOMMENDATIONS

The primary objective of this article is to sensitise the public on the need to participate in the fight against corruption in Nigeria. The study also emphasis on the need for quick passage of whistle-blowers' protection policies into law in Nigeria. If this is properly done, Nigerians may be encouraged to join hands with the government, particularly the President Muhammadu Buhari's administration in its efforts to combat corruption in the country. At the same time, the need for this study is to enlighten Nigerian policy makers and the society at large on the likely doom to the country's polity if the protection law does not see the light of the day from the National Assembly. The literature have equally revealed how important the whistle-blowing is, in combating corruption in societies (Ogundele & Opeifa, 2004; Olufemi, 2014; Sokefun, 2004; Sehgal, 2014; Efiong *et al*., 2016). It is therefore, imperative for whistle-blowing policies to be properly integrated in order to enhance the participation of all and sundry in the fight against corruption in Nigeria.

This study is recommending the followings to Nigeria government in order to encourage the prospective whistle-blowers to expose wrongdoing and misconducts in the country. These include:

Firstly, there should be adequate and proper legal protection for whistle-blowers. Nigerian government should protect the fundamental rights of all individuals who willingly reports cases of corruption or misconduct in the country without any negative repercussion for his action.

Secondly, the government should educate Nigerians on the danger of keeping quiet as when there is need to expose wrongdoing in the society. According to Albert Einstein, 'the world will not be destroyed by those who do evil, but by those who watch them without doing anything' (Czepulkowski, 2014). In addition, Abraham Lincoln sees silence when one's voice should be heard as, 'to stand in silence when they should be protesting makes cowards out of men' (Sehgal, 2014, p.1). This should be taken seriously particularly in public sectors where employees refuse to report any perceive corruption in an organisation due to fear of been crucify or label as traitors. The government can pronounce policies and sanction for employees who remain silence in the face of serious misconduct for them to be motivated to report any misconduct.

Thirdly, the whistle-blowers should be highly motivated by rewarding them accordingly. Despite the fact that the government has promised to give anyone who report corruption a reward between 2.5 % (minimum) and 5.0 % (maximum) of the total funds recovered (Soniyi, 2016; Adetayo, 2016), there is need for the government to 'walk the talk' by complementing the efforts of whistle-blower once the latter has done its part.

Next, the government should strengthen more the anti-corruption mechanism put in place (EFCC, ICPC, Investment and Security Tribunal among others) in order to carry out their assignments effectively. The Acts set up the anti-corruption agencies should be given adequate independent to conduct investigations, prosecutions and other oversight functions as part of their responsibility in the course of combating corruption. This will encourage the whistle-blowers to report any perceive wrongdoing or misconduct to the appropriate quarters knowing fully that the culprits will be brought to book accordingly.

Furthermore, the role of mass media in the fight against corruption should not be underestimated. The government should work closely with the mass media to ensure transparency in their reports on government activities and to avoid brown envelope journalism to the public. This will make government accountable to the masses and encourage people to participate /cooperate with the government to fix out the bad eggs in the society. Hence, it may invariably project the good image of Nigeria to the entire universe.

In addition, the government can encourage the whistle-blowers in Nigeria through persuasion and cultural orientation of whistle-blowing in the society. The notion that anyone who reports his fellow human over wrongdoing is seen as 'sin' and the person may be tagged as traitor or intruder in the society should be corrected. This is because any mistrust or wrongdoing conducted on the public fund or treasury will be negatively impacted on all the citizens of the country. So, it is good to be on the safe side to reports any wrongdoing noted in the society to prevent its repercussion on the general public.

Finally, the government should introduce or include into the school curriculum the culture and ethics of whistle-blowing in the society. As the popular adage 'catch them young', the youths who they said, are the leaders of tomorrow should be well-cultured right from their childhood. If this is done, the cultural ethics of whistle-blowing might have been inculcated in them right from their tender age which will shape the lives of Nigerian's young generation against corruption and the need to reports misconducts in the society to the appropriate authority.

ENDNOTE

[i]This is a statement by Muhammadu Buhari, warning Nigerians against voting for the Peoples Democratic Party, (PDP) at the general polls, if truly they want to end corruption in the country. For details on Buhari's views about corruption see Onoyume (2015, p.2).

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HANDLING DISRUPTED LEARNING DURING COVID-19 PANDEMIC: LEARNERS' EXPERIENCE IN NIGERIA

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ABSTRACT

Coronavirus has affected not only the human health but also the education sector. As a result of this pandemic, schools were forced to suspend face-to-face learning and implement an alternative method of learning which is online learning. The focus of this paper is to investigate the accessibility and efficiency of learning during the lockdown period. The paper examined the effectiveness of vodcast (video and podcast) lessons as a strategy in online teaching by using learning management system (LMS) and to what extent the strategy met the needs of the learners during the challenging period of the covid-19pandemic. The study adopted mixed method research which consisted of three main phases of design. The questionnaire used in this study comprises 15 items and is divided into two sections and 50 participants participated in the study. The findings indicated that learners displayed positive perceptions towards the use of vodcast lessons during the pandemic period. Further-

more, they reported that online learning should be used to comple-
ment face-to-face teaching even after the pandemic period is over.

Keywords: *disrupted learning, vodcast, learning management system*
(LMS), coronavirus (covid-19)

INTRODUCTION

COVID-19 is from the family of Coronavirus which is said to have originated
from Wuhan China around November 2019, spreading rapidly around the
world, which has caused the death of thousands of people (Nigeria Centre
for Disease Control (NCDC), 2000). The virus was declared by the World
Health Organization (WHO) as a pandemic situation. COVID-19 pandemic
affected not only the human health but also the educational sector. To contain
the COVID-19 virus from spreading, several countries closed their schools
as the banned on face-to-face teaching were implemented as a means of
curbing the disease. Among the nations that placed a restriction on face-to-
face- teaching includes Nigeria. The index case was confirmed in Nigeria
on February 27th 2020. As the first patient was confirmed with the virus,
the country of over 20 million people was thrown into fear, anxious, and
panic as they patiently wait for further directives from the government on
the measures to apply in order to contain the deadly virus. At the same time,
the government had set up a medical team to prepare the nation in facing
the deadly virus. The index case eventually caused WHO to pronounce
Nigeria among the 13 African nations listed with high-risk of the spread of
coronavirus (NCDC, 2000).

With the pronouncement by WHO on the daily increasing numbers of
cases, one of the drastic measures embarked by the Federal Government of
Nigeria to prevent further spread of the virus, was to declare a total lockdown
of the nation to prevent further transmission and allow contact tracing of
those who might have had contacts with the index case. The lockdown led
to the closure of schools resulting thousands of adults, youths, and children
to be unable to attend schools.

In the same time, UNESCO Education Response in Crises and
Emergencies in the Education 2030 Incheon Declaration and Framework

for Action raised concern and noted that an appreciable number of youths, adults, and children have their education disrupted due to reasons involving violence, disasters and pandemic to mention a few. UNESCO further stated and reiterated hope of commitment, developing responsive and resilient education to meet the needs of the yarning children, youths, and adults. In line with the UNESCO Education Response in Crises and Emergencies in the Education 2030 Incheon Declaration and Framework for Action mandated that countries should provide alternative modes of learning for children and youths away from school, in order to accommodate learning flexibility in both formal and non-formal setting during any emergency period.
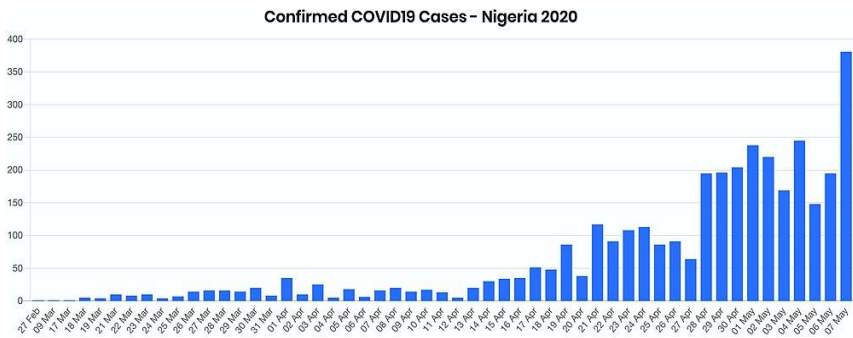
Figure1: Displayed the Daily Confirmed Cases of COVID-19 in Nigeria from the 27th February Index Case to 7th May 2020. Retrieved from: http://en.wikipedia.org/Nig_COVID-19_daily_case_profile.jpg. Copyright 2020 by NCDC

Figure 1 displays the daily confirmed cases of COVID-19 in Nigeria from the 27th February index case to 7th May 2020. The current situation with the spread of COVID-19 has made the Federal Ministry of Education and all stakeholders in education be worried and rethink of finding alternative for the potential of online technology to enhance teaching and learning during the pandemic period to maintain undisrupted learning. How could this be done and what are the challenges encountered by this strategy? What is the perspective of learners to this new strategy and finally how does this approach enhances their learning experiences during the period and the sustainability of the strategy after the pandemic period are some of the questions that will be answered in this study.

In order to ensure undisrupted learning among children and young adults, the researcher embarked on a digital learning for learners that are less privileged during the lockdown period. Digital learning has been used and preferred since the advent of information technology. This has been used to share information, investigate, shop online, banking, and teaching and learning (Conole, 2013). The incorporation of the appropriate use of technology in the classroom for teaching and learning has improved a better understanding of basic concepts of subject matter (Saba & Shearer, 2018). It has been established that despite the advantages of technology-based instruction, it has not been able to replace the human mind though it has been able to enhance and increase the pace of learning (Saba, 2012). Implementing the use of digital technology especially videocast (video and podcast) as a tool for learning during the lockdown to help rather than hinder the learning due to face-to-face learning that has been put on hold due to COVID-19 Pandemic.

The skills and approach to facilitate online teaching and learning pose challenges to teachers during the lockdown period. The use of vodcasts might be a very good alternative to respond to learners' needs during this period (Saba & Shearer, 2018). In respond to learners' needs during this emergency period, this study will focus on senior secondary school students' perception in the use of vodcast (video and podcast) lessons used as learning resources instead of the face-to-face teaching of physics as a subject. Physics was chosen because of its importance to the scientific development of the nation. Despite the significance, efforts to improve teaching and learning of the subject at the senior secondary level, the performance of learners has been unsatisfactory (Erinosho, 2013). Several kinds of literature (Akanni, 2015; Obafemi & Onwioduokit, 2013) have shown that learners find physics difficult due to the abstract nature of the course hence, there is a need to stimulate learners' interest during the pandemic period through vodcast (video and podcast) lessons.

The vodcast is a computer-based technology that is made up of a combination of audio and visual images (Spies, 2011). Audio and video files are made available on the internets which are downloadable and could be used later at learners' convenient time and pace (Taylor & Clarks, 2010; Beamish & Brown, 2006). Podcast has been used in distance education since the increase in internet capability and advancement in software over

some years (Spies, 2011). This has made learning appealing to learners and improve learners' achievement (Whelan, 2005). Podcast has been documented to be flexible, motivate, engaging, and accessible when used in teaching and learning (Spies, 2011).

Rowe (2006) discovered that the use of vodcast does not depend so much on the technology but rather on the way it is used to achieve learning experience because once it is downloaded, it can be used without the dependency on the internet. This is suitable during this pandemic period since most learners cannot afford to be on the internet for the whole day because of its financial implication. The ease of use for both learners and teachers results the researcher of this study to use the vodcast (video and podcast) lessons during the pandemic period.

The study is based on the constructivist learning theory of Jean Piaget (1896-1980) in which he stated that learners should construct new knowledge from their past experiences. He affirmed that this took place through the process of accommodation and assimilation. The process of assimilation occurs when learners incorporate new experiences into an already existing framework without changing the framework (Bhattacharjee, 2015). Accommodation is the process of reframing one's mental representation of the external world to fit new experiences. The theory of constructivist advocated that learners should construct knowledge out of their experiences (Sharma, 2006). In short, it is a way or process of adjusting mental models to accommodate new experiences. Thus, the following principles should be followed when constructing their meaning.

i.   New learning should be built on prior knowledge
ii. Learning is enhanced by social interaction
iii. Meaningful learning should be developed through an authentic task.

The constructivist approach has been proposed as an alternative to face-to-face teaching where learners discovered learning by themselves. The constructivist teacher encourages students to constantly assess how the activity will help them in gaining their understanding (Wilson & Cole, 1991). On this premise, the research will examine how the interaction with video recorded lessons could actively engage learners by constructing their understanding during this critical pandemic period.

STATEMENT OF THE PROBLEM

To contain the spread of COVID-19 pandemic, schools have been shut down resulting in the face-to-face teaching to be impossible and making thousands of children and youth out of schools. To maintain undisrupted learning during this period, online learning was introduced by making use of vodcast (video and podcast lessons). To this end, the researcher will examine the perceptions of learners on the effectiveness of video-recorded lessons as the strategy in online teaching through learning management system (LMS) and the extent to which the strategy has met the needs of learners during the challenging period of COVID-19.

The study aims to examine the perceptions of learners on the effectiveness of vodcast (video and podcast) lessons as a strategy in online teaching through LMS and to what extent the strategy met learners' needs during the period of lockdown. Specifically, the study will examine the followings:

i.   Learners' perception of vodcast (video and podcast lessons) in online teaching using LMS
ii.   The role and function of vodcast (video and podcast lessons) in enhancing the learning experiences and engagement of online learners.

RESEARCH QUESTIONS

The following three research questions are formulated at 0.05 level of significance

i.   What are learners' perceptions towards vodcast (video and podcast lessons) in online teaching using the learning management system?
ii.   To what extent is vodcast (video and podcast lessons) enhances learners learning experiences?
iii. How engaging is the interaction using LMS for learning?

RESEARCH METHODS

The study used a mixed-method research design which consisted of three main phases of design. Quantitative and qualitative approaches were applied in carrying out the study with the results of one phase influencing the process of another phase. In phase one, the researcher identified research assistants and areas of needs of learners taking physics as a subject at the senior secondary school level. The questionnaire comprises 21 items which were later reduced to 15 items based on expert advice used for data collection. The questionnaire has two sections. The first section consists of demographic data of participants while section B consists of 15 questions with a 4-point Likert scale (strongly agreed to strongly disagreed). The instrument used for this study was developed in consultation with experts to ascertain content-related validity. The reliability was checked by implementing a pilot survey. The reliability of the instrument was 0.89 using Cronbach Alpha. This made the instrument to be suitable for the study. 50 learners out of 85 that shown interest was randomly selected to participate in the intervention due to the availability of space and facilities. Most of the learners that participated were females (n=25) while males are (n=25) with an average age of ($\pm$20.8). However, participants must be from the science stream and indicate physics as one of the subjects taken in his/her schools at the senior secondary school level.

In the second phase, the report from the questionnaire in which learners identified difficult topics were extracted and lesson plans on the identified topics were drawn out. The contents were arranged by the researcher in line with the Nigerian Educational Research and Development Council (NERDC) approved school curriculum. Vodcast recordings were made by research assistants employed. Each recording lasted for a period of 30mins per each topic and where the topic was expanded for more than 30 mins it was broken further into subtopics to be taken for another 30 mins to take care of the listening span of learners. The topics treated include:

- Interaction of Matter, Space and Time
- Conservation principles
- Heat
- Energy Quantisation and Duality of Matter
- Radiation

- Physics in Technology
- Waves
- Motion
- Electromagnetism
- Electricity

Thereafter, the vodcast recordings were saved into memory sticks for learners that are not privileged to have access to the learning management system (LMS) set up for them an therefore could go through the materials on their laptops without having an internet connection. The programme lasted for four weeks for learners' interaction and one week for the administration of the questionnaire.

In the third phase, the questionnaires were administered online and hardcopies were sent to learners to assess their perceptions on the intervention and later returned either via online or in hard copy.

RESULTS AND DISCUSSIONS

The questionnaire on learners' perception of the use of vodcast lessons as online teaching was administered to 50 participants. Table 1 below represents the socio-demographic distribution of sampled participants. The tables indicate that most of the participants were female (52.0%) while 48.0% were males. The table also shows that the average age of the respondents was 20.8 years. All the participants took physics as a subject in their respective schools.

Table 1: Socio-Demographic Characteristics of Participants

Variable	Characteristics	Frequency	%
Sex	Male	24	48.0
	Female	26	52.0
Age Interval	16-20	22	44.0
Mean Age ± SD = 20.8 ± 2.5	21-25	28	56.0
	Total	50	100.0

Source: Field Survey 2020. Sample Size = 50 SD= Standard Deviation

ANALYSIS OF RESEARCH QUESTIONS

Research Question 1: What are the Learners' Perceptions of the Effectiveness of Vodcast (Video and Podcast Lessons) as Online Teaching During the Lockdown Period?

Table 2: Learners' Perception

Variable	Mean	SD	Category	Remark
The intervention fulfill the challenging needs of the present time	3.62	0.490	4	Strongly agree
I generally consider the instructors to be poor lecturers and the materials irrelevant	1.60	0.495	2	Disagree
The vodcast is not educative	1.50	0.505	2	Disagree
I do not satisfy with the overall experience	1.48	0.505	1	Strongly disagree
It is not a good alternative to face-to-face- learning	1.48	0.505	1	Strongly disagree
Pooled	1.94	0.212	2	Disagree

Source: Field Survey 2020. Sample Size = 50. SD (Standard Deviation). Category: 1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Agree (A), 4 = Strongly Agree (SA)

From Table 2, learners with a mean of 3.62 strongly agreed that the intervention vodcast (video and podcast) lessons via the LMS were able to fulfill the challenging needs of the present time. This is according to the findings of Francom, Thomas, & Mumbi (2011) that discovered vodcast was able to meet the needs of distance learners when administered on them. Learners disagreed (1.60) that instructors are poor lecturers and the materials irrelevant. This is in line with Saba (2005) that lecturers taking part in vodcast lessons should be more focused where they know that learners are

deficient in the content. Also, an appreciable number of learners disagree that the vodcast (videos and podcasts) are not educative (1.50). A mean of 1.48 learners strongly disagreed that they are not satisfied with the overall experiences and that it is a good alternative to face-to-face learning. The results implied that the participants disagreed on the ineffectiveness of the usefulness of (video and podcast lessons) in online teaching during the lockdown period (1.94). Therefore, it can be said that the vodcast (video and podcast recorded lessons) in online teaching during the lockdown period is effective for learners in their daily academic activities during the pandemic period.

Research Question 2: To What Extent Does the Vodcast (Video and Podcast Recorded Lessons) Enhance the Learning Experiences?

Table 3: Learning Experiences of Learners

Variable	Mean	SD	Category	Remark
I learn better using e-learning	3.62	0.490	4	Strongly agree
I understand materials better using LMS	3.60	0.495	4	Strongly agree
Prefers blended face-to-face with e-learning than e-learning alone	3.40	0.495	3	Agree
Difficulties experienced due to internet and Wi-Fi connection	3.40	0.495	3	Agree
The teaching was complex and I couldn't comprehend	1.62	0.490	2	Disagree
Pooled	3.13	0.224	3	Agree

Source: Field Survey 2020. Sample Size = 60. SD (Standard Deviation). Category: 1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Agree (A), 4 = Strongly Agree (SA)

Table 3 showed that participants with a mean of 3.62 strongly agreed that they learn better using vodcast lessons and understand materials better on the learning management system (LMS). Besides, the participants (3.40) agreed that they prefer blended face-to-face with e-learning that e-learning alone. More so, participants experience difficulties in learning due to bad or slow internet and Wi-Fi. This is in line with the findings of Scutter, Leva, Tim, and Sharron (2010) that teething problems were encountered by participants during the intervention with videocast which was later resolved and participants found the intervention interesting and educative. Also, Hussain (2007) stated that during the implementation of virtual learning, students faced some problems which include problem of password, computer vision syndrome, fingers' joint pain, electricity failure, among others. Finally, the participants with a mean score of 1.62 disagreed that teaching was complex and that they could not understand the vodcast.

Research Question 3: How Engaging is the Interaction in using LMS for Learning?

Table 4: Use of LMS among Learners

Variable	Mean	SD	Category	Remark
I find LMS user friendly	3.64	0.485	4	Strongly agree
I think the interaction is helpful	3.40	0.495	3	Agree
I feel more rewarding using LMS for learning	3.40	0.495	3	Agree
I rarely use computers to learn	1.58	0.499	2	Disagree
I have difficulties in navigating on the platforms	1.46	0.503	1	Strongly disagree
Pooled	2.70	0.186	3	Agree

Source: Field Survey 2020. Sample size = 60. SD (Standard Deviation). Category: 1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Agree (A), 4 = Strongly Agree (SA)

Table 4 showed that 3.64 of participants agreed that the LMS is user friendly. They agreed (3.40) that the interaction is helpful to them and feel more rewarding using LMS during the pandemic period to learn (3.40). The participants disagreed and strongly disagreed that they rarely use computers to learn (1.62) and that navigation on the platform is difficult. In line with the survey carried out by Aixia and Wang (2011) reported that learners viewed learning through internets, satellites, television as advantageous and students' attitude towards online learning was positive. Generally, participants agreed that the use of LMS for interaction and learning is quite engaging (2.70). The finding is supported by Buzzetto-More (2008) that discovered that students preferred hybrid courses as compared to traditional face-to-face delivery of courses.

After the administering of the questionnaire, the participants were requested to provide suggestions on the way and manner in which the intervention could be improved during and after the COVID-19 lockdown. Their suggestions are grouped according to the following headings; contents, technical and usability problems, facilitators, and Interactions. Participants' sampled responses are represented with P.

Content: Participants' perceptions of the content

P1: *"I enjoyed the vodcast lessons and the interaction with the LMS. However, the contents of the course should include more graphics and exercises."*
P2: *"Some of the topics were well taught by the lecturer while few topics were not taught in a logical order."*
P3: *"The teacher tried their best to make the lesson meaningful, they should solve more examples and the time frame for each lesson should be increased from 10 mins each."*

Interaction: Participants' perception of their interaction with LMS

Learners recommended that online interaction should be extended beyond the period of lockdown. Some suggested that the intervention should complement face-to-face interaction used.

Technicality and usability problem: Summary of issues encountered by the participants during the intervention

P5: *"This is my first time making use of the Learning Management System (LMS). I often forget my password."*

P6: *"I always have problems in navigating from one page to another though it is quite interesting."*

P7: *"Visual and the graphics cause distractions for me."*

Facilitators: An experience of participants with facilitators during the intervention

P8: *"Instructors perfumed wonderfully well. They should have engaged more with us using examples."*

P9: *"Time allotted for each topic should be increased."*

P10: *"Some facilitators taught in line with the syllabus while some went outside the scope, summary of the topics should be given at the end of each topic."*

IMPLICATIONS

The findings of this study have resulted in some educational implications for the government, curriculum planners, school teachers, school administrators, and policy makers. The findings of this study call for the attention of curriculum planners to incorporate the use of technology-based strategies as strategies to be used for teaching and learning most especially physics at the senior secondary schools.

The findings from the study also calls for the attention of teacher training colleges for more actions for the curriculum of teacher training colleges to be more grounded in the acquisition of online teaching skills.

The study calls for the attention of school administrators to organise a refresher course/ training for their teachers on teaching through online platforms.

The findings of the study indicates the needs for the attention of school teachers that technology-based online teachings should be combined with face-to-face even after the pandemic period has ended.

The findings call for the policy planners and the Federal Ministry of Education to provide adequate infrastructures for technology-based online teaching in various schools.

CONCLUSIONS

The study and its findings have identified that the use of videocast (video and podcast) lessons has significantly helped in improving learners' understanding of the subject matter.

The study also showed that the perception of learners towards the use of the videocast (video and podcast) lessons was overall positive. Therefore, its use should be continuously encouraged and implemented in all schools.

Learners also demanded that the videocast (video and podcast) lessons as online teaching should be used to complement face-to-face teaching after the pandemic has ended.

Nigerian Educational Research and Development Council (NERDC) should look for possible ways of introducing online learning skills into the curriculum.

RECOMMENDATIONS

This study aimed at examining the perceptions of learners on the usefulness of vodcast lessons as the strategy in online teaching and the extent to which strategy has met the needs of learners during the period of lockdown as a measure to contain COVID-19 from further spreading. However, based on the findings of the research, the following recommendations were made:

i.   The use of online learning, LMS, videocast should be incorporated into classroom learning to complement the face-to-face mode of learning

as learners displayed positive perceptions towards the use of video-recorded lessons during the pandemic period and beyond.

ii. Appropriate skill training for teachers should be done to facilitate e-learning in schools

iii. Facilities like internets, adequate power supply, software, and computers should be made available in schools to facilitate e-learning not during this period alone but to be used effectively in the future.

iv. Research in education on optimising instructional designs and delivery should be embarked upon.

v. School administrators should allow in-service teachers to attend seminars, workshops, pieces of training in online teaching skills to improve and acquire new online skills for facilitation in online teaching.

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DESIGNING INTEGRATED CONCEPTUAL MODEL OF TALENT MANAGEMENT USING META-SYNTHESIS APPROACH

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ABSTRACT

It is widely accepted that in the recent economic downturn, there are many demands for talent, and thus many organisations employ talent management systems to create a competitive advantage. The lack of an integrated talent management process, as a strategic approach, leads to a waste of time, effort, and money. The present study aims to provide an integrated model of talent management using the meta-synthesis approach. This study falls within the category of applied research in terms of purpose and meta-synthesis in terms of methodology. The researchers in this study, in a meta-synthesis way, have carefully scrutinised the topic and combined the findings of both quantitative and qualitative research studies. In this regard, 3615 research studies in the field of talent management and integrated talent management were selected by searching in Web of Science (2008-2018), Magiran, University of Tehran's magazines, and international databases of papers and books; and finally, based

on 106 studies underwent content analysis, dimensions and codes were extracted, and the significance and priority of each one were determined using the Shannon entropy. Based on research findings, management and planning codes for succession, learning, and talented employee involvement; organisational acceptance; and talent strategy relationship with business strategy, progression management, and organisational culture had the highest impact. Finally, according to the extracted components, the proposed model was presented.

Keywords: *talent, integrated, talent management, meta-synthesis, Shannon Entropy*

INTRODUCTION

In this digital era technology is advancing rapidly, and technologies such as artificial intelligence, mobile operating systems, sensors, and social collaboration systems have revolutionised everything (Ribeiro & Machado, 2017). The power of an organisation lies in its people (Gholipour & Eftekhar, 2017). In the past, individuals needed organisations, but in the modern era, pioneering organisations needed to trained, knowledgeable, and skilled people in specific situations (Adamsen, 2016). In the business world, it is the talent that drives performance; therefore, there is a lot of competition for attracting skilled people, those whose efficient maintenance and management are difficult in this situation (Cappelli, 2008). Advanced technology trends in the late '90s showed that requiring more talented employees was more than the supply of them which led to a sense of lack of talent (Tarique & Schuler, 2010). Little by little, the knowledge, skills, and competencies of employees, important competitive advantages, increased the need for talent and this was recognised as an important source of organisational competitive advantage (Collings & Mellahi, 2009). Nowadays most industry leaders acknowledge the need for investment in the talent management process and consider attracting and retaining talent as the most important challenge for industries (Venkatesh, 2017). During the economic boom, talent management was prevalent as much as it was in times of recession and economic and financial uncertainty (Tarique & Schuler, 2010). Talent Management challenges include 1. lack of skilled talent in key positions; 2. lack of talent at all levels; 3. employee involvement less than optimal;

4. lack of high potential leaders in the organisation; 5. lack of superior talent compared with other organisations (Manpower group, 2014). The research team at The Boston Consulting Group and World Federation of People Management Associations (2012) confirmed that the most important human resource priorities are talent management, improving leadership development, and strategic human resource planning (Strack *et al,* 2012: 7). Many studies have also been done on the importance of identification and evaluation of talent, but little attention has been paid to the operational status of talent; while more attention to talent resource has led to the neglect of the untalented ones (McDonnell, 2011). Previous studies indicated that the emphasis on talent management has been on attraction, retention, and development components. On the other hand, having an integrated system in the field of human resources produces synergy in the organisation. The application of integrated talent management leads to a strategic change in the management of human resources of the organisation in such a way that by predicting how to attract, select, educate, develop, promote and transfer the employee to the organisation can be planned to fill key positions in the future through the training and management of talented individuals. This integration of talent management causes individuals and occupational information to meet strategic needs (Cheraghali *et al*., 2015). Malaysia is still facing difficulties in developing talent and those talented skilful individuals in Malaysia are gradually leaving. Simultaneously, the educa-tion system is producing graduates each year, but these graduates are unable to fulfil the skills demand-ed by the organisation. Malaysia's human capital situation is at the critical phrase not only with skill shortage, but also criticisms on lack of creativity and English proficiency, constantly has been ranked high among the top obstacles faced. Comparing Malaysia on unskilled and semi-skilled labors with some of the advanced economies, for instance, Japan, Singapore, and Taiwan, indicates that Malaysia is still in higher rank of the group (Sharmaine *et al*., 2019). Therefore, it is necessary to design an integrated talent management model. Given the importance of talent management in the current era and the studies of the Boston Group and the World Federation of Personnel Management, it seems necessary to direct the research in this area towards integrated system development. Therefore, in this research, it was attempted to present a unified model by examining previous research and models of talent management. As a result, the main aim of this study was to determine the dimensions of integrated talent management, as a coordinated system, for managing human resource talent by determining dimensions and relationships between components.

LITERATURE REVIEW

Talent management

Talent management originated from 1865 (Simonton, 2001) in the fields of management, arts/entertainment, literature, sport management, and elementary education (Michaels *et al*., 2001). It is also claimed that the term 'talent management' originated from Second World War (Kasmi, 2011), however, its strategic importance emerged when McKinsey and Company noted in the late 1990s that human resource management was a war for talent (Scullion *et al*., 2010). This war for talent was because of multinational companies being worried about human resources as well as lack of talent (Makela *et al.*, 2010). The term talent management, in the book 'War for Talent', is defined as the demonstration or replacement of human resource management (Michaels *et al*., 2001). On the whole, in the business world, a person is considered talented if he has both intrinsic and acquired skills (Silzer & Dowell, 2010).

Since the advent of human resource management, several terms have been used: personnel management, human resource management, and strategic human resource management (HRM) and, at present, talent management (Iles *et al*., 2010). Duttagupta (2005) identified talent management as strategic management of talent through the organisation, whose goal is to guarantee the availability of talent to match the right people to the right occupations at the right time, based on strategic business goals (Duttagupta, 2005). Silzer and Dowell (2010) also considered it as a collection of practices, programmemes, and cultural norms that are designed and implemented by the organisation to attempt to attract, develop, deploy and retain talent, to achieve strategic goals and fulfill future business needs (Ribeiro & Gomes, 2016; Dries, 2013). Tarique and Schuler (2012) introduce four development trends in talent management that affect how to attract, develop, maintain, and equip talents. 1. Skill deficiency at the workplace: organisations around the world face difficulties in finding the right talent (Jeff Schwartz, 2011; Kazmin *et al*., 2011; Meisinger, 2008; Payne, 2008; Sridharan, 2007).

In the study of ManpowerGroup (2011), 34% of employers found it difficult to find the right talent to fill the situation (Tarique & Schuler,

2012). 2. Demographic change: current trends indicate that the population of developed countries is declining and aging, while the size of the population is wider and younger in countries with developing economies (Strack, Baier, & Fahlander, 2008). One of the reasons for demographic changes is the creation of different generations of employees (Calo, 2008; Tarique & Schuler, 2010). 3. Changing attitudes toward work and work structure: attitudes toward work have changed dramatically in some countries (Erickson, 2008; Gratton, 2010). Traditionally, a set of jobs or situations fluctuates between individuals with horizontal and lateral movement in the organisation, and the employer invests significant resources for the training and development of their employees (Tarique & Schuler, 2012, Korkki, 2011). 4. Cultural differences of countries: the culture of a country plays an important role in the management of international human resources (Gerhart & Fang, 2005; Rowley & Benson, 2002; Schneider, 1988). The culture of any country can directly or indirectly influence the design of human resources management policies and practices, how to collaborate and how to influence the behaviour and performance of employees at the individual and organisational level (Gerhart & Fang, 2005; Hassi, 2012; Lertxundi & Landeta, 2011; Miah & Bird, 2007; Schneider, 1988). The main origin of talent management can be attributed to a strategic look at human resources and high performance and value creation systems from organisations (Devanna *et al*., 1981; Porter & Kramer, 2011).

In recent years, organisational talent management has become one of the vital priorities of human resources (Bersin *et al*., 2010). In the case of human resource management and talent management, there are different opinions; some believe in the difference between them; some consider them the same. The main difference between them is that the human resource process is applied to all employees while talent management is targeted at talent training programmes for a smaller group (employee with specific talents) (Hoekman & Vlugt, 2013). Hiring and choosing is a key activity, which is the basis for the formation of human resource management through attraction, development, and reward (Newell, 2005; Lievens & Chapman, 2010).

Although critics believe that these changes in Human Resource Management HRM are in fact management fashions (Huczynski, 1993) because they describe only a part of human resource management and do

not significantly differ from each other. Coordination of a talent management strategy with business goals leads to the integration of learning outcomes and systems and creates a talent mindset machine in the organisation (Ashon & Morton, 2005; Cappelli, 2009). The integrity of talent management means how the HR unit has been structured to respond and present talent management programmes (Gholipour & Eftekhar, 2017). Unified talent management is the very combination of different talent management talents to attract, develop, involve, and retain the key talent in the organisation. These talent management skills include the unique activities of human resource planning, attraction and selection, organisational acceptance, employee learning and development, employee involvement, performance management, and so on; processes which through data sharing and retrieval, integrate a stream of organisational functions. The lack of integrated management of talent management affects both the human resources sector and the entire organisation (including other sectors and functions). The lack of a unified talent management process as a strategic approach leads to the waste of time, effort, and money, and reduces the impact of employee involvement initiatives and ultimately reduces organisational performance. In the integrated framework of talent management, sharing information from one learning to another should be done easily (Venkatesh, 2017). Research studies indicate that the main problem for companies are the development of a robust, simple, and systematic approach to designing an integrated system, as well as creating a suitable route for achieving it. The path to unified talent management is the path to change, not a slow and gradual process; overarching change management to ensure that the business can achieve what is desirable (Gholipour & Eftekhar, 2017; Rice 2012). Most published literature on talent management refers to the integration of talent learning processes with other elements of human resource management or within the own talent management system (Silzer & Dowell, 2010; Morton, 2005). Focusing on building business abilities, through the coordination of the various functions of talent management (attraction, maintenance, development, retention, and etc.), enables integrated management of talent to have a stronger impact on business outcomes (De Tuncq & Schmidt, 2013).

All steps involved in the process of talent management should be coordinated with the entire organisation's strategy. Therefore, all talent management activities should be integrated with the talent strategy and human resource planning of the organisation, as a stimulus to all talent

management activities (Venkatesh, 2017). Deloitte's (2017) research on human resources trends emphasizes ten trends as follows: 1. organisation of the future; careers and learning; 3. gaining talent; 4. experience of an employee; 5. performance management; 6. leadership; 7. digital human resources; 8. analysis of employee; 9. diversity and flexibility; 10. careers' future (Ribeiro & Machado's, 2017). Philips and Roper provide a framework for talent management, including five elements of attraction, selection, involvement, development, and employee retention, with the core of this framework being values and competencies (Phillips & Roper, 2009). Collings and Mellahi (2009) present a theoretical model of strategic talent and conceptual boundaries of talent management that helps managers manage their talent management issues.

Collings and Mellahi (2009) present a theoretical model of strategic talent and conceptual boundaries of talent management that helps managers manage their talent management issues. Ping (2011) has identified five talent management methods: 1. talent attraction; 2. talent selection; 3. talent involvement; talent development; and 5. talent retention. Lardner and Romans (2005) presented the Becton Dickinson (DB) model that considers talent management to be a systematic approach, based on the lifecycle of employment to retirement. They call this cycle a Human Capital Pipeline. It is a systematic thinking model that links all organisational systems, begins with business analysis and development, and after identification, leads to talent attraction, concentration, evaluation, training, development, rewards, retention, motivation, and ultimately promotion and transfer (Lardner & Romans, 2005). Eghbal *et al*. (2017), in their research study 'Identifying the faculty members' talent management components at the university', proposed a model with seven main components: 1. identification of the needs of talent; 2. identification of talent resources; 3. evaluation of various options for finding and attracting talent; 4. development of talent; 5. talent deployment; 6. talent retention; and 7. evaluation and coordination of the management activities. This model is shaped by the talent-oriented attitude and talent-oriented culture (Eghbal *et al*., 2017). Venkatesh (2017) has also designed a model in which the integrated dimensions of talent management such as human resource planning, attraction and selection, organisational acceptance, occupational learning, and employee development, employee involvement, performance management, service compensation management, succession management, and retention management are considered

(Venkatesh, 2017). The University of California also defines Unified Talent Management as part of the overall Human Resources Strategic Planning System at the University of California, which connects the entire system of human resource functions from talent planning to acquisition, organisational acceptance, performance, learning, and succession. In the talent management chain, human resources and the manager work together to guide the employee's experience through the attraction phase, from employment to retirement or transfer. This model includes the following dimensions: talent attraction (attraction and acquisition planning); deployment (onboarding and integrity, and performance management); and development and retention (individual leadership and management development, succession, preparation, and maintenance) (University of California, 2017). In The Best Practice Institute (BPI) Integrated Management Model, successful companies have also focused on organisational strategy, business development, operations, and financial affairs, and place vacant seats for the talent management board alongside traditional business. BPI has also developed a six-stage system for talent management: 1. business diagnosis; 2. talent assessment; scheduling design; 4. implementation and performance; 5. support during work; 6. labour assessment. All of these processes are driven by human resource knowledge and design (Goldsmith *et al*., 2009).

METHODOLOGY AND MODEL

The present study is an applied meta-synthesis with a documentary approach. In the present research, the data included previous studies (articles, books, and dissertations), on talent management as well as the integrated models of talent management. Purposeful sampling was carried out by including the most relevant studies. During this research, 106 studies were selected in which the talent management model and integrated talent management model were discussed indirectly, as well as in other variables, indirectly. To analyse the data, a qualitative approach was used. Also, Atlas TI and SPSS software's were used for research ranking and coding. In order to investigate the reliability of the studies used in this research, the vital tool of Glynn was used, which can be used for evaluating all applied research projects. Such a tool will develop the skills needed to evaluate, read, and write articles. To evaluate primary studies, Critical Appraisal Skill Programme (CASP) was used. The questions of this tool were categorised into ten factors including

research objectives, method logic, research design, sampling method, data collection, reflexivity, ethical considerations, the accuracy of data analysis, clear explanation of findings, and research value. Based on a score of 50 points (each factor five points), each article with a total score of less than 30 (lower than good) was not accepted. Conducting meta-synthesis requires the researcher to consider a thorough and deep review of the subject, and combine relevant qualitative findings with each other. Qualitative meta-synthesis is a coherent approach for data analysis in qualitative studies (Talafi-Dariani & Khabiri, 2017). In this research, Sandelowski and Barroso's Seventh-step method was used which consists of the following stages: (a) developing research questions; (ii) systematic review of texts; (iii) searching and selecting appropriate articles; (iv) extracting article information; v) analysis and combination of findings; vi) quality control; and vii) reporting the findings (Soltani & Shaemi Barzoki,2017: 58; Sandelowski & Barroso, 2007).

Step one: Developing the research question. To determine the research question, population study along with the what, when, and how the methodology is used such as: what are components of the integrated talent management model?

Step Two: Systematic review of the literature. At this stage, there is an emphasis on a systematic review of the articles published in various journals, and the related keywords are chosen. Current review studies have been done in a systematic way (Soltani & Shaemi Barzoki, 2017). Firstly, the published studies were collected in English and Persian databases during the years 2008-2017 in Web of Science and Magiran databases and were compared after analysis. Various keywords such as talent, talent management, global talent management, and integrated talent management were used to search for research articles. As a result of searches, 3615 articles, theses, and books were found.

THE FINDINGS

Step 3: Search and select appropriate texts. To select the appropriate articles, based on the algorithm shown in Figure 1, various parameters such as title, abstract, content, availability, and quality of the research method was

considered. The purpose of this step was to delete articles whose findings were not reliable. Therefore, it is usually used to assess the quality of the preliminary studies of qualitative research using the Critical Appraisal Skills Programmeme (CASP).
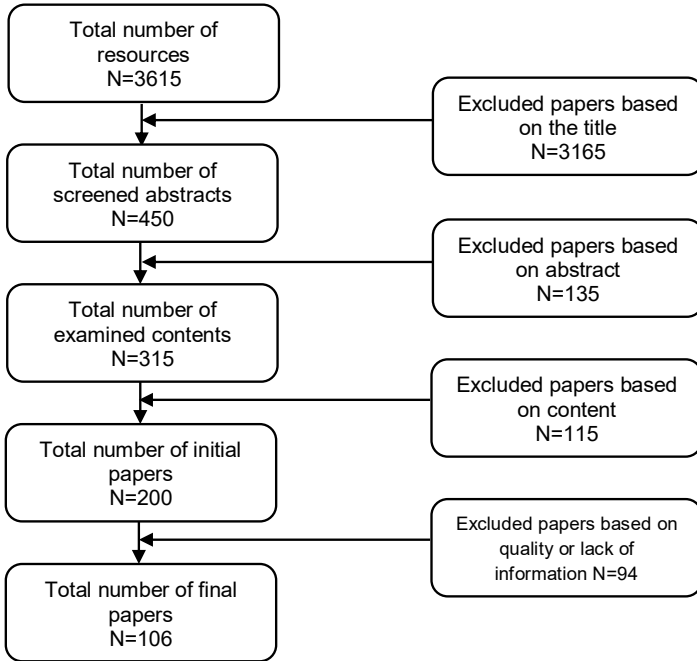
Figure 1: Algorithm for the Selection of Final Research Studies

Step 4: Extracting the information of the text. In meta-synthesis, the researcher continually reviews selected and finalised articles in order to access the individual content findings in which the initial studies are done. In the present study, the articles are first categorised based on the main topic of the articles in the field of talent management. Then the reference for each article was registered (author's name, year, the title of the article). And finally, the main components of talent management mentioned in the article were extracted.

Step 5: Analyse and combine qualitative findings. In meta-synthesis, the selected and finalised articles are repeatedly reviewed for separate in-content findings in which the original studies are performed. The criteria and sub-criteria of the model were also determined. The goal of meta-synthesis

is to provide an integrated and new interpretation of the findings. The topics provide the basis issues for explaining models, theories, and hypotheses of the study (Sandelowski, 2007).

First, all the extracted factors from previous models and criteria that were visible in the previous steps, were considered as codes. Then, considering the concept of codes, some of them were grouped in the same sense. In this way, research concepts are formed. Based on the meta-synthesis method presented in Table 1, the component, criterion, and sub-criteria of talent management were presented and; therefore, the original model of integrated talent management was designed. Based on the review and content analysis of the articles, 106 final papers (domestic and international) were selected. On the whole, six categories, 17 concepts, and 116 codes were identified for the components of the integrated management of talent model in this study. Table 2 shows the extracted codes associated with each category and concept.

Table 1: Categorisation of the Results

Category	Concepts	Codes	Some references for codes
Planning talent needs	Development of talent strategy	The relationship between talent strategy and business strategy, creating a new human resource design and location planning and management, talent planning and strategy, organisation strategy coordination, Alignment of management operations defining goals and strategies, strategy planning, total management system efficiency.	Ringo *et al*, 2008; McDonnell *et al*, 2010; Phillips and Roper, 2009; Collings and Mellahi, 2009; Harvey, 2009; Schuler *et al*., 2011; Ping, 2011; Tarique and Schuler, 2012; Cappelli and Keller, 2014; Venkatesh, 2017
	Talent infrastructure	Career design, position definition, key talent resource, competency management, human resource, world talent management, basic integration, human resource development.	

Identifying talent needs	Identification of key positions of talent	Identification and evaluation of gaps/ talent situations, talented labour gap analysis, talent channel integrity, expectation evaluation, the definition of key positions.	Andres Hatum, 2010; Hartmann *et al*., 2010; Kirkland, 2009; Collings and Mellahi, 2009; Schuler *et al*, 2011; Venkatesh, 2017
	Talent resources	Development of talent profile, ensuring competence, key talent resource, division of specific talent.	
	Talent identification	Knowledge talent identification, processes and frameworks of prediction, talent assessment, talent evaluation, demographic variables, talent imagination.	
Talent attraction	Acquisition	Executive branding, sourcing, determining key positions, talent seeking, identification, and separation, simulation, employee recruitment.	Huk, 2011; Hughes and Rog, 2008, Iles *et al*., 2008; Phillips and Roper, 2009; Ping, 2011; Chen, 2011; Tarique and Schuler, 2012; Marants, 2012; Glenn, Tonina, 2014; 2012; Venkatesh, 2017. Jahangiri and Abaspoor, 2017; Parish *et al*.
	Employment	Talent identification, attracting foreign and domestic talent, increasing efficient employees, external and internal employees.	
	Selection	Skills (individual, specific, conceptual; leadership), top preparators, external and internal employment, talent assignment.	

Talent deployment	Onboarding	Organisational pride, loyalty development, and loyalty, organisational culture, social responsibility of the organisation, organisational satisfaction, order.	Kirkland, 2009; Harvey, 2009; Marants, 2012; Marants, 2012; Glenn, 2012; Tonina, 2013; Venkatesh, 2017
	Application of talent	Design and implementation of development programmes, talent development methods, adjustment, and development of talent. Communication and motivation.	
	Performance management	Performance management methods, 360-degree feedback, performance revision, organisational learning, process reengineering.	

Talent development and growth	Job involvement	Internal rewards, internal and external motives, knowledge sharing, talent alignment, active participation, teamwork, employee motivation, communications, employee participation.	Phillips and Roper, 2009; Kirkland, 2009; Harvey, 2009; Ping, 2011
	Career management	Knowledge competence development, internal plans for development, innovation and initiative, development integrity, learning management, career progression, and promotion opportunities, equipping the talent, evaluation, and promotion process.	
	Talent training	Talent revision, maturity management, employee development, maturity management, training, and development system, consistency and transfer, executive development, knowledge creation, evolution.	

Talents maintenance and preservation	Succession planning	Organisational development, and learning, strategic leadership, leadership channel, channel management, competency management, talent possession.	Kirkland, 2009; Harvey, 2009; Walter *et al*., 201; Ping, 2011; Tarique and Schuler, 2012; Venkatesh, 2017
	Compensation	Performance reward, performance financial motives for talented employees, job rankings, reward, and appreciation, talent retention system, consequences, financial incentives, payment.	
	Organisational support	Employer social responsibility, executive support, welfare services, intent to leave, support, and reinforcement, open culture atmosphere, hygiene factors, supervision and control, underlying conditions.	

Step 6*: Extract Codes Control. In this study, Kappa Index has been used to maintain the quality of the study (Soltani & Shaemi Barzoki 2017). Because in the design stages of the model, the criteria of the previous models were considered as codes and considering the semantic similarities between the codes, it was attempted to integrate and create concepts. In order to control the extraction concepts, expert judgement was used. The Kappa index varies from zero to one. The closer the number to one, the greater is the consensus between the ranks. The value of the index was calculated using SPSS software at a significance level of 0.000 of the number -0.845. Since the significance value is less than 0/05, the assumption of the independence of the extracted codes was rejected. Also, the code extraction had good reliability.

Table 2: Kappa Index Values

	Value	Standard deviation	P-value
Kapa agreement	0/845	0/078	0/000
Number of valid items	116		

At this stage, content analysis is transformed into a form of data that can be compared and compared as a phase of information flow through which the content of the communication is transformed by applying a set of classified and systematic rules. The Shannon Entropy method considers data processing in content analysis much more robust. This method in information theory is considered as an indicator for measurement of oddity, which is expressed by considering a probability distribution (Azar *et al*., 2008). In this method, messages are first counted according to the categories in terms of frequency, based on the proportion of each response, and the amount of information of each category is calculated by the importance of each one. Table 3 shows the ranking and importance of the codes associated with the Integrated Potential Management Model. Also, relations in Shannon entropy are as follows:

$$Ej = -k \sum_{i=1}^{m} Pij * LnPij \qquad i = 1,2,\dots,m$$
$$dj = 1 - Ej \quad Wij = dj / \sum dj$$

To calculate the weight of each of the concepts, the total weight of the codes of that concept is calculated, and based on the weights obtained in Table 3, a ranking has been made[1].

Table 3: Ranking and Coefficient of Significance of Codes and Concepts of Talent Management

Concepts	Codes	F	P iPjLijN	Uncertainty Ej	Wij	Rank in concepts	Total rank
Talent development strategy	The relationship between talent strategy and business strategy	7	-1.946	0.4094	0.0150	1	4
	Talent strategy planning	4	-1.386	0.2916	0.0107	2	7
Talent infrastructure	Key talent resources	10	-2.303	0.4844	0.0177	1	4
	Competency management	7	-1.946	0.4094	0.0150	2	4
Identification of talent key situations	Identification and evaluation of gaps/talent positions	2	-0.693	0.1458	0.0053	2	9
	Evaluation of expectations	2	-0.693	0.1458	0.0053	2	9
	Definition of key positions	4	-1.386	0.2916	0.0107	1	7
Talent pools	Talent profile development	5	-1.609	0.3386	0.0124	1	
	Key positions	3	-1.099	0.2311	0.0084	2	8
	Ensuring competence	3	-1.099	0.2311	0.0084	2	8
Talent identification	Talent identification	4	-1.386	0.2916	0.0107	2	7
	Positioning	5	-1.609	0.3386	0.0124	1	
	Talent assessment	4	-1.386	0.2916	0.0107	2	7
Acquisition	Employee recruitment	4	-1.386	0.2916	0.0107	2	7
	Employer branding	6	-1.792	0.3769	0.0138	1	5
	Talent seeking	4	-1.386	0.2916	0.0107	2	7

Employment	Talent identification	4	-1.386	0.2916	0.0107	1	7
	Attracting domestic and foreign talent	3	-1.099	0.2311	0.0084	2	8
	Increasing employee efficiency	4	-1.386	0.2916	0.0107	1	7
Selection	Talent assignment	4	-1.386	0.2916	0.0107	1	7
	Top factors	3	-1.099	0.2311	0.0084	2	8
Onboarding	Organisational acceptance	11	-2.398	0.5044	0.0184	1	3
	Organisational culture	7	-1.946	0.4094	0.0150	2	4
Talent deployment	Planning and implementing	3	-1.099	0.2311	0.0084	2	8
	Development programmes						
	Talent development methods	5	-1.609	0.3386	0.0124	1	6
	Adjustment and deployment of talent	5	-1.609	0.3386	0.0124	1	6
Performance management	Performance management methods	6	-1.792	0.3769	0.0138	2	5
	Learning	13	-2.565	0.5396	0.0197	1	2
Involvement	Talented employee involvement	13	-2.565	0.5396	0.0197	1	2
	Employee motivation	7	-1.946	0.4094	0.0150	2	4
Career management	Employee progress management	7	-1.946	0.4094	0.0150	1	4
	Innovation and initiative	6	-1.792	0.3769	0.0138	2	5
Training	Development and training system	4	-1.386	0.2916	0.0107	2	7
	Executive development	5	-1.609	0.3386	0.0124	1	6

Succession planning	Talent possession	4	-1.386	0.2916	0.0107	2	7
	Succession management and planning	15	-2.708	0.5697	0.0208	1	1
	Strategic leadership	4	-1.386	0.2916	0.0107	2	7
Compensation	Performance bonus	5	-1.609	0.3386	0.0124	2	6
	Reward and appreciation	6	-1.792	0.3769	0.0138	1	5
Organisational support	Executive support	4	-1.386	0.2916	0.0107	1	7
	Welfare services	3	-1.099	0.2311	0.0084	2	8
	Underlying conditions	3	-1.099	0.2311	0.0084	2	8

According to Table 3, the codes of management and planning of succession, learning, the involvement of talented employees, organisational acceptance, competency management, talent resource and talent strategic relationship with business strategy had the highest importance and the highest rank among the codes. This means that in talent management models, more attention has been paid to these issues and their repeatability. On the other hand, the development and improvement of talent, talent retention, planning talent needs, deploying talent, identifying talent needs, and attracting talent, respectively, are the most important.

Step 7: Presentation of results. Based on previous studies and extracted codes, the main components of integrated talent management include 1. planning talent needs; 2. identifying talent needs; 3. talent acquisition; 4. deploying talent; 5. talent development and improvement; 6. talent retention.
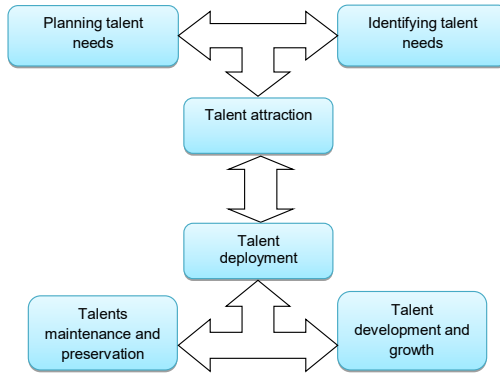
Figure 2: Proposed Integrated Talent Management Model (Research Findings)

SUMMARY AND CONCLUSION

Talent management is one of the most important issues discussed in organisations, but prior to its implementation in the organisation, it should be agreed on its scope and objectives. In order for talent management to be effective, the quantitative and qualitative needs for talent in the organisation based on goals and business strategy needs to determine. Key concepts and key features of talent management include a clear understanding of the current and future strategy of organisations, an understanding of the gap between the current and desired status in terms of talent, the design of a comprehensive programme for talent management by eliminating and bridging these gaps.

Consequently, in order to achieve the integrated management of human resource talent, considering the current strategies, future challenges of human resources are considered. The results of this study are in line with models such as Venkatesh (2017) that provide a framework for unified talent management for health improvements (with a strategic approach), such as consideration of human resource planning, organisational acceptance, employee involvement, service compensation, and retention management. Also, the University of California model, which considers attracting, deploying, and developing and retention as the main dimensions, is also consistent with the findings of this research. Moreover, the dimensions of

the proposed model of research here are consistent with the dimensions presented in the integrated BPI talent model, such as key dimensions and learning and development, workforce planning, talent acquisition, service compensation, and performance management in sub-branches. The main concepts of this research are also consistent with the Fisher-Roper model (2009) in terms of concepts such as selection, acquisition, and retention. Therefore, it can be claimed that the proposed model in this study is a comprehensive combination of previous models. In addition to the characteristics of the previous models, the categories presented in it show the close relationship between human resource management and talent management. In the current era, paying attention to talents for organisations in a competitive environment has become a priority and has transformed the future trends of human resource management with regard to technological, ecological and structural changes. If talent management is a major issue for human resources nowadays, this trend may be subject to many changes in the future, and it is the organisations that must work to achieve the best practices in order to succeed in the competitive market. According to the proposed model, it is suggested that future researchers explore the possibility of implementing unified talent management in various organisations and centers, as well as assessing the model presented in various industries in the light of future studies approaches to integrated talent management.

NOTE

Considering a large amount of table information, the researcher only lists the codes that ranked 1 and 2 in the table.

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ENTREPRENEURIAL OPPORTUNITIES FOR MALAYSIAN WOMEN IN AGEING CARE INDUSTRY

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ABSTRACT

Malaysia is a developing country and a drastic increase in the elderly population is recorded from the year 2005, ageing population age 60 and above recorded as 7 %, which is predicted to be doubled to 14 % until the year 2028. Thus, the ageing care industry in Malaysia needs to grow for healthy ageing. The growth of the ageing care industry will help the government to control the issues, especially in elderly care service and residency. Malaysia is still young in elderly care as compared to older countries. There are 365 registered ageing care centres, and women run very few of them. However, women personality attributes such as soft nature, politeness, care, patience fit to the requirement of the ageing care industry. Among Malaysian women, entrepreneurship is on the rise due to governmental support, whereas; women entrepreneurship in the service industry is limited. However, women entry in the ageing care industry will open new avenues to cater to the demand of the

ageing population and help to control the issues of the older population. The service industry also carries immense potential for women entrepreneurship. This study is conducted to understand the entrepreneurial opportunities for women in the ageing care industry. The study adopts the qualitative research strategy and focus group conducted with ten women entrepreneurs in the ageing care industry and five experts. The results highlight that initiative should take for the promotion and encouragement of women entry in the ageing care industry. The study recommends the validation and promotion of Malaysian women entrepreneurial activities in the ageing care industry.

Keywords: *entrepreneurship, women, ageing, industry, opportunities*

INTRODUCTION

The ageing population is a global phenomenon and has an impact on all human life traits (Thomas, 2011; Gupta, 2018), social and working life. Hence, developed and developing countries must see the issue of ageing scientifically, precisely the developed countries should foresee it as a linear increase whereas, developing countries could treat it as the exponential growth of the economy (GEI, 2017; ACP, 2018) as this perception leads to the overall understanding of ageing population issues and challenges. Similarly, in Malaysia, it is predicted that the rise of the Ageing Population increase from 7 million or 17.6 % of the expected population of 40 million by 2040 (NPFD, 2011; Gupta, 2018) which provides lots of challenges for Malaysia and provides opportunities to tap in the ageing care industry. Previous research, however, showed that older people are not a priority in the international policy development of a country (Samad *et al*., 2017). In recent years, due to demographic changes in various countries worldwide, older people become significant in development agendas. The government bodies across the globe are engaged in the development of the policy frameworks to meet up with the challenges of the ageing population. Thus, the elderly home or old homes strategy plays a vital role to look after the Malaysian aged population. One of the challenges that the government has to encounter is providing home care for the elderly as it is one of the social development agenda in the Malaysian government. Currently, 365

registered ageing care centres are working in leading states of Malaysia, including Sabah and Sarawak (ACP, 2018; Noor *et al*., 2019).

However, many unregistered charity-based care centres are also functioning, including those of a religious foundation. Comparatively, men entrepreneurs run the majority of these centres in Malaysia (ACP, 2018). Recently, women entrepreneurship is on the rise in Malaysia due to governmental support as women are engaged in a variety of business such as child daycare, spa, food delivery and many service-related entities in Malaysia. Despite, playing a remarkable role in the entrepreneurial landscape, women entrepreneurial venture is quite lesser as compared to men (Brindley, 2005; Hamzah, 2012; Farah Zamira, 2013; Gupta, 2018). However, the entry of women entrepreneurs in the ageing care industry is minimal. For instance, Malaysian women are trying to break the label that only the men can be the wage earner in the family (Mustapha *et al*., 2016; Ariffin *et al*., 2017). Due to the increasing involvement of women in entrepreneurial activities, women entrepreneurship is an area of greater interest for researchers all around the globe as there have been many success stories showcased.

Consequently, many women who are housewives and employed are inspired to become an entrepreneur (Keyes *et al*., 2017; Mohamad *et al*., 2017). Therefore, challenges of the ageing care industry create opportunities for women entrepreneurs in said industry. This study reviews the entrepreneurial opportunities associated with women entrepreneurship in the ageing care industry. Thus, the ageing care industry challenges will create a lot of new business and opportunities for women entrepreneur. Therefore, it is imperative to highlight the issues related to entrepreneurial opportunities of ageing care industry for women in Malaysia. It will help the policymakers in the development of the plans and strategies for women to attain the entrepreneurial potential as gap lies in the ageing care industry.

RESEARCH OBJECTIVES

The objectives of the study are as follow:
1. To identify the entrepreneurial opportunities for women in the ageing care industry.
2. To focus on the entrepreneurial practices for women empowerment in the ageing care industry.

LITERATURE REVIEW

What is Ageing?

Ageing refers to the older age that starts from the retirement age, which begins from 60-65 years old (Clink, 2013). According to the United Nations, the World Assembly on ageing held in Vienna (1982) 60 years old and above reflects issues on ageing. Krug *et al.* (2002) stated that old age relates to physical decline and inability to perform their work roles. However, variation lies in the circumstances of older people, as they are not identical (Appleton, 2002). Dowell, Haegerich & Chou (2016) explains that ageing is one's ability to live in his own home independently and comfortably apart from age, income and ability level. Hagen (2013) stated that ageing involves the facilities and services that allow the person to stay at home. British Columbia Ministry of Health, BCMH (2004) indicated that the mainstream of older people prefers to maintain their social interaction, independence, networks and remain in a comfortable environment. According to the Clink (2013), an increase of population age 65 and above expected to be rise from 14% (2010) to 25% (2050). It is imperative to recognise the importance of ageing and its effect in terms of developed, developing and least-developed countries because different types of countries create different opportunities for women (Lutz *et al.*, 2004).

Implications of Ageing Population

Lee *et al.* (2009) stated that the effect of the ageing population is to attain more significant importance in present fiscal and economic crises. Developed and developing countries programmes are going through and

show conjunction of the era of ageing population featuring various patterns for economic growth (Aigner Walder *et al*., 2012; Chawla *et al*., 2007; Sharpe, 2011; Hock *et al*., 2012). Keeping in view the increase in the elderly population, the Malaysian Government has formulated the National Policy for the elderly under the Ministry of Women, Family and Community Development. Majority of elderly who previously residing comfortably in rural areas has to follow their children and moved to cities as a result of economic growth and economic force (Gupta, 2018). Due to the busy life of children, sometimes, they feel it is challenging to take care of their ageing parents. Therefore, there is a need for more and better-equipped elderly care centres in major cities of the country. However, many centres are not sufficient to cater to the elderly needs properly who are residing these centres. Hence, the responsibility comes on the shoulder of the public and private sectors to fulfil the demands for more advanced elderly care centres. This creates entrepreneurial opportunities for women to penetrate the ageing watching industry (Ong *et al*., 2017; Akil *et al*., 2014; Soong *et al*., 2016). The elderly population is, however, a mixed community (male and female) and affected by health and non-health factors. Thus, the healthy ageing requirements relate to mental, psychological, cognitive, physical health, personal growth, and learning. Similarly, community participation and interaction, along with a sense of positivity and also high self-esteem (refer to Figure 1).
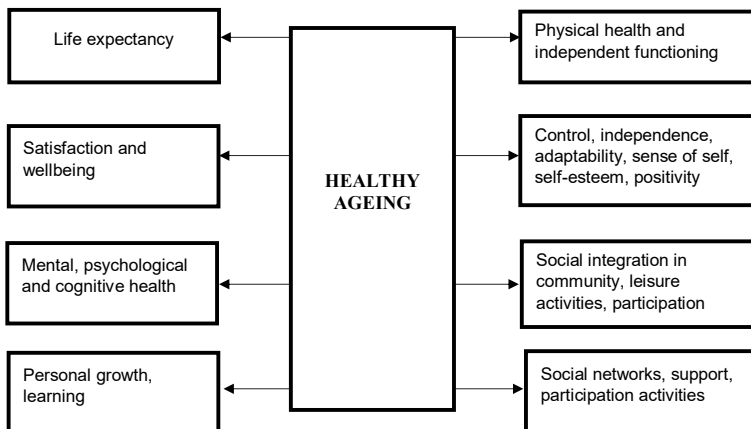
**Figure 1: Interdisciplinary Perspective of Healthy Ageing
(Source: Authors adaptation from literature)**

Hence, to fulfil the requirements of healthy ageing as mentioned above, the housing requirements concerned with health, care and need, as elderly require a home with freedom, liberty and ability to contact with friends and family (Wagiman *et al*., 2016; Samad *et al*., 2017). Thus, well-developed technological ageing care centres with well-trained staff is needed in the ageing care industry for healthy ageing in Malaysia. Thus, providing more opportunities for women to involve in the ageing care industry will empower them and help to create a better and healthier society. As like other industries, the ageing care industry has a remarkable potential to empower women. To create a healthy ageing society, women involvement in the ageing care industry is highly significant as their personality trait fit to the need of the ageing care industry. Thus, in order to maintain entrepreneurial opportunities for women in the ageing care industry, it is imperative to understand the relationship between stakeholders (refer to Figure 2) such as ageing care centres, caregivers, primary care, hospitals, geriatric services, retirement homes, long-term care, and governmental organisations. Each of these stakeholders will open new avenues' and opportunities for women entrepreneurs' business growth.
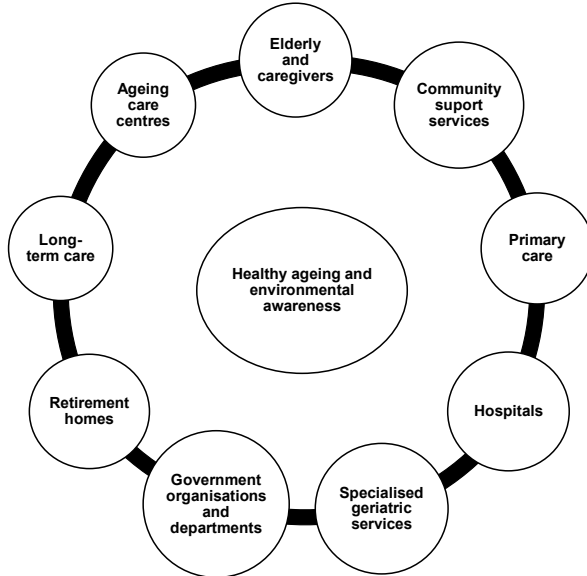
Figure 2: Ageing Industry Stakeholders
(Source: Authors adaptation from literature)

Even though, the ageing care centres infrastructure in Malaysia are not up to the mark, as the country is still young as compared to other older countries such as Japan, Australia and China (Soong *et al*., 2016; ACP, 2018). This business has a high potential to grow and sustain in the industry since the ageing population is always increasing, thus requires more ageing care centres to be set up in the future. Based on the discussion regarding ageing care business growth, this study will review the entrepreneurial opportunities associated with women entrepreneurs of the ageing care industry in Malaysia. As in Malaysia, men are more in the ageing care industry as compared to women. However, the ageing care industry opens avenues regarding entrepreneurial opportunities for men and women equally (Noor *et al*., 2020). The entrepreneurial opportunities in the ageing care industry mainly comprise on the allied industry such as ageing care centres, retirement resorts, old folk homes, primary care centres and long-term care centres, which are responsible for residential care services of the ageing population. Similarly, the Geriatric society and services along with community awareness programmes for promotion and support of healthy ageing initiatives within local communities are vital for both residents and the community as a whole (Ursulica *et al*., 2016; Samad *et al*., 2017).

METHODOLOGY

The methodology plays a remarkable role in designing the entire schema of the research. The qualitative research methodology is used in this study and interpretative school of thought is adopted. Covin *et al*. (2018) explained that the questions, which are under study, create the base of the research study. For the present study, the focus group discussion technique is used to gather the data. The focus group consisted of seven to ten people who do not know each other and have common qualities. The focus group activity is conducted by a trained moderator systematically (Stewart *et al*., 1990; Creswell, 2014). A trained moderator plays a vital role in the creation of a welcoming and encouraging environment for different types of ideas and opinion under the area of investigation (Krueger, 1998; Stewart, 1990). Thus, for focus group discussion, the invitation sent to ageing care women entrepreneurs running the centres either in the partnership or in a sole proprietorship. The invitation sent to 15 ageing care industry women entrepreneurs and five ageing expert's academicians from three renowned

public sector universities. However, ten ageing care women entrepreneurs and five ageing experts' academicians joined the focus group. The findings show that 66.6% of ageing industry women entrepreneurs and 33.3 % ageing expert participated in the focus group of two hours. The discussion revolves around the entrepreneurial opportunities for Malaysian Women in Ageing Care Industry. The focus group was conducted in one of the renowned ageing care centres in Malaysia. The overall view of the study is as follow:

- A detailed explanation of the research objective.
- Explanation of the interview protocols and interview questions to focus group participants.
- The moderator conducted the question in sequence for more accessible and easier documentation of the collected data. Below would be the Questionnaire Grid:

Factors Influencing the Women Entrepreneurial growth

1. Do you think that financial support from the banking sector influences the women entrepreneurial growth?
2. Do you think that financial support from the government influences the women entrepreneurial growth?
3. Do you think that entrepreneurial education and training from any government or private institutions influence the women entrepreneurial growth?
4. Do you think that ageing care centre business meets the demand of the changing social needs?
5. Do you think that support and motivation from family members influence the women entrepreneurial growth?
6. In your opinion, what are the factors that affect the women entrepreneurial growth in the ageing care industry?

Opportunities for Women Entrepreneurial Growth

1. What do you think on the entrepreneurial opportunities for women in ageing care centre, nursing homes, community care service, retirement resorts, long-term resorts and primary care services?

ANALYSIS OF FINDINGS

The section demonstrates the interpretation of the data collected from the focus group discussion. The findings revealed that the factors influencing the Malaysian women entrepreneurial growth in the ageing care industry. Majority of the participants highlighted that the financial support from either the banking sector or the government affects the women entrepreneurial growth. Furthermore, most commented factors are leadership qualities and environmental regulation followed by self-identity, social status and entrepreneurial education of women, lack of support and motivation from family and changing social needs along with less educational training from the government and private institution affect the women entrepreneurial growth. From these findings, it is clear that finance is the most critical factor for entrepreneurial growth of women in the ageing care industry.

Table 1: Factors Influencing the Women Entrepreneurial Growth

Ageing Industry Women Entrepreneurs	Financial Support by Banks	Financial Support by Government	Education and Training by Government and Private Institution	Changing Social Needs	Support and Motivation from Family	Self-Identity	Social Status	Entrepreneurial Education	Leadership Qualities	Environmental Regulations
E1	/	/	×	/	×	/	/	×	/	/
E2	/	/	×	/	/	/	/	/	/	/
E3	/	/	/	/	/	/	×	×	/	/
E4	/	/	×	/	×	/	/	/	/	/
E5	/	/	/	×	/	×	/	×	×	×
E6	/	/	×	/	×	/	×	/	/	/
E7	/	/	×	×	/	×	/	/	×	/
E8	/	/	/	×	/	/	/	/	/	×
E9	/	/	/	/	×	/	×	/	/	/
E10	/	/	/	×	/	×	/	/	/	/

Table 2: Opportunities for Women Entrepreneurial Growth

Ageing experts	Ageing Care Centre	Nursing Homes	Community Care Services	Retirement Resorts	Geriatric Care	Long-Term Care	Primary Care Service
AE1	/	/	x	/	x	/	/
AE2	/	/	x	/	/	/	/
AE3	/	/	/	/	/	/	x
AE4	/	/	/	/	x	/	/
AE5	/	/	/	x	/	x	/

Table 2 highlights the opportunities for women entrepreneurial growth in the areas such as ageing care centres, nursing homes that are very close to women personality and provide opportunities for women to grow. This is true, as the women are already in the ageing care business, and it is very close to their personality traits such a softness, tender, patience, and helping nature, which is the demand of the industry. Based on Table 2, Figure 3 provides a clearer understanding of the most highlighted entrepreneurial opportunities for women such as ageing care centres and nursing homes followed by primary care services, long-term care, retirement resorts, geriatric care and community care services.
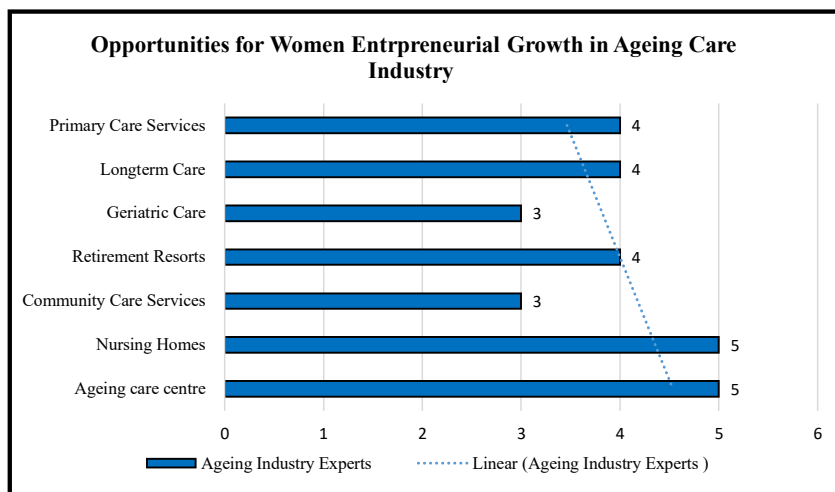
Figure 3: Women Entrepreneurial Opportunities in Ageing Industry (Source: Authors adaptation from literature)

DISCUSSION

The findings revealed that majority of the participants highlighted that financial support from governmental and banking sectors are needed as these centres are working on their own, there is no monetary incentive from the governmental side in terms of initial funding or annual donations. Similarly, there is no banking support in terms of loans facilities, specifically for women entrepreneurs who are in the ageing care industry. Furthermore, women entrepreneurs in this industry experiencing less familial support and motivation and lack of entrepreneurial training specifically in ageing care.

Table 3: Themes Generated

	Themes Generated	No of Participants
Factors influencing the women entrepreneurial growth	Financial support by banks	10
	Financial support by government	10
	Education and training by government and private institution	5
	Changing social needs	6
	Support and motivation from family	6
	Self-identity	7
	Social status	7
	Entrepreneurial education	7
	Leadership qualities	8
	Environmental regulations	8

Despite all these issues, women entrepreneurs are trying their best to stand forefront and running the centres on sustainability base. The women have potential, but encouragement and support, along with educational training programmes from the governmental side, are highly required. As women, entrepreneurial opportunities in the ageing care industry required well–developed plan and strategies from the governmental side in terms of policy development. The entrepreneurial opportunities for women in the ageing care industry lead to healthy ageing. This is so as by 2030, 15% of

Malaysian population will be above 60 years of age. This is a quite alarming situation for the Malaysian economy (Vannucci *et al*., 2017; ACP, 2018). Based on the discussion in order to encourage the women entrepreneurs in the ageing care industry. Following the recommendations have been proposed in order to expand their business growth.

RECOMMENDATIONS

The government should encourage women entrepreneurial opportunities in the ageing care industry by arranging the professional training programmes related to ageing care same like SMEs, cottage industries and enterprises. Similarly, the privilege for women entrepreneurs must be given in getting a loan who are in ageing care business. There is a need to emphasise on awareness programmes related to women education, women development and deployment in the ageing care industry. Furthermore, the government needs to take action regarding the initiation of the degree programme in ageing care in higher education institution all across the country. The policymakers must come up with entrepreneurial action plans, specifically focusing on the ageing care industry and emphasising on women participation. The government should acknowledge the existing women entrepreneurs in the ageing care industry and encouraged them by giving awards and recognition from industries, institutions and governmental bodies.

CONCLUSION

Based on this study, the results highlight the entrepreneurial opportunities for Malaysian women in the ageing care industry, e.g. ageing care centres, nursing homes and retirement homes specifically. The study highlights that more initiatives should be taken up to promote and encourage women participation in ageing care, and women entrepreneurship should not be restricted to SMEs, cottage industries and enterprises. The government should take necessary actions regarding women participation in service industries, especially in the ageing care by arranging professional pieces of training related to ageing care due to unawareness of the dilemma of ageing population and elderly care services entrepreneurial opportunities.

For recognition of entrepreneurial opportunities for women folk in ageing care, more support from various stakeholders such as family, government and the community should be provided for the overall nation's social wellbeing. Malaysia is facing the challenge of the ageing population, and entrepreneurial opportunities for women in the ageing care industry will bring significant societal change. The findings of the study will add to the body of knowledge on entrepreneurial opportunities for women in the service industry. This study is limited to ten women entrepreneurs in Malaysia, future studies may cover the whole Malaysia, and quantitative research techniques may be used.

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The Relationships between Physical Learning Environment, Psychological Characteristics, and HOTS

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ABSTRACT

The study investigates the relationships between the physical learning environment (PLE), psychological characteristics (students' academic self-efficacy and satisfaction), and higher-order thinking skills (HOTS) in statistics education. The study also aimed to determine if psychological characteristics mediate the relationships between the PLE and HOTS. A total of 285 students were selected as samples using cluster sampling. The study instruments were adapted from Smart classroom inventory, science laboratory environment inventory, test of science-related attitudes, self-efficacy in learning and performance for college, and dimension of learning rubrics. The gathered data were analysed using Partial Least Square Structural Equation Modeling (PLS-SEM). The findings revealed that a significant direct relationship existed between PLE and HOTS. Moreover, the PLE also did influence the students' HOTS indirectly through psychological characteristics

(academic self-efficacy and satisfaction). The findings from this study give an important and valuable contribution to knowledge in the area of HOTS research in the context of Malaysian Institution of Higher Learning. The implication of this study suggests that the good quality of PLE in statistics education would influence students' HOTS directly and also indirectly through the positive development of psychological characteristics in teaching and learning (T&L) process.

Keywords*: physical learning environment, psychological characteristics, academic self-efficacy, satisfaction, higher-order thinking skills*

INTRODUCTION

Preparing students with HOTS is very essential to solve employability problems where the best way to prepare future employees is to teach students how to think instead of what to think (Chinedu, Libunao, Kamen & Saud, 2014). Most companies demand workers with a decent level of HOTS such as problem-solving, creative thinking, and critical thinking. Being aware of those employment requirements, the university should produce students with the qualities and skills based on the requirements set by the potential employers or industries and give specific attention to students' HOTS development. Hence, the quality of the T&L process, learning environment, support systems, and programs offered by the university need to be excellent. Thinking can be viewed as a process of using intelligence to handle the problem. Knowing the knowledge alone is not enough to face a complex situation. Every educator understands this reality but only a few seem to care about it. Only a small portion of educators embedded HOTS in their T&L process (McMillan, 2001). Educators rarely asses application, reasoning skills, and other HOTS among their student in T&L process (McMillan, Myron & Workman, 2002). The majority of the T&L process in Mathematics education is still focusing on a lower level of cognitive activities (Mohd Ali & Shaharom Noordin, 2003).

Several factors that influence the development of HOTS of a student such as teaching strategies, teaching methods, support systems, technology usage, and others. Quality of learning environments (LE) is one of the

factors that can facilitate improvement in the cognitive and psychological characteristics of learners (King, Goodson & Rohani, 2009). The good quality of LE gives a significant positive effect on students' cognitive and also towards students' psychological characteristics (Che Nidzam, Kamisah & Lilia, 2013; Fraser, Alridge & Adolphe, 2010; Wolf & Fraser 2008). Therefore, in line with the Malaysia Education Blueprint 2013-2025, this study attempts to fill the gaps by studying the factors that influence HOTS development in statistics education. This study numerically assesses the relationship between the physical learning environment (PLE), psychological characteristics, and students' HOTS. Even though PLE gives a great influence on the development of an individual, Chism (2006) reported that studies relating to PLE are still relatively scanty and suggest conducting a further study about the impact of the physical environment on learning. Research on the interrelationship of PLE design and education practice is still not sufficient (Veal & Jackson, 2006). More research are needed to assess the learning environment especially on the effects of the design or physical aspects on educators and learners (Higgins, Hall, Wall, Woolner & McCaughey, 2005). Moreover, Budsankom, Sawangboon, Damrongpanit, and Chuensirimongkol (2015) suggested that the psychological factors must also be considered and exerted to the learning environment study. The psychological characteristics refer to the behavioural characteristics of how an individual expresses their feelings that cause different thinking skills processes and the way they learn (Santrock, 2009). As suggested by Budsankom *et al*. (2015) this study includes academic self-efficacy and satisfaction construct as mediating construct linking the relationship between PLE and HOTS constructs.

This study is different from other studies in three aspects. First, the study focuses on the diploma level of education. In Malaysia's situation, although numerous studies of the educational field have been conducted among students in primary, secondary schools, undergraduate and even in the level of postgraduate, study focusing on the diploma level was inadequate (Azry, Mazlini, Norafefah, Amri & Jasrul, 2017). Secondly, this study also investigates the relationship between the quality of PLE and HOTS with the occurrence of psychological characteristics as mediating variables. Following that, this study attempts to assess the PLE set up in the T&L process in statistics education that can give a direct and/or indirect effect to HOTS. According to the Bureau of Labour Statistics (BLS) forecasts,

the employment of statisticians will increase by 34% from 2014 to 2024, compared to 28% for mathematical science occupations. A statistician is projected to be one of the fastest-growing jobs (American Statistical Association, 2016). Even so, statistics courses or subjects, as compared to science and mathematics are still lacking attention (Azry *et al.*, 2017). From the year 2000 to 2012, only 20 published research papers related to statistics education were found in an electronic search in Malaysia (Reston, Krishnan, & Noraini, 2015). Research and developments in statistics education which comprise facilitating the learning of statistical thinking and reasoning is important (MacGillivray & Pereira-Mendoza, 2011). Thus, thirdly, this study involves statistics education.

LITERATURE REVIEW

The Concept of Psychological Characteristics: Academic self-efficacy and Student Satisfaction

From an educational perspective, academic self-efficacy can be referred to as a person's belief that they can successfully reach the designated level on an academic task or achieve a specific academic goal (Bandura, 1997). A similar definition was given by Woolfolk (2004) where academic self-efficacy is defined as students' readiness, keenness, intention, and endeavour to achieve learning objectives with eminent accomplishment. This type of psychological characteristic also refers to students' self-awareness proficiency in working and completing the goals (Stajkovic & Luthans, 2003). When students fail to complete their tasks, high self-efficacy students will be able to maintain their focus and put an extra effort to achieve the goal successfully. In a simpler implication analogy, a person with a stronger self-efficacy means that a person is likely to have more positive behaviour and attitude to achieve their goal. Students with higher self-efficacy also show a higher level of participation, positive behaviour, and attitude in mastering the learning outcome of the course.

Generally, poor self-efficacy students are more probable to believe that they cannot be successful (Azry *et al.*, 2017). Consequently, they lack the determination to succeed, low in terms of comprehensive effort and

always avoid challenging tasks (Azry *et al*., 2017). Students with poor self-efficacy have low desire and aspiration which in turn results in poor academic performances (Bandura & Locke, 2003), while students with a strong efficacy are more motivated and like to challenge themselves with the tough task (Margolis & McCabe, 2006). Therefore, this study attempts to assess the extent of the LE influence students' academic self-efficacy. This study also attempts to view the influence of academic self-efficacy toward HOTS in statistics education.

Student satisfaction can be defined as the subjective students' perceptions of how well is the quality of LE, the support system, and services provided by universities contribute to their academic success. According to Moore (2009), a student is considered satisfied when they are successful and contented with their learning experience. Sweeney and Ingram (2001) came out with a similar definition where they defined student satisfaction as the perception of their accomplishment and enjoyment in the learning process. Both definitions focus on success and accomplishment in the learning process, and enjoyment with the learning experience. Thurmond, Wambach, Connors, and Frey (2002) described student satisfaction as an outcome reflection that occurs between students and instructors, while Wu *et al*. (2010) referred satisfaction as a student attitude, feeling, and hopes to receive a good quality system of the LE. In this study, the satisfaction construct is measuring the students' satisfaction in the T&L process of a statistics course.

The Concept of Higher Order Thinking Skills

Thinking is divided into two levels which are lower-order thinking (LOTS) and higher-order thinking skills (HOTS). By referring to Bloom's taxonomy of the cognitive process, LOTS refer to the level of knowledge and understanding, while HOTS start from the level of application to the evaluation's stage (Brookhart, 2010). In statistics education, most of the students can get the correct answer by following the procedure but only a few of them can really make reasoning with the process or procedure involved, and rarely can apply and expand the knowledge into different situations. HOTS can be characterised as a complex cognitive process that utilises and expands the dispensation and construction of information.

Amongst prominent foundations of HOTS are integrating skills such as analysis, synthesis, and evaluation (Tal & Hochberg, 2003). Tan, Aris, and Abu (2006) developed a framework of Generative Learning Object Organizer and Thinking Task (GLOOTT), a pedagogically-enriched web-based learning environment designed to improve HOTS. In the study, the authors described HOTS using an element of analysis, synthesis, and evaluation skills. Budsankom *et al*. (2015), referred to HOTS as finding the solution to a problem through different levels of the thinking process.

Zohar and Dori (2003) also explained HOTS as a thinking process constituted of complicated procedures and based on employment skills such as assessment, synthesis, comparison, interpretation, analysis, inference, inductive, and deductive reasoning to solve unfamiliar problems. HOTS focuse on developing students' abilities to be able to analyse effectively, evaluate by drawing inference from existing information, and creating something new (Chinedu *et al*., 2015). HOTS involve analysing information to determine the problem, evaluating the problem, and creating new workable solutions (Rajendran & Idris, 2008). It has been noted from the above literature that some of the researchers define HOTS in different ways. The present study found that the scope of HOTS definition given by Brookhart (2010) is more holistic as compared to the others. According to Brookhart, the illustration of HOTS falls into three categories; 1) HOTS are defined in terms of the transfer, 2) HOTS as critical thinking and, 3) HOTS as problem-solving.

Relationship between Learning Environment and HOTS

In 2015, Budsankom *et al.* conducted a study to identify a factor influencing HOTS of students. They applied the Meta-analytic structural equation modeling (MASEM) based on a database of 166 empirical studies. MASEM confirmed that LE has a significant direct effect on students' HOTS development (Budsankom *et. al*., 2015). Previous studies conducted also have found that LE construct can affect students' psychological characteristics significantly and simultaneously giving significant influence on learning (Chism, 2006; Monahan, 2002; Strange & Banning, 2001). LE did significantly affect learning, ideas, values, and attitudes (Sanoff, 2000). Tanner (2000), Fraser, and Kahle (2007) also identified that a good

LE also give influences student achievement positively. Altogether, there is strong evidence to the hypothesis that LE constructs give a direct effect on students' HOTS.

Relationship between Learning Environment and Psychological Characteristics

Budsankom *et al.* (2015) discovered that LE has a significant direct effect on students' psychological characteristics. In the same year of 2015, Rozario and Suhaimi performed a study that aimed to observe the influence of two constructs: classroom learning environment and academic self-efficacy towards students' achievement. For this purpose, samples of 200 students were randomly selected from two campuses of Masterskill Global College. The analysis results of their study reported that LE constructs significantly influences students' achievement. In the same manner, academic self-efficacy also found to positively influence students' achievement. Baeten, Dochy, and Struyven (2013) also investigated the effect of different learning environments on students' psychological characteristics and academic achievement. The authors stressed out that psychological construct is important because it has been related to autonomous motivation and achievement. The study involved 1098 respondents answering a questionnaire and a quasi-experimental pre-test/post-test design was set up consisting of four different LEs. As a result, the study by Baetan *et al.* (2013) found that a different learning environment set up gave a different impact on students' psychological characteristics and achievement.

In short, Dorman (2009) showed consistent findings whereas associations between the classroom learning environment and affective outcomes were found to be statistically significant. By using 661 students as respondents, Ogbuehi and Fraser (2007) found positive associations between perceptions of the classroom learning environment and students' attitudes. Dorman and Adams (2004) in their studies indicated that the classroom environment is positively related to student academic self-efficacy. The psychological characteristics can be developed continually by improving the learning environment and learning process (Baetan *et al*, 2013; Dorman, 2009). Fraser and Kahle (2007) in their research also revealed that environments were to be consistently accounted for students' attitude

scores. Moreover, the learning environment has a significant relationship with student achievement motivation (Ari & Eliassy, 2003). On the whole, there is strong evidence to hypothesise that learning environment constructs give a direct effect on students' psychological characteristics.

Relationship between Psychological Characteristics and Students' HOTS

Budsankom *et al.* (2015) have suggested that learning management must be concerned about the current situation and focus on HOTS improvement in the education system. Students with HOTS are capable to invent new knowledge, think critically, and logically when solving problems. MASEM revealed that students' psychological characteristic has a significant direct effect on HOTS. The study also indicated two indirect effects toward HOTS through students' psychological characteristics; 1) psychological characteristics mediate the relationship between classroom environment and HOTS 2) psychological characteristics mediates the relationship between family characteristic and HOTS. Hence, the psychological characteristics have been identified as important mediator constructs for HOTS.

Lather, Jain, and Shukla (2014) have performed a study on the HOTS concerning psychological characteristics. HOTS is represented by components of creativity while internal and external locus of control is representing psychological characteristics. The results showed that the respondents with an external and internal locus of control significantly differ on components of creativity. The study results also revealed that compared to students with an external locus of control, the students with an internal locus of control were found to be higher and better on fluency, elaboration, flexibility, figural response, norm-referenced creativity, criterion-referenced creativity, and total creativity. Browne and Freeman (2000) have found that a good learning environment positively influenced students' critical thinking. At the same time, the results of their study also revealed that the psychological characteristics of a student have a significant influence on HOTS. The psychological components that encourage passivity in a learner will obstruct higher-order thinking development. Besides, Velayutham, Aldridge, and Fraser (2011) examined the influence of psychological constructs (learning goal orientation, task value, and self-efficacy) on

students' self-regulation. The study involved 1360 science students and their results revealed that motivational beliefs of learning goal orientation, task value, and self-efficacy significantly influenced students' self-regulation in learning.

In another study related to psychological characteristics and HOTS, student's self-efficacy positively affects engagement and effort and is important to the learning process (Aldridge & Fraser, 2008). Student self-efficacy regarding competence has important implications for student outcomes (Aldridge & Fraser, 2008; Velayutham & Aldridge, 2012). Psychological characteristics are a predictor of academic achievement (Edman & Brazil, 2007). Next, student satisfaction is claimed to be related to several outcome variables such as persistence (Allen & Seaman, 2007). Booker and Rebman (2005) agreed with the claim by bringing the evidence in his study that student satisfaction has significantly influence student's retention and decision. Sinclaire (2011) reported that student satisfaction as the most important key to continuous learning. Winberg and Hedman (2008) in their study also mentioned that student satisfaction helps ensure students' academic success. Besides that, high satisfaction leads the students to become more consistent in learning and highly motivated (Allen & Seaman, 2007). The attitudes and expectations of students regarding the T&L process are considered to be significant factors underlying their achievement (Reed, Drijvers, & Kirschner, 2010). According to Kind, Jones, and Barmby (2007), developing a positive attitude is important for students' achievement.

Summary on the Relationships among Constructs

The constructs involved in this study are the physical learning environment, students' academic self-efficacy, satisfaction, and HOTS. Table 2.1 compiles the recent supporting literature of the relationship between learning environment, psychological characteristics, and HOTS.

Table 1: The Recent Supporting Literature on the Direct Relationships between Construct

Relationship	Supporting literature
The learning environment positively influences higher-order thinking skills.	Budsankom *et al*., 2015; Loes *et al*., 2015; Pascarella *et al*., 2013; Galton *et al*., 2009; Fraser & Kahle, 2007; Chism, 2006; Monahan, 2002; Strange & Banning, 2001;
The learning environment positively influences students' psychological characteristics.	Budsankom *et al*., 2015; Rozario & Suhaimi, 2015; Dorman & Adams, 2014; Ernest, 2013; Baetan *et al*., 2013; Velayutham & Algridge, 2012; Dorman & Fraser, 2009;
Psychological characteristic positively influences higher-order thinking skills.	Budsankom *et al*., 2015; Lather *et al*., 2014; Velayutham & Aldridge, 2012; Velayutham *et al*., 2011; Reed *et al*., 2010; Winberg & Hedman, 2008; Aldridge & Fraser, 2008;

METHODOLOGY

Research Design

The study mainly focuses on the quantitative approach to achieve the study objectives and employed a cross-sectional design. By using the survey method in collecting the data, this study employed a structured questionnaire consisted of closed-ended questions in the data collection.

Target Population

The target population for this study was the diploma students from the Faculty of Computer Science and Mathematics (FSKM) at Universiti Teknologi MARA (UiTM), Malaysia. The study involved specific faculty to stay focus on students who had experienced the teaching and learning lesson

in statistics subject only. The detailed information about the population available for this study is as Table 2.

Table 2: Target Population

Campus	Total Student	Population (N)
Campus A	94	
Campus B	191	380
Campus C	95	

Sampling and Data Collection

This study employed a probability sampling technique and focused on cluster sampling. Since the target population was clustered together in different campuses geographically, cluster sampling was considered as the most appropriate sampling design for this study which resulted in two campuses were selected. Campus A and Campus B were chosen for data collection whereas Campus C was then automatically used for the pilot study. Therefore, 94 students from Campus A and 191 students from Campus B with a total equal to 285 students became the respondent for a quantitative study. By the 95% confidence level, the target sample gives only a 5% margin of sampling error.

Instrumentation

The questionnaire consisted of five sections. Section A covered information on demographic profiles while Section B, C, D, and E covered the physical learning environment, student self-efficacy, student satisfaction, and lastly higher-order thinking skills variables respectively.

Table 3: The Summary of Instruments Used in the Questionnaire After Pre-Test

Construct	Items	Source
Physical learning environment	22	Smart classroom inventory, SCI (Bao, Siu, & Guang, 2015) and Science Laboratory Environment Inventory, PSLEI (Che Nidzam *et al.*, 2014)
Academic self-efficacy	8	Self-Efficacy in Learning and Performance for College
Student's satisfaction	8	Test of Science Related Attitudes, TOSRA
Higher-order thinking skills	8	The dimension of learning Rubrics

Techniques of Data Analysis

Data screening was performed to identify data entry errors and to examine the statistical assumptions of analysis which involve checking for missing data, outlier, and normality. After screening, data cleaning was performed. The data was then analysed using Partial Least Square-Structural Equation Modeling (PLS-SEM).

RESULTS AND DISCUSSION

The Descriptive Analysis of Respondent Demographic Profile

Most of the respondents were mainly female which constituted 76.5 percent compared to 23.5 percent of male respondents. 7.6 percent of respondents age was below 20 years old and 92.4 percent were age 20 to 22 years old. The allocation of the respondents is 65.9 percent from Campus B and 34.1 percent from Campus A and the majority of the respondent 90.2 percent were from semester 5 students.

Assessment of Measurement Model for the study

To evaluate the measurement model, reliability and validity tests were used. According to Sekaran and Bougie (2010), reliability is to test how consistently a measuring instrument measures whatever concept it is measuring, while validity is a test of how well an instrument that is developed measures the particular concept it is intended to measure. In assessing the reflective measurement items, Hair *et al*. (2011), recommend achieving satisfaction in reliability (indicator reliability, and internal consistency reliability), convergent, and discriminant validity.

Indicator and Internal Consistency Reliability

To achieve indicator reliability, indicator loadings (factor loadings) should be higher than 0.7 (Hair *et al*., 2011; Valerie 2012). During the deletion stage, all of the outer loadings are above the minimum requirement of 0.7, except for PD2 and PD6 were removed to improve the reliability of the construct. Therefore, these two items were deleted. The values of all the acceptable outer loading after the deletion process are shown in Table 4.1. Another assessment that needs to put a consideration is the assessment of internal consistency reliability. It can be asses through measuring the composite reliability (CR). Composite reliability values reflect the level to which construct indicators reveal the latent variables and they should be greater than 0.70. Based on Hair *et al*., (2011) and Valerie (2012), CR should be higher than 0.7. The result of the CR is also shown in Table 4. All the CR exceeded the recommended value of 0.70, indicating that the measurement scale used in this study had high internal consistency (Sekaran & Bougie, 2010).

Table 4: Factor Loading, Composite Reliability, and Cronbach Alpha Value

Construct	Factor loading FL	Composite reliability CR
Physical Design (PD)		.881
PD1	.791	
PD3	.868	
PD4	.896	
PD5	.879	
Learning Space (LS)		0.874
LS1	.788	
LS2	.799	
LS3	.892	
LS4	.799	
LS5	.797	
Technology (T)		.0903
T1	.819	
T2	.857	
T3	.811	
T4	.875	
T5	.757	
T6	.805	
Indoor air, temperature and lighting quality (I)		.849
I1	.776	
I2	.802	
I3	.813	
I4	.807	
I5	.737	

Satisfaction (SA)		**.969**
SA1	.880	
SA2	.924	
SA3	.919	
SA4	.925	
SA5	.894	
SA6	.913	
SA7	.877	
SA8	.912	
Academic self-efficacy (SE)		**.969**
SE1	.888	
SE2	.906	
SE3	.901	
SE4	.899	
SE5	.914	
SE6	.901	
SE7	.915	
SE8	.922	
Higher-order thinking skills (HOTS)		**.950**
H1	.880	
H2	.867	
H3	.865	
H4	.900	

H5	.860
H6	.858
H7	.821
H8	.826

Convergent Validity

Convergent validity is described as the level to which many items measuring the same concept (Ramayah, Wai, & Boey, 2011). Convergent validity was assessed using the average variance extracted (AVE). AVE measures the variance captured by the indicators relative to measurement error should be higher than 0.50 to justify the use of the construct (Valerie, 2012). In this study, the AVEs ranged from 0.656 to 0.736, which were all within the suggested range.

Table 5: Summary of Average Variance Extracted Values

Construct	Average variance extracted (AVE)
Higher-order thinking skills (HOTS)	0.74
Satisfaction (SA)	0.82
Academic self-efficacy (SE)	0.82
Indoor air, temperature and lighting quality (I)	0.62
Learning space (LS)	0.666
Physical design (PD)	0.739
Technology (T)	0.675

Discriminant Validity

Discriminant validity is the extent to which a construct is different from other constructs. The more updated way to assess discriminant validity is by using the Heterotrait-Monotrait ratio of correlations (HTMT) where HTMT below 0.85 referring to the discriminant validity is established (Kline 2011). The value of HTMT for each construct shows the value below 0.85 as in Table 6 which indicates discriminant validity achieved.

Table 6: Discriminant Validity using HTMT

	HOTS	I	LS	PD	SA	SE	T
HOTS							
I	0.317						
LS	0.526	0.55					
PD	0.533	0.439	0.841				
SA	0.734	0.276	0.510	0.397			
SE	0.747	0.389	0.583	0.476	0.798		
T	0.587	0.464	0.793	0.786	0.509	0.583	

PD=physical design, LS=learning space, T=technology, I=indoor air, temperature and lighting quality, SE= academic self-efficacy, SA=satisfaction, HOTS= higher-order thinking skills

To sum it all, all the constructs have achieved reliability and validity. The study involved a higher-order construct of PLE. Therefore, before proceeding with structural modeling, the study assesses the second-order constructs in the next section.

Assessments of formative Higher-Order Construct

There are three approaches to estimate the construct score; 1) The repeated indicator approach; 2) The two-stage approach; 3) The hybrid approach. This study used a reflective-formative type II model and employed repeated indicator approach mode B as suggested by Becker *et al*. (2012). Therefore weight and loading are now represented by the path coefficients between higher-order and lower-order constructs and not by the manifest indicators that repeated at construct level. The results of these analyses may be biased if collinearity is present (Hair, Hult, Ringle & Sarstedt, 2014). In this study, multicollinearity does not exist for PLE and psychosocial learning environment higher-order construct whereas the results for VIF were all less than 5. After obtaining that the constructs did not have multicollinearity problems, the next step is the assessment of the path coefficient for the lower-order construct to higher-order. This step required a bootstrapping procedure. The results of the significance of the path coefficients are shown in Table 7.

Table 7: Significance of Path Coefficient

Path	Path coefficient	T Statistics (|O/ STDEV|)	P Values
I → PLE	0.095	21.929	0.225
LS → PLE	0.413	14.234	0.000
PD → PLE	0.014	26.400	0.456
T → PLE	0.578	4.9720	0.000

PD=physical design, LS=learning space, T=technology, I=indoor air, temperature and lighting quality, SE= academic self-efficacy, SA=satisfaction, PLE= physical learning environment

Looking at the relative importance of the lower-order construct in contributing to PLE as the higher-order construct, technology (LS=0.578) is the most important, followed by learning space (LS=0.413). Furthermore, physical design (PD=0.014) and indoor air, temperature, and lighting quality (I=0.095) give a weak contribution to PLE.

The Structural Model Assessment

Hair *et al.* (2011), also suggests that before examining the significance of the structural model, collinearity of the model constructs must be checked by calculating the variance inflation factor (VIF) values and it should be less than 5. The results of these analyses may be biased if collinearity is present. In this study, the results for VIF were all less than 5 as suggested by Hair *et al.* (2011). Thus, this study can proceed to the next analysis assessment of the structural model. After checking for collinearity, assessment continues with the level or the coefficient of determination R^2 values, the f^2 effect size, the predictive relevance, the significance of the path coefficient, and model fit.

Assessment of effect size (f^2) and coefficient of determination (R^2)

The coefficient of determination revealed the percentage of variation in the endogenous construct is explained by all exogenous constructs while

the f2 effect size measures the individual specified exogenous constructs to the model. According to Hair *et al*. (2011), R^2 values of 0.75, 0.50, or 0.25 for endogenous latent variables in the structural model can be described as substantial, moderate, or weak, respectively. Based on Table 8, the R2 values of the satisfaction construct (0.301) and self-efficacy (0.389) are considered moderate and higher-order thinking skills (0.598) are in a substantial range. Based on Cohen (1988), the f^2 values of 0.02, 0.15, and 0.35, were used to interpret small, medium, and large effects sizes of the predictive variables, respectively. The result of effect size shows that PLE has a large effect size on SE (0.636), and a large effect on SA (0.43) and a small effect on HOTS (0.063). On the other hand, SA and SE give a moderate and small effect to HOTS by 0.115 and 0.090 respectively.

Table 8: R^2 and f^2 Effect Size of Latent Constructs Result

Construct	R2	f2 effect size		HOTS
		SA	SE	
Higher-order thinking skills (HOTS)	0.598			
Satisfaction (SA)	0.301			0.115
Self-efficacy (SE)	0.389			0.09
Physical learning environment (PLE)		0.43	0.636	0.636

Assessment of Predictive Relevance

Another criterion for the evaluation of the structural model is the predictive relevance Q^2, which is a measure that reflects how well-observed values are reconstructed by the model and its parameter estimates (Hair *et al*., 2011; Chin, 2010). The results in Table 4.6 show that the obtained cross-validated redundancy values for higher-order thinking skills construct, satisfaction, and self-efficacy were found to be 0.408, 0.229, and 0.295, respectively. According to Hair *et al*. (2011), a relative measure of predictive relevance Q^2 values of 0.02, 0.15, and 0.35 indicate that an exogenous construct has a small, medium, or large predictive relevance. These results show a range of Q^2 between 0.229 and 0.408 support the suggestion that the model has an adequate prediction quality. Therefore, the final structural equation modeling is as in Figure 1.

Table 9: Prediction Relevance of the Model

Total	SSO	SSE	Q² (=1-SSE/SSO)
Higher-order thinking skills (HOTS)	0.408	0.408	0.408
Satisfaction (SA)	0.295	0.295	0.229
Academic self-efficacy (SE)	0.295	0.295	0.295
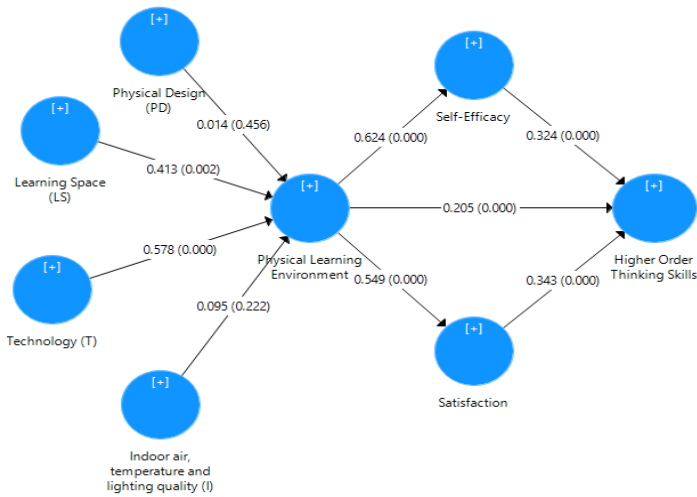
Figure 1: Final Structural Model

The Physical Learning Environment has a Significant and Direct Influence on Students' HOTS

The physical learning environment (IV) was hypothesized to have a significant direct relationship with higher-order thinking skills ability constructs (DV). To determine these relationships, the PLS algorithm and bootstrapping algorithm were conducted. The results in Table 10 that the physical learning environment construct has a significant positive relationship with higher HOTS constructs (ß = .205, *p*-value = .000). These results indicate there is a significant positive relationship between physical learning environment and higher-order thinking skills ability.

Table 10: Direct Relationship Result

Hypothesis	Path	Path coefficient	*p*-values	Result
H1	PLE → HOTS	0.205	.000*	significant

*Significant at *p* < .05. PLE=physical learning environment, HOTS= higher-order thinking skills

Psychological Characteristics Mediated Relationship between Exogenous and Endogenous

The mediator in this study is the psychological characteristics. Testing the effects of mediation involves variables that exist in the relationship between the variables exogenous to endogenous by using the bootstrapping method based on Preacher and Hayes (2004). Table 11 shows the direct relationship between PLE and SE is significant (ß=.624, *p*=.000). The direct relationship between SE and HOTS also significant (ß=.324, *p*=.000). This implies that self-efficacy does mediate the relationship between the physical learning environment and HOTS. For the satisfaction construct, PLE has a significant direct relationship with SA (ß=.549, *p*=.000), and SA has a significant direct relationship with HOTS (ß=.343, *p*=.000). This, again, implies that the satisfaction construct also significantly mediates the relationship between the physical learning environment and HOTS. So, H2 and H3 are supported. Altogether, based on Table 12, there existed a significant indirect effect of the physical learning environment toward HOTS with the occurrences of SE and SA as the mediator (ß=0.391, *p*=0.000). Again, the strength of the mediation effect is assessed using variance accounted for (VAF). Table 13 shows VAF for SA and SE for this case is equal to 65.6% (0.391/0.596). Thus, the VAF indicates that 65.6% of the effect of the physical learning environment on HOTS is explained by SE and SA as mediators. There is also a small difference in specific indirect effect since the difference between the indirect effect of SE (0.624*0.324=0.202) and SA (0.343*0.549=0.188) is 0.013.

Table 11: Direct Path Coefficient Result for Mediation

Path	Path coefficient	*P* Values	Significant
PLE → HOTS	0.205	.000*	Significant
PLE → SA	0.549	.000*	Significant
SA → HOTS	0.343	.001*	Significant
PLE → SE	0.624	.000*	Significant
SE → HOTS	0.324	.000*	Significant

*Significant at $p < 0.05$. PLE=physical learning environment, SE=self-efficacy, SA=satisfaction, HOTS= higher-order thinking skills

Table 12: Indirect Effect of Mediation

Exogenous construct	Mediation	Endogenous construct	Indirect effect	*P* values	Result
Physical learning environment	SE SA	Higher-order thinking skills	0.391	0.000*	Significant

*Significant at $p < 0.05$. SE=academic self-efficacy, SA= satisfaction

Table 13: Total Effect of Mediation

Exogenous construct	Mediation	Endogenous construct	Total effect	*P* values	Result
Physical learning environment	SE SA	Higher-order thinking skills	0.596	0.000*	Significant

*Significant at $p < 0.05$. SE=academic self-efficacy, SA= satisfaction

Summary of the Results

Initially, data screening and cleaning were conducted for missing data and outliers to ensure the study processes good data. Normality has been assessed to view the distribution and to avoid data contain extreme kurtosis. Descriptive statistics were provided on the profile of respondents. Using

PLS-SEM, the analysis revealed the significant direct relationships between the physical learning environment and HOTS. The mediation effects of self-efficacy and satisfaction was found on the relationships between the physical learning environment and HOTS. The summary of the findings is in Table 14.

Table 14: Summary of Hypotheses Testing Result
Hypothesis Result

	Hypothesis	Result
H1	The physical learning environment has a significant and direct influence on students' higher-order thinking skills.	Supported
H2	Self-efficacy mediates the relationship between the physical learning environment and higher-order thinking skills.	Supported
H3	Satisfaction mediates the relationship between the physical learning environment and higher-order thinking skills.	Supported

CONCLUSION

The present study found that the physical learning environment (β = .205, *p*-value = .000) has a significant and direct influence on students' HOTS. The results assert that the PLE is an important factor in students' HOTS development. These findings are consistent with the results obtained by Budsankom *et al.* (2015). In their study, based on the results of Meta-analytic structural equation modeling, the authors conclude that the quality of the PLE is one of the factors contribute to the development of HOTS. Thus, the study concludes that the results in a statistics educational setting is consistent with other subject settings on the influence of the physical learning environment quality toward student HOTS.

This study also found that self-efficacy and satisfaction mediate the relationship between physical learning environments and HOTS. The psychological characteristics in this study refer to the academic self-efficacy of the student and their satisfaction. The findings are similar to Budsankom *et al.* (2015) that the psychological characteristics of students are an important mediator variable for HOTS. Specifically, the study found that the learning environment gives a significant influence on student self-efficacy and satisfaction. The study results are also consistent with Baetan *et al.* (2013) who explore the interrelationship between learning environments, psychological characteristics, and academic achievement. These results also support the similar findings of Dorman (2009), Nelson and Debacker (2008), and Patrick *et al.* (2007), all of them found that the learning environment positively affects the psychological characteristics of the student. Moreover, this study also found psychological characteristics (self-efficacy and satisfaction) having a significant and direct influence on students' HOTS in statistic subject. The results of this study are again consistent with a study that involved 244 undergraduates as respondents by Lather *et al*. (2014). The authors found that psychological characteristics can influence student HOTS. Thus, the study concludes that the results in a statistics educational setting are consistent with other subject settings on the significant mediator of psychological characteristics intervening in the relationship between the PLE and HOTS construct. The physical learning environment gives a significant indirect effect on students' HOTS through psychological characteristics (students' self-efficacy and satisfaction).

In conclusion, the physical learning environment gives a direct significant effect on students' HOTS in statistics education. More importantly, the findings also proved that the physical learning environment did give a large indirect significant effect on the development of students' HOTS.

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SMRJ

PERSONALITY MATCHING INTERNSHIP PLACEMENT SYSTEM (PMIPS) AMONG STUDENTS OF A PUBLIC HIGHER LEARNING INSTITUTION

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ABSTRACT

The Personality Matching Internship Placement System (PMIPS) is a web-based system designed to assist students find a place for their industrial training using their personality scores as the basis for choosing the most suitable organisations or departments. This system will help them to choose the right organisations that match the organisation's needs and requirement. The Adapted Waterfall model was used to develop the PMIP system. The evaluation of PMIPS is conducted once the development is completed. There are six constructs used for the evaluation purposes and 30 respondents were involved. The six constructs are ease of use, satisfaction, efficiency, consistency, user interface and usability. Respondents are required to use the system and then they were asked to answer the questionnaire given. As a result of the evaluation, the highest mean score is for the efficiency construct, 4.63(SD=0.49). The results show that the respondents perceived that it is efficient for them to

use the system because they are able to see the results of their personality and which company is suitable for their internship placement. Future enhancement for the system includes functions that match the students' personality with the specific job requirement.

Keywords: *personality, internship placement, waterfall model, user interface, employability*

INTRODUCTION

Higher learning institutions are often criticised for not providing the right graduates that possess practical knowledge. Obtaining a good tertiary education, however is no longer a guarantee of employment. Barnes *et al*. (2015) and Donald *et al*. (2018) suggested several characteristics that students should be able to develop themselves such as knowledge, skills, abilities and other personal factors. The student must develop the skills, personality and attitude necessary for work before leaving university. Attitude and personality are also critically important in obtaining employment and achieving long-term career success (Orr, Sherony & Steinhaus, 2011). Higher learning institutions, therefore may help students to increase their chances of employability by helping them to develop high confidence, motivation and positive attributes toward achieving goals.

Many scholars recognise that to secure employment, students need to acquire not only the necessary skills and knowledge but also strong and positive personal attributes. Furthermore, their performance at the workplace is also determined by their good personality. The link between the personality theory, along with the qualitative nature and future orientation of the study of personality, presents more challenges in measuring the concept of employability (Batistic & Tymon, 2017; Tymon, A., 2013). Employers' preferences of students' personality may provide valuable information to universities in preparing them for the job market. It can be used in career development support and counselling practices to improve employability attributes and skills (Potgieter, I. & Coetzee, M., 2013). Knouse and Fontenot (2008) and Gault *et al*. (2010) further discovered that many employers are interested in students who has strong personal attributes and soft skills

than the types of degree, subjects learned or university attended. One of the approaches that higher learning institutions may undertake is to send students to do their practical training at many different organisations.

Internship is a structured and organised industrial training undertaken by students as part of the education programme and is viewed as a transition period from the academic world to the working environment (Muhamad *et. al*, 2009). Knight and Yorke (2003) perceive internship as 'social practices' and students' ability to secure employment depends on the students' ability to practise the knowledge acquired during their internship. In addition they need to practice the assignment or work given by the employers. Furthermore, Li (2018) and Cook, Parker and Pettijohn (2004) suggested that internship would help the students to better prepare and enhance themselves with the necessary interpersonal skills and personal maturity required in their chosen career. They further argue that students who went for their internship are more likely to find their job faster than their counterparts who did not go for their internship.

With the changes of the current educational landscape, universities have changed into producing more knowledgeable and highly skilled students with good personality. Studies such as Coughlan (2013) and Brook (2017) show there is a major shift in the job market in UK towards requiring many more skilled workers with high level of education. There is a wide range of benefits from hiring more educated employees. Blayney and Blotnicky (2017) and Coughlan (2013) found that those who are educated will produce higher-quality work, increased productivity, better communication and more innovation which are all among the advantages for employers. In Malaysia, higher learning institutions, however, are often criticised for not providing the right graduates that possess practical knowledge whilst academic institutions will defend their right to set educational objectives. Attaining a good vocational degree is no longer a guarantee of employment and students must develop the skills, personality and attitude necessary for work before leaving university.

Orr, Sherony and Steinhaus (2011) proposed two aspects of employability, mainly subject skills and transferable skills. Sound attitude and personality are also critically important in obtaining employment and achieving long-term career success. Most definitions recognise that

employability requires not just the possession of skills but also personal attributes, which are aligned to personality theory. This link to personality theory, along with the qualitative nature and future orientation of the definitions, presents yet further challenges to measurement of the concept of employability (Tymon, 2013). Measures of normal personality (Costa & McCrae, 1992) have been shown to predict a wide range of performance criteria (Barrick *et al*, 2015; Barrick & Zimmerman, 2009; Hurtz & Donovan, 2000).

Job performance is also determined by interest in personality, thus, people's personality preferences related to employability attributes may provide valuable information that managers, career counsellors, industrial psychologists and human resource practitioners could use in career development support and counselling practices to improve a graduate's employability attributes and skills (Potgieter & Coetzee, 2013). Marinas, Igret and Marinas (2018) and Knouse and Fontenot (2008) found that employers are more interested in personal attributes and soft skills than degree classification, subject or university attended. In linking to the personality theory, Heggestad and Kanfer (2000) formatted survey questions using the personality traits. These personality traits include locus of control, need for achievement, need for power, need for affiliation, risk taking propensity, tolerance for ambiguity, goal orientation, and openness to experience and perceived effectiveness. While, Adams (2013) found in the case of 200 surveys in UK not only computer software and programmeming skills are important among the graduates, but additional requirements such as basic teamwork, problem-solving and the ability to plan and prioritise are the most important qualities seek by the companies.

In the case of Malaysia, personal traits such as good leadership and soft skills such as effective communication, problem solving skills, time management and teamwork have become critical as entrance into today's job market (Mai, 2012). In addition to academic knowledge, there is an increasing demand by employers on the applicants to have these skills. In addition, Mai (2012) who studied 107 employers and 359 students from the northern region of Malaysia in Kedah, Perlis and Penang discovered that time management skills are an area where improvements are needed the most by employers. These are followed by skills relating to teamwork, communication, learning and interpersonal skills. Similarly, Ramli *et al.*

(2013) who investigated the Malaysian employers' expectations on students' characteristics and the internship programme, concluded that leadership skills are significantly important for future interns to acquire. The students are expected to equip themselves with the soft skills such as leadership and interpersonal skills before commencing their internship programme. They need to be adequately prepared to face the challenges in the working environment once they have graduated. Ramli *et al*. (2013) also proposed that having high academic achievements does not guarantee meeting the employers' expectation on the intern's competencies during internship and in the real working environment.

Vélez, Giner and Clemente (2017) and Zaccardi, Howard and Schnusenberg (2012) discovered that college students focus on social networking sites to communicate to future employers and this reflects the their personality traits. Utilising a sample of 250 students from a regional university in Florida, USA, they discovered that students who exhibit more openness, conscientiousness, or extraversion traits are more likely to have good social networking with employers. Moreover, Moghaddam (2011) studied students' perceived internship in providing students with career preparation skills and investigates the impacts of students' personality traits on their perceptions of internship programmes. Based on the rank order of the skills, the findings show that internship students need to acquire or improve their oral communication, self-discipline, and decision making skills. They also rank relatively higher on personal efficiency, academic, and interpersonal skills. Furthermore, Moghaddam (2014) also explored the effects of personality traits on students' perceptions. A total of 800 students were chosen for the survey. The findings suggest personality traits have more impact on the perceptions and expectations of the students in choosing the right internship place.

METHODS

In this paper, we hope to design a web based instrument of evaluation to determine the compatibility of students' personality with the expectations of host organisations. In addition, all data gathered were analysed, processed and transformed into inputs for a Data Base System that can be accessed by industrial training coordinators at UiTM Terengganu. The instrument is

labelled as 'Personality Matching Internship Placement System' (PMIPS). This is a web-based system that has been developed for students to help them find a suitable place for their industrial training using their personality score as the basis for choosing the most suitable organisations or department. This system can be used by three groups of users which include students, coordinators and administration. The model used to develop the PMIPS is the Adapted Waterfall Model. This study was focussed on undergraduate students in Universiti Teknologi MARA, Terengganu. The aim is to simplify the matching process between the student's personality and attitude with the expectations of host organisations by using the PMIPS.

Development of the Personality Matching Internship Placement System (PMIPS) is based on the System Development Life Cycle that uses the adapted Waterfall Model as shown in Figure 1 and Table 1.
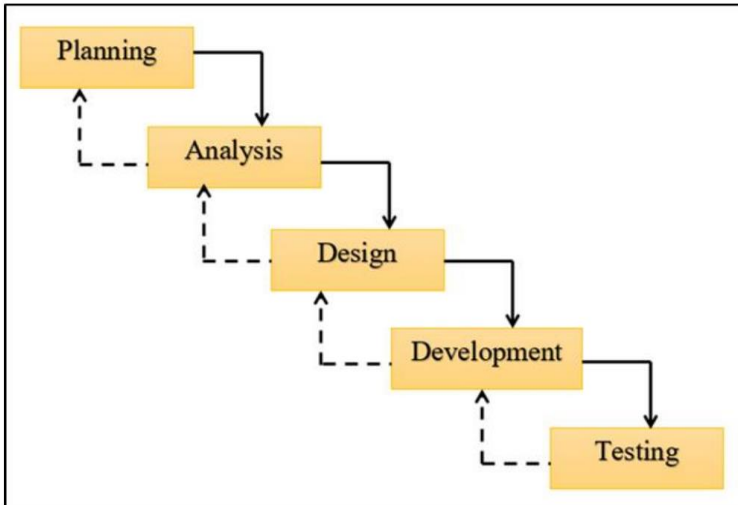
Figure 1: System Development Life Cycle

Table 1: System Development Activities and Outcomes

Project Framework	Activities	Outcomes
Planning phase	• Observe the current system • Interview question is conducted. • Identify current process and problem.	• Current process and problem statement is identified. • The objective also is identified.
Analysis phase	• Identify user and system requirement. • Identify flow of current process. • Conducting an interview with lecture in charge of handling for industrial training.	• Data collected from an interview. • Redefined problem statement. • User and system requirement is identified. • Data collected.
Design phase	• Design Context Diagram • Design Entity Relationship Diagram (ERD) • Design Data Flow Diagram (DFD) • Design User Interface • Process Flow Diagram • Functional Hierarchy Diagram (FHD)	• Context Diagram • Entity Relationship Diagram • Data Flow Diagram • User Interface • Process Flow Diagram • Functional Hierarchy Diagram

Development phase	• Development of the system
	• Correcting logical and syntax error.
	  o Test system functionality based on users requirements
	  o Test the core functions of the system using test plan
	  o Developers conduct the test based on user requirement
		• Language: php
		• Database: MySQL
		• Personality Matching Internship Placement System (PMIPS)

Testing phase	• The functionality and usability is tested.
	  o Test overall system's functionality
	  o Evaluate the system with 30 users/ respondents
		• Feedback and evaluation from the user.
		• Improvement of the system.

In addition, the Process Flow Diagram is determined by the information hierarchy of the system site. In this process flow diagram, there are three users which are student, coordinator and administrator. Student able to register and login, take the personality type test, receive and view the personality type result, it is an optional to print result of personality type test and logout. Besides that coordinator able to login, manage student profile, view result of student's personality traits test, generate and print report and logout. Lastly, administrator able to login, manages coordinator profile. Figure 2 shows the Process Flow Diagram for Personality Matching Internship Placement System (PMIPS).

Figure 2: Process Flow Diagram of PMIPS

The Context Diagram is a diagram that defines the relationship of Personality Matching Internship Placement system (PMIPS) with other external entities. It is easy to construct the flow of each of the entities that interact with the system to perform their task and also what system can do for each of the entities. The entities for Personality Matching Internship Placement system (PMIPS) are student, coordinator and administrator. Furthermore, each of the entities has their own task. The first entity is the student whom is able to register and login, take the personality test, receive and view the personality result, an optional to print result of personality type test and logout. The next entity is the coordinator. The coordinator able to login, manages student profile, view results of student's personality type test, generate and print report and logout. Lastly is the administrator entity which is able to login, manage coordinator profile and logout. Figure 3 shows the Context Diagram for the Personality Matching Internship Placement system (PMIPS).
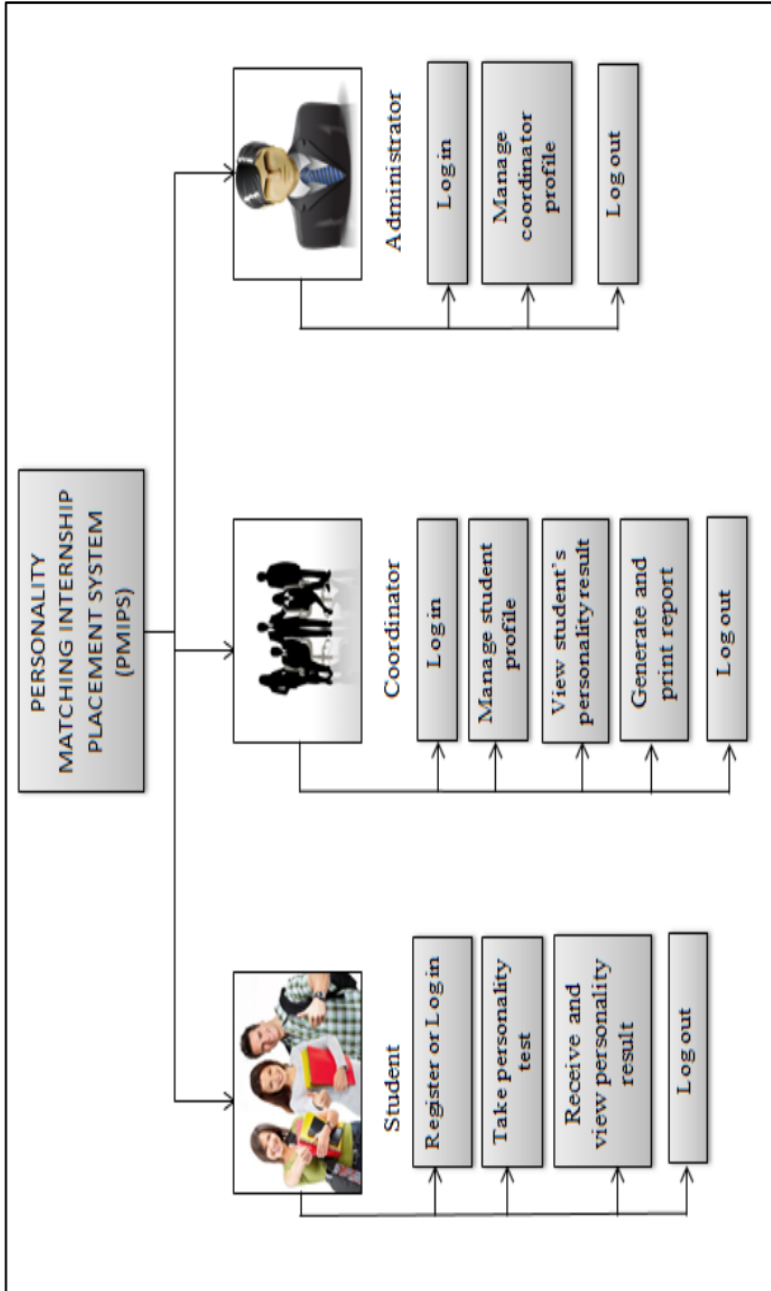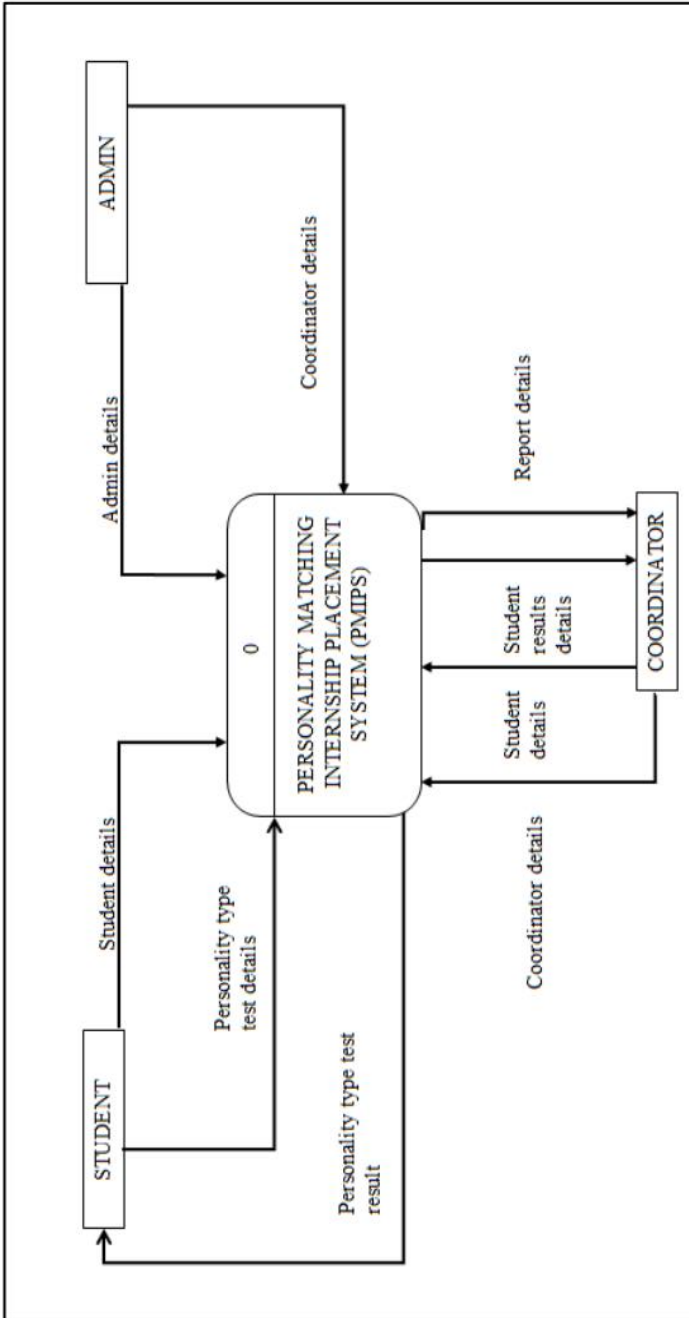
Figure 3: Context Diagram of PMIPS

Next, questionnaires were prepared for the users to evaluate the system. The questionnaires were distributed to 30 respondents to answer the questions after evaluating the Personality Matching Internship Placement system (PMIPS). There are six sections in the questionnaire which are interface, usability, efficiency, ease of use, consistency and satisfaction.

Table 2 shows the sample questionnaire that were distributed to the respondents.

Table 2: Sample Questionnaire Given to Respondents

SECTION A: INTERFACE	
Questions	Sources
A1: The interface of this system is pleasant.	
A2: I like using the interface of this system.	
A3: Characters on the computer screen is easy to read.	(Source: Lewis, 1995)
A4: Overall design of this system is satisfactory.	
A5: The entire button well-functioned.	(Source: Lin et al., 1997)
A6: The position of navigation button is proper.	
SECTION B: USABILITY	
B1: It was simple to use this system	
B2: I thought there is consistency in this system	
B3: This system has all the functions and capabilities that I expect to have.	(Source: Lewis, 1995)
B4: Whenever I make a mistake using this system, I recover easily and quickly	
B5: It is easy to learn to use this system.	
B6: I felt very confident using this system.	

RESULTS AND DISCUSSION

Based on the questionnaire given to the respondents, there are six constructs provided in the questionnaire which are interface, usability, and efficiency, ease of use, consistency and satisfaction. The range of mean falls between 4.16 and 4.51. The highest mean (4.51) is shown by the efficiency construct and the lowest mean equals to 4.16 for consistency construct. The mean scores for all constructs are shown in Figure 4.
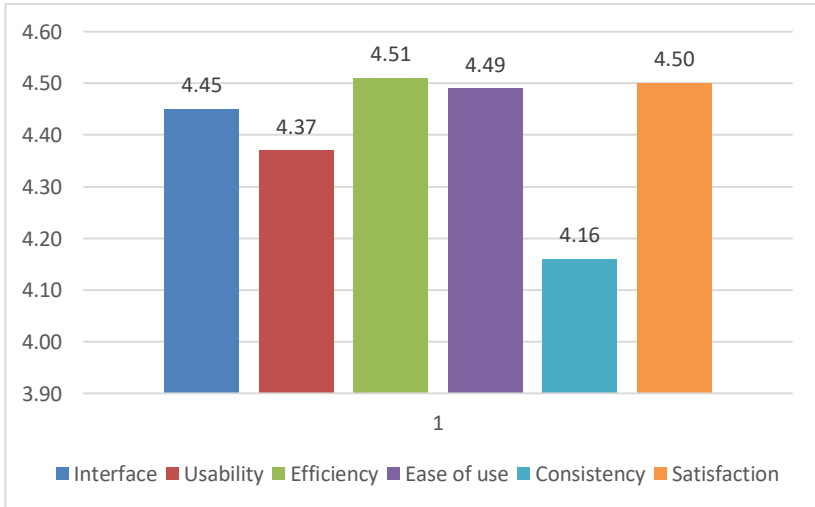
Figure 4: Respondents Evaluation of the PMIP Evaluation System

In addition, the researchers also conducted a multiple regression analysis in order to determine the influence of five predictors (sensation, cognitive, affective, ıntuitive and skills) on the changes of the knowledge acquired by the students during their internship programme. The dependent variable was regressed agaınts all the predictors using the Stepwise method. The results of the regression analysis produced two models where the second model produced the best results. In this model two predictors, skills and sensation were found to have a positive and significant relationship with the dependent variable knowledge. This is shown by the Beta values (standardised coefficients) of 0.616 for Skills and 0.287 for sensation. The results highlighted the dominant influence of skills acquired by the students on their knowledge whereas 'sensation' has a weaker influence on the knowledge applied by the students during their internship programme. Furthermore, the Tolerance and VIF values showed that there are no collinearity effects on all variables. All results are shown in Table 3.

Table 3: Coefficient Analysis of the Regression Analysis

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Contant) Skills	0.896	0.378		2.370	0.021		
	0.775	0.095	0.720	8.178	0.000	1.000	1.000
2 (Constant) Skills Sensation	0.096	0.429		0.223	0.824		
	0.662	0.095	0.616	7.003	0.000	0.868	1.152
	0.356	0.109	0.287	3.258	0.002	0.868	1.152

a.Dependent Variable: Knowledge

In addition, a model summary of the regression analysis was produced and the best model, i.e. model 2 indicates skills and sensation as the best predictors. In addition, the R Square value of 0.590 which means 59% of changes in the knowledge of students is influenced by the changes in skills acquired by the students and their sensation which is the ability to interpret their environment based on their acute senses. All results are shown in Table 4.

Table 4: Model Summary of the Regression Analysis

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.720[a]	0.519	0.511	0.29477
0.768[b]	0.590	0.577	0.27427

a. Predictors: (Constant), Skills
b. Predictors: (Constant), Skills, Sensation

CONCLUSION

Students of higher learning institutions who are doing their Industrial Training (IT) are facing challenges in applying what they learn in the lecture hall. At present, almost all academic programmes in many universities have an industrial training exercise as a part of academic requirement for their students. Feedbacks from organisations who have taken the students as trainees revealed that many of the students are having challenges in applying the theories and concepts of what they learn in class to the task and job requirements at the respective organisations. In addition, we postulate that the attitude and personality of the students also plays a critical role in matching the student's competency and the host organisation's expectation.

The results of the correlation and regression analysis revealed that the personality dimensions of the students have a positive and significant influence on the knowledge applied by the students during their internship programme. This is especially true for the constructs of sensation and skills where skills are found to be more dominant in influencing the knowledge practised by the students. In this sense, Fulgence (2015) and Branine (2008) found that employers are more interested in personal attributes and soft skills than degree classification, subject or university attended by the applicant. Employers continue to report that soft skills are critically important in obtaining employment and achieving long-term career success.

Currently, students are required to find the organisations for their internship placement manually without taking into consideration their personalities that can be matched with the organisation's expectation. To address this issue we have design an evaluation system to evaluate the students' compatibility before they embark on their practical training using sensation, intuitive, cognitive, and affective test based on their personality and attitude orientation (Tran, 2016; Handelsman 2011, Williams & Villanueva, 2011). Finally, we hope to develop an instrument in determining the suitability of personality and attitude of students who want to conduct industrial training. It also aims to create a simple and complete assessment system during the matching process.

We have designed a comprehensive evaluation instrument that we hope to accurately gauge the students' compatibility with the requirements

of the host organisations that are able to accept the students from UiTM Terengganu. Preliminary results show that on average users of this system are highly satisfied with the highest score given for 'efficiency' with a score of 4.51 (maximum score of 5.00) and the lowest score is given for consistency with a score with 4.16. These results indicate that the users are highly satisfied when using the system.

The results of this evaluation will guide academicians to improve their teaching pedagogy, improved design of the teaching modules and evaluation of students' competency before they embark on their industrial training. Furthermore, a comprehensive hands-on classes and workshops focusing on the hard skills, cognitive and affective competency required during their industrial training will be taught to the students, six (6) months before the students begin their industrial training. In addition to theories and concepts, 60% of these classes and workshops will be conducted using a 'student–centred' approach using simulations, games and physical exercises. The core output of this study is a validated evaluation instrument that will be able to match the student's sensation, intuitive, personality and attitude with the host organisation's expectations.

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Challenges of Revenue Generation in Asa Local Government Area of Kwara State, Nigeria: Implications for Community Development

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ABSTRACT

The Asa local government area of Kwara State, Nigeria, is largely challenged by dwindling revenue generation leading to sustained budget deficits and paucity of funds for sustainable development of the area. This paper examined the income generation capacity of the local government and its implications for community development. The study used both primary and secondary data research methodology, which were interpreted and analysed. Findings from the study were that Asa local government generates insufficient revenues from both internal and external sources due to weak federal allocation and irregular remittance of its statutory allocation from the state joint account. The capacity of the local government to generate sufficient internal revenue is also challenged by poor tax collection capacity and enforcement policy and embezzlement of a large chunks of internally generated revenue by local government officials. The low revenue generation has

reduced the construction of feeder road and community markets, and reduced drug supplies to the local government dispensary. The study concluded that Asa local government lacks adequate capacity to generate the required revenue for community development and recommended better training for the revenue collectors, improved autonomy for local governments and proper utilization of revenue generated to improve community development in Asa local government.

Keywords*: revenue, generation, development, state joint account*

INTRODUCTION

Local government system is very central to the development process all over the world as the system is designed to develop the rural area and its people. Thus, the local administration discharges its political and economic mandates to the people by providing them basic social amenities such as feeder roads, pipe borne water, construction of market stores and provision of primary healthcare centers, among others (Raji *et al*, 2018). As posited by Osuagwu (2008), local government is a very vital system of government involving administration of public affairs in each locality with considerable amount of responsibilities and discretionary power to administer local community. Local government all over the world also represents a political division in a federal system, constituted by law to develop the local areas. As an important lowest unit of administration in a state, the centrality of the local government to the development aspirations of the citizens cannot be over emphasized.

The ideas behind the creation of a local government in Nigeria are to bring sustainable development to the grassroots level. Every local area has its unique economic, social and physical characteristics and its historical tradition which are better understood by its people. Thus, the local government areas are created to provide personal and group development aspirations of the local people, including building the feeder roads, construction of community markets and the provision of primary healthcare, among others, which the Federal and State Governments cannot easily undertake due to their remoteness from the local communities (Uhunmwuangho & Epelle, 2008). Therefore, the only reasonable form of development is the one that comes from within, as provided by local administration.

The constitutional mandates of local government in Nigeria are to perform the statutory functions of the collection of tenement rates, radio and television licenses; establishment and maintenance of cemeteries, burial grounds and home for the destitute or infirm (Babangida, 1988). Local government areas are also saddled with the responsibility of licensing bicycles, trucks (other than mechanically propelled trucks), canoes, wheelbarrows and carts; establishment, maintenance and regulation of slaughter houses, slaughter slabs, motor parks and public conveniences. Other functions of the local governments include construction and maintenance of roads, street lighting, drainages and parks, gardens, open spaces and any other or such public facilities as may be prescribed from time to time by the State House of Assembly (The 1999 Constitution of Federal Republic of Nigeria Fourth Schedule).

In all the above statutory responsibilities of the local government to the people, revenue is very central for optimal performances of local administration because if it does not have sufficient revenue, it cannot develop the communities adequately. There are two sources of local government revenue, which are the external and internal sources. Statutorily, local governments get their monthly allocation from the federal source which they receive within the confines of their joint account with the state government which is referred to as State Joint Account Allocation. However, in many instances, the federal allocation is very insufficient. This shortfall in federal allocation is caused by many factors among them is the reduction in the price of oil and other sources of income generation such as Customs and Exercise duty, which are the main sources of income in Nigeria. Therefore, this shortfall in the federal allocation has necessitated local administration to look inward for internally generated revenue to complement federal allocation for their developmental programmes.

In spite of its centrality to the development process at the grass root, the recurrent problems of the local government in Nigeria are the ever dwindling revenue generation, discernible from budget deficits and paucity of funds for robust economic growth and development at the local level in spite of being the nearest government to the people. In fact, 100% of the Nigerian population resides in local government areas as there is no citizen without one while 100% of the urban residence also resides in a local government area. Consequently, the local government administration has

the responsibility to articulate the needs of the local people and formulate plans and strategies to realizing them in Nigeria. Even the urbanised cities are broken into local government areas such that the activities of State Governments are interwoven with those of the local governments in particular. The weak development profile of many local government areas has created many avoidable problems, some of which are massive rural-urban migration thereby causing over congestion and heating up the lives in the cities and infrastructural decay at the rural areas due to total neglect and abandonment. There is also mass poverty in the country due to lack of adequate funding of local administration. This paper examines the income generation capacity of Asa local government and its implications for community development in the area.

STATEMENT OF THE PROBLEM

The Asa local government area of Kwara State, Nigeria, is largely bedeviled by development challenges, ranging from shamble social infrastructure, delay and non-payment of staff salary, lack of potable water and poor feeder road networks, among others. Many villages within the local government area lack adequate development support from the local government while many citizens show high level of displeasure with the local government whom they often accuse of enthroning more of democratic deficits rather than dividends. This paper examines the nexus between the capacity for revenue generation and sustainable community development in Asa local government area. The paper specifically investigates the challenges constraining the capacity of the local government area for optimal revenue generation and its implications for community development in the area.

REVIEW OF LITERATURE

Ola and Tonwe (2009) define local government as a political sub-division of a nation, which is constituted by law to have substantial control of local affairs, including the powers to impose taxes and hire labour for prescribed community development purposes. The governing body of such an entity is elected or otherwise locally selected. Bello (in Akhakpe, 2011) describes local government as that unit of administration with defined territory and powers as well as administrative authority with relative autonomy.

In their work, Flesher and Flesher (2007) discusses revenues as an increase in owners' equity resulting from the performance of a service or sale of something. This definition is anchored on the concept of equity which may increase due to sale of goods or provision of services in other words there are two sides to revenue; something received and given. Dixon (2000) perceives revenue as "the total amount obtained from the sale of a merchandise services to customers.

Adewale (2018) highlights two primary sources of revenue to local government areas to include internally generated income and statutory allocation from the federation account. The author discussed further that the internally generated revenue is largely sourced from property rates and taxes. However, the author did not delve much on the challenges of generating revenue in the local governments and how to address them. Charles (2005) identifies inadequate capacity for maximum income generation and mismanagement of local government funds by its officials as the major problem of sustained funding of the local government system. What the above review summarly points at is that the weak capacity of the local government to generate adequate revenue in Nigeria is largely premised upon weak federal allocation and irregular remittance of its statutory allocation from the state joint account along weak training of revenue officials and outright corruption, which has not been properly addressed. The scholars have failed to touch on the kind of fiscal relationship that exists between the local government and other levels of government and how this intergovernmental financial relation either enhances or undermines internal revenue generation in Nigerian local governments.

THEORETICAL FRAMEWORK

The theory of fiscal federalism is adopted for this paper as its framework of analysis. The central thrust of the theory, which was originated by Musgrave (1959) borders on the disaggregation of public sector functions and finances among multiple layers of government (King, 1984). According to the author, fiscal federalism entails fiscal arrangement among the various tiers of government in a federal structure, in which funds are disbursed according to the constitutional provisions on fiscal federation. Nigeria establishes fiscal relationships that exist among the various levels of government.

For example, section 149(2) of the 1979 Constitution or section 162(3) of the 1999 Constitution stipulates that any amount standing to the credit of the Federation Account shall be distributed among the federation, state governments and the local government councils in each state on such terms an in such manner as may be prescribed by the National Assembly. Therefore, the theory of fiscal federalism has sufficient explanatory weight to establish the nexus between the capacity for income generation and sustainable development within the confines of local government administration in Nigeria.

THE STUDY AREA

Asa Local Government is one of the sixteen local government areas in the Kwara State of Nigeria, with the Headquarter at Afon. The name of the local government was derived from the popular Asa River, which supplies water to many communities within the local government and its immediate environments, including Ilorin East, Ilorin West, Ilorin South and Moro local government areas of Kwara State. Asa local government has a landmass of about 1,286km2 and a projected population of about 135,000 people as of 2015 (Kwara Local Government and Community, 2016). The local government has three political districts, which include Owode, Onire and Afon districts, and it is traditionally situated within the Ilorin Emirate. Mostly populated by the Yoruba, majority of the inhabitants are farmers who equally take into hunting as a traditional game. Asa local government Secretariat is located in Afon with about 200 staff, with some posted to both Owode and Onire districts as the main administrative machinery of the 17 political wards in the local government. Important towns in the local government include Ogbondoroko, Laduba, Afon, Foko, Aboto, Igbo-Aran, Oniyere, Olomoda, Ogele, Sapati Oguntoyinbo and Oloro in Afon District. Notable towns in Owode district are Budo-Egba, Kuo, Ote and Ballah, with Alapa, Awe, Madala, Sosoki and Bakase in the Onire district of Asa local government Area (Ganiyu, A. (2016), Amin (2018).

RESEARCH METHODOLOGY

This research used the descriptive study design as its method of investigation. Both primary and secondary data were used. The population of this study was drawn from the Asa local government area of Kwara State with about 756 staff under the local government council. The simple random method was used for this study for avoidance of bias and to ensure equitable sample representation in response to the questionnaire administered. The sample size for this study was 240 out of which 218 were retrieved. The first section captured the bio-data information of the respondents while the second section captures information on the research objectives, using a 5-point Likert scale with "1= strongly disagree" and 5=strongly Agree. The data gathered were analysed using the Statistical Package of Social Sciences (SPSS). This primary data was analysed through pilot study, regression, correlation analysis, skewness and kurtosis.

DATA PRESENTATION AND INTERPRETATION

Table 1: Demographic Data of the Respondents

Sex	Frequency	Percent
Male	144	66.1
Female	74	33.9
Total	218	100
Marital Status	**Frequency**	**Percent**
Single	54	24.8
Married	164	75.2
Total	218	100
Age	**Frequency**	**Percent**
18-30	56	25.7
31-40	60	27.5
41 and above	102	46.8
Total	218	100
Occupation	**Frequency**	**Percent**
Civil servant	164	75.2
Farmer	9	4,1

Total	218	100
Artisan	28	12.8
Others	17	7.8
Total	218	100
Qualification	**Frequency**	**Percent**
Primary/S.S.C.E/Equivalent	40	18.3
NCE/ND/diploma	71	32.6
B.A/B.SC/HND	96	44
MBA/M.SC/Ph.D	11	5
Total	218	100
Staff Category	**Frequency**	**Percent**
Management	44	20.2
Senior	86	39.4
Junior	76	34.9
Contract	12	5.5
Total	218	100

Source: Researcher's Field Survey 2017

Table 2: Sources of Revenue Generation in Asa

Items	Opinion	Percent	Mean	Standard Deviation	Remark
Asa local government generates sufficient revenue both internally					
Strongly Disagree	37	17.6			
Disagree	82	37.6			
Undecided	20	9.6	2.6789	1.119044	Disagree
Agree	72	33			
Strongly agree	7	3.2			
Total	218	100			
The local government generates revenue through marriage, birth and death fees					

Strongly disagree	4	1.8			
Disagree	47	21.6			
Undecided	16	7.3	3.7202	1.14387	Agree
Agree	90	41.3			
Strongly agree	61	28			
Total	218	100			
Asa receives huge amount of money from market rates and levies					
Strongly disagree	17	7.8			
Disagree	22	10.1			
Undecided	15	6.9	3.6789	1.12271	Agree
Agree	124	56.9			
Strongly Agree	40	18.3			
Total	218	100			
Asa local government area generates income through public convenience sewage and refuse disposal fees.					
Strongly disagree	22	10.1			
Disagree	129	59.2			
Undecided	8	3.7	2.5550	1.14369	Disagree
Agree	42	19.3			
Strongly agree	17	7.8			
Total	218	100			
Asa local government borrows from state and financial institutions					
Strongly disagree	25	11.5			
Disagree	41	18.8			
Undecided	18	8.3	3.3761	1.29008	Agree
Agree	95	43.6			
Strongly agree	39	17.9			

Total	218	100			
The local government collects permit fee on land and establishment					
Strongly disagree	17	7.8			
Disagree	23	10.6			
Undecided	17	7.8	3.6514	1.12267	Agree
Agree	123	56.4			
Strongly agree	38	17.4			
Total	218	100			

Researcher's Field Survey, 2017

Table 3: Capacity of Reveneu Generation in Asa

Items	Opinion	Percent	Mean	Standard Deviation	Remark
Tax enforcement in Asa is efficient					
Strongly disagree	34	15.6			
Disagree	82	37.6			
Undecided	23	10.6	2.7064	1.17425	Disagree
Agree	72	33			
Strongly agree	7	3.2			
Total	218	100			
Asa local government revenue officers are more efficient than consultants.					
Strongly disagree	1	5			
Disagree	47	21.6			
Undecided	19	8.7	3.7477	1.10116	Agree
Agree	90	41.3			
Strongly agree	61	28			
Total	218	100			

Revenue collectors in Asa are very efficient in their job or task.					
Strongly disagree	20	9.2			
Disagree	24	11			
Undecided	21	9.6	3.5734	1.16264	Agree
Agree	117	53.7			
Strongly agree	36	16.5			
Total	218	100			
There are skilled workers to collect taxes from the tax payers in Asa local government area					
Strongly disagree	18	14.2			
Disagree	31	11			
Undecided	24	47.2	3.5505	1.19126	Agree
Agree	103	19.3			
Strongly agree	42	100			
Total	218				
The techniques employed in collecting taxes are very efficient and effective in Asa local government area.					
Strongly Disagree	27	12.4			
Disagree	42	19.3			
Undecided	22	10.1	3.3119	1.30010	Agree
Agree	90	41.3			
Strongly agree	37	17			
Total	218	100			

Source: Researcher's Field Survey 2017

Table 4: Challenges of Revenue Generation in Asa

Items	Opinion	Percent	Mean	Standard deviation	Remark
The revenue officers in Asa are not well trained					
Strongly disagree	16	7.3			
Disagree	31	14.2			
Undecided	29	13.3	3.6009	1.20345	Agree
Agree	90	41.3			
Strongly agree	52	23.9			
Total	218	100			
Community development is not visible in Asa as a result of inadequate revenue generation					
Strongly disagree	31	14.2			
Disagree	29	13.3			
Undecided	18	8.3	3.4128	1.32130	Agree
Agree	99	45.4			
Strongly agree	41	18.8			
Total	218	100			
There is lack of commitment and dishonesty on the part of revenue collectors.					
Strongly disagree	16	7.3			
Disagree	37	17			
Undecided	24	11	3.5275	1.19587	Agree
Agree	98	45			
Strongly agree	43	19.7			
Total	218	100			

Embezzlement of generated revenue by local government officials contribute to low revenue generation	29	13.3			
Strongly disagree	37	17			
Disagree	19	8.7	3.3578	1.31998	Agree
Undecided	93	42.7			
Agree	40	18.3			
Strongly agree	218	100			
Total					
The state government fails to remit 10 percent to Asa local government as provided by the constitution					
Strongly disagree	15	6.9			
Disagree	29	13.3			
Undecided	28	12.8	3.6514	1.19041	Agree
Agree	91	41.7			
Strongly agree	55	25.2			
Total	218	100			
Misuse of state power over state					
Joint account affects Asa local government to discharge its responsibilities as regard to provision of basic amenities					
Strongly disagree	14	6.4			
Disagree	6	2.8			
Undecided	8	3.7	4.1789	1.07768	Strongly agree
Agree	89	40.8			
Strongly agree	101	46.3			
Total	218	100			

Source: Researcher's Field Survey 2017

Table 5: Nexus Between Challenges of Revenue Generation and Community Development in Asa Local Government

Items	Opinion	Percent	Mean	Standard Deviation	Remark
Challenges of low revenue generating capacity has reduced the construction of feeder road.	23	10.6			
Strongly disagree	16	7.3			
Disagree	2	0.9	3.6468	1.11917	Agree
Undecided	151	69.3			
Agree	26	11.9			
Strongly agree	218	100			
Total					
Challenges of low revenue generating capacity has led to non-provision of borehole	44	20.2			
Strongly disagree	35	16.1			
Disagree	7	3.2	3.1560	1.37907	Agree
Undecided	107	49.1			
Agree	25	11.5			
Strongly agree	218	100			
Total					
Challenges of low revenue generation capacity has reduced drug supplies to the local government dispensary.	15	6.9			
Strongly disagree	26	11.9			
Undecided	11	5.0	3.7844	1.17749	Agree
Agree	105	48.2			
Srongly agree	61	28.0			
Total	218	100.0			

Challenges of low revenue generating capacity has led to stoppage of renovations of many local government primary school	13	6.0			
Strogly disagree	23	10.6			
Disagree	12	5.5	3.8716	1.14884	Agree
Undecided	101	46.3			
Agree	69	31.7			
Strongly agree	218	100.0			
Total					
Challenges of low revenue generating capacity has led to the stoppage of the construction of local government lock-up shops.	14	6.4			
Strongly disagree	26	11.9			
Disagree	4	1.8	3.9083	1.19555	Agree
Undecided	96	44.0			
Agree	78	35.8			
Strongly agree	218	100.0			
Total					

Source: Researcher's Field Survey 2017

Table 6: Normality Test of Dependent and Independent Variable

	N	Minimun	Maximum	Mean	Std.	Skewness	Kurtosis		
	Statistics	Statistics	Statistics	Statistics	Statistics	Statistics	Std Error	Statistics	Std Error
Dependent Variable									
AV_Source2	218	1.33	4.67	3.2786	.76810	-.541	.165	-.449	.328
Independent Variable									
AV_Capacity2	218	1.40	5.00	3.3780	.83972	-.419	.165	-.927	.328
AV_Challenges2	218	1.17	5.00	3.6216	.78899	-.718	.165	.068	.328
AV_Community2	218	2.20	4.80	3.6734	.51353	-.232	.165	-.036	.328

Source: Researcher's Field Survey 2017

The assumption of normality is a prerequisite for many inferential techniques. There are a number of different ways to explore the assumptions graphically such as histogram, stem-and-leaf plot, box plot, normal probability plot and detrained normal plot (Coakes, Steed & Dzidic, 2006). There are also a number of statistics which are available to test the normality such as Skewness and Kurtosis, and Shapiro-Walk statistics.

For this study, the test for normality has already been done. However, Skewness and Kurtosis which are within the acceptable value of ±2 as well as the overall box plot also shows normality.

Table 7: Correlation

		AV_ SOURCES2	AV_ CAPACITY2	AV_ CHALLENGES2	AV_ COMMUNITY2
AV_SOURCES2	Pearson Correlation	1		.	
	Sig. (2-tailed)				.
	N	218			
AV_CAPACITY2	Pearson Correlation	.948***	1		
	Sig. (2-tailed)	.000		.	.
	N	218	218		
AV_ CHALLENGES2	Pearson Correlation	.027	.010	1	.
	Sig. (2-tailed)	.687	.882		.
	N	218	218	218	
AV_COMMUNITY2	Pearson Correlation	-.037	-.041	.258**	1
	Sig. (2-tailed)	.584	.550	.000	
	N	218	218	218	218

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

Source: Researcher's Field Survey 2017

The above table describes the correlation coefficient among the variables being used in the course of this study. Based on the results from the table above, it was observed that the capacity of generating revenue in Asa local government has the highest value .948 which is greater than the *P*-value of 0.05, meaning that such capacity is weak.

Table 8: Regression Result

Model Summary[b]

Mode 1	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.948[a]	.898	.897	1.48015	1.734

a. Predictors: (Constant), AV_COMMUNITY2, AV_CAPACITY2, AV_ CHALLENGES2
b. Dependent Variable: AV_SOURCES

Source: Researcher's Field Survey 2017

The above table shows that R is .948a, R Square is .898, adjusted R square is .897 and the Durbin Watson is 1.734. Therefore, since the value of Durbin Watson is greater than the standard value of 1.5 and less than 2.5. This really makes this work to be alright and make the standard value to be correct.

Table 9: ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4140.041	3	1380.014	629.901	.000[b]
	Residual	468.840	214	2.191		
	Total	4608.881	217			

a. Dependent Variable: AV_SOURCES
b. Predictors: (Constant), AV_COMMUNITY2, AV_CAPACITY2, AV_ CHALLENGES2

Source: Researcher's Field Survey 2017

The above table shows that significant value of regression is .000b and the sum of square of regression is 4140.041.

Table 10: Coefficient[a]

Model	Unstandadardised Coefficients		Standardised Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.821	.890		2.047	0.42
AV_CAPACITY2	5.199	.120	.947	43.401	.000
AV_CHALLENGES2	.110	.132	.019	.835	.405
AV_COMMUNITY2	-.033	.203	-.004	-.161	.872

a. Dependent Variable: AV_SOURCES

Source: Researcher's Field Survey 2017

Table 11: Relationship between Sources of Revenue and Capacity of Revenue Generation

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std Error	Beta		
(Constant)	1.821	.890 .		2.047	.042
AV_CAPACITY2	5.199	120	.947	43.401	.000

Source: Researcher's Field Survey 2017

The table shows that the difference between sources of revenue generation and capacity of revenue generation is 5.199 while significant level of AV_Capacity2 is .000. Therefore, the hypothesis is rejected.

Table 12:   Relationship between Sources of Revenue and Challenges of Revenue Generation

Model	Unstandardised Coefficients		Standardised Coefficients	T	Sig.
	B	Std Error	Beta		
(Constant) AV_ Challenges2	1.821	.890		2.047	.042
	.110	.132	.019	.835	.405

Source: Researcher's Field Survey 2017

The table shows that the difference between sources of revenue generation and challenges of revenue generation is .110 while significant level of AV Challenges is .405. Therefore, the hypothesis is rejected.

Table 13: Relationship between Challenges of Revenue Generation and Community Development in Asa

Model	Unstandardised Coefficients		Standardised Coefficients	T	Sig.
	B	Std Error	Beta		
(Constant) AV_ Community2	1.821	.890		2.047	.042
	-.033	203	-.004	-.161	.872

Source:Researcher's Field Survey 2017

The table shows that the difference between sources of revenue generation and challenges of revenue generation is -.033 while significant level of AV Challenges is .872. Therefore, the hypothesis is accepted.

DISCUSSION OF FINDINGS

The findings from Objective 1 revealed that majority of the respondents disagreed that the Asa local government generates sufficient revenue both internally and externally. This makes it difficult for the Asa local government to embark on community projects that could provide the basic needs for the communities, especially pipe borne water and feeder roads. The results are in line with Ola and Tonwe's (2005) position that the dearth of finance had always been one of the major handicaps that hinder local governments

in the performance of their statutory functions in the country. The findings are also similar to their previous study that lack of adequate funds and appropriate institutions has continued to make local government ineffective. Majority of the respondents agreed that Asa local generates revenue through marriage, birth and death fees while they also agreed that Asa receives huge amount of money from market rates and levies. This is in line with the interview report that Asa local government generates more income in Alapa, Ote, and Eyekorin markets. However, majority disagreed that the local government generates income through public convenience sewage and refusal disposal fees. The results are true because they are in line with the interview report that Asa local government did not generate revenue through public convenience sewage and refuse disposal since majority of the communities are in the rural areas. The findings show that the Asa local government borrows from State and financial institutions and collects permit fee on land establishment within its jurisdiction.

The findings from Objective 2 of this study showed that Asa local government does not have efficient tax enforcement policies, hence loosing huge revenue. These findings are in line with the opinion of Ezeani (2004) that Asa local government administration cannot adequately enforce byelaws on revenue collection in the area. In some cases, the law on revenue collection is not updated nor brought to the public attention. The majority of the respondent agreed that revenue officers are more efficient than the consultants while also revealing that there are sufficient skilled workers to collect taxes from tax payers in Asa local government area and that the techniques employed in collecting taxes are very efficient and effective in the local government.

Majority of the respondents agreed that revenue collectors are not well and regularly trained in Asa local government for optimal revenue generation to prosecute community development project to a logical conclusion. The respondents also agreed that there is a lack of commitment and dishonest on the part of revenue collectors for adequate revenue generation and agreed that embezzlement of generated revenue by local government officials contribute significantly to the low income inflow to the area. More so, the results confirmed that the Kwara State Government often fails to remit its 10 percent statutory allocation to the Asa local government as provided by the Constitution in line with Ola and Tonwe's (2005) findings that although

the constitution provided that 10 % of the total revenue of state should be disbursed to their local councils, the state governments had in most cases paid in only a small fraction of the sum to their local government councils, and in some cases, nothing at all was paid to them.

The respondents agreed that misuse of state power over state joints accounts affects the Asa local government to discharge its developmental responsibilities optimally as regard the provision of basic necessity of life to its people. This finding is in line with a previous study by Obi (2001) that the essence of granting autonomy to the various tiers of government in a federal system such as Nigeria is to ensure self-governance and initiatives. Political and administrative autonomy to local government is provided in section 7 of the 1999 constitution to enable local governments to take initiatives in the administration of their localities. These autonomies also include the rights to revenue drives and other economic activities. Unfortunately, this constitutional provision has become a mere rhetoric as local governments in Nigeria have been reduced to puppets and political instrument in the hands of state governments. The results are similar to Oguonu's (2003) findings that a fundamental reason for poor internally generated revenue by the local governments in Nigeria is that local governments were not created on the basis of their viability but as a mere political and geographical expression. The findings also confirmed the authors earlier discovery that the State Governments make several deductions from the local government accounts, which largely rendered them financially distressed to carry out community development project and meet statutory obligations, including regular payment of staff salary. These unfavourable deductions include deduction of counterpart funding of projects, income tax (upfront) by local government employees (payee), among others, before remitting to councils whatever it deems fit.

Finding from Objective 3 of this study revealed that low revenue generating capacity has reduced the construction of feeder road in Asa local government. This is in line with Ifeayekwu (2015) that the impact of projects implementation on the rural communities is minimal as a result of poor funding of such projects due to weak income generating capacity of the local government thereby leaving the people in excruciating poverty. The income level of people in many communities is low. As a result, the ability of the people to generate funds to sponsor community projects is greatly

affected. Thus, many envisioned community projects remain unattainable. The majority of the respondents also agreed that low revenue generation has led to non-provision of borehole and other projects, including feeder roads and construction of new local government maternity and dispensary. The respondents also agreed that low revenue generating capacity has reduced drug supplies to the local government dispensary. The study showed that respondents agreed that low revenue generating has equally led to the stoppage of renovations of many local government primary schools while also agreeing that low revenue generating has led to the stoppage of the construction of local government lock-up shops. This finding confirm Tonwe's (1995) study that lack of adequate funds had hindered the effective and successful execution and completion of many projects at the local government level.

CONCLUSION

This paper examined the challenges of revenue generation in the Asa local government area of Kwara State of Nigeria and its implications for community development. Finding from the study were that Asa Local Government generates insufficient revenues from both internal and external sources due to weak federal allocation and irregular remittance of its statutory allocation from the state joint account. The capacity of the local government to generate sufficient internal revenue is also challenged by poor tax collection capacity and enforcement policy and embezzlement of a large chunk of internally generated revenue by local government officials. The implications of revenue on community development are that low revenue generating has reduced the construction of feeder road and led to stoppage of renovations of many local government primary schools in Asa local government. The study concluded that Asa local government lacks adequate capacity to generate the required revenue for community development.

RECOMMENDATIONS

It is recommended that revenue records from the collectors should be checked on regular basis by the Internal Auditor of the council to curtail financial fraud and anyone found guilty of corrupt practices should be punished accordingly. The generated revenue should be used judiciously, especially for community development projects so as to encourage many people to pay tax. Enough staff should be recruited into the revenue department to boost the capacity of the unit for wider revenue collection coverage. Logistic supports, including communication gadget, vehicle and motorcycles should be provided for the revenue personnel for optimal performance while provision of good incentives, including improved remuneration should be made available to workers. This will encourage and boost their morale in discharging their duties. There should be periodic monitoring of project to ensure that contractors do what is expected of them to ensure judicious use of revenue. Training and re-training of revenue officials should be encouraged while enlightenment campaigns on the revenue to be paid by individual should be carried out to improve the capacity of Asa local government to generate sufficient funding for community projects and sustainable development in the area.

LIMITATIONS OF THE STUDY

The limitations to the study include time and financial constraints as well as non-availability of some documents that are relevant to this research work. The sample size of the respondents was small compare to the 2006 population census of Asa local government.

SUGGESTION FOR FUTURE RESEARCH

The sample size should be bigger. It should cut across every ward in the local government. The duration of the questionnaire should be longer to give respondents a more convenient time in filling up questionnaires rather than filling up in the office and home instantly. The observation method or interviews may be adopted.

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APPENDIX
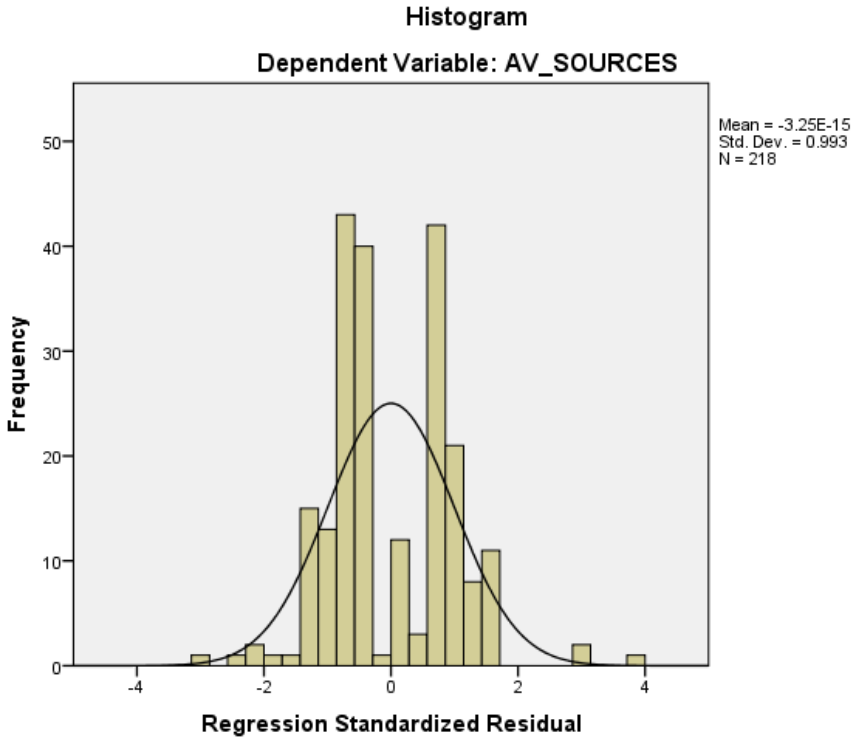
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	Sig. (2-tailed)		.000	.687	
	N	218	218	218	
AV_CAPACITY2	Pearson Correlation	.948***	1	.010	-
	Sig. (2-tailed)	.000		.882	
	N	218	218	218	
AV_CHALLENGE	Pearson Correlation	.027	.010	1	.2
	Sig. (2-tailed)	.687	.882		
	N	218	218	218	
AV_COMMUNITY2	Pearson Correlation	-.037	-.014	.258**	
	Sig. (2-tailed)	.584	.550	.000	
	N	218	218	218	

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

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DESCRIPTIVES

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DESCRIPTIVE STATISTICS

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	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std Error	Statistic	Std Error
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AV_CAPACITY2	218	1.40	5.00	3.3780	.83972	.83972	.165	-.927	.328
AV_CHALLENGES2	218	1.17	5.00	3.6216	.78899	.78899	.165	.068	.328
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FREQUENCIES

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	Cases Used	Statistics are based on all cases with valid data.
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Statistics

		AV_ SOURCES2	AV_ CAPACITY2	AV_ CHALLENGES2	AV_ COMMUNITY2
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FREQUENCY TABLE

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Valid	1.33	3	1.4	1.4	1.4
	1.50	1	.5	.5	1.8
	1.67	3	1.4	1.4	3.2
	1.83	5	2.3	2.3	5.5
	2.00	12	5.5	5.5	11.0
	2.17	3	1.4	1.4	12.4
	2.33	9	4.1	4.1	16.5
	2.50	7	3.2	3.2	19.7
	2.67	14	6.4	6.4	26.1
	2.83	9	4.1	4.1	30.3
	3.00	11	5.0	5.0	35.3
	3.17	11	5.0	5.0	40.4
	3.33	21	9.6	9.6	50.0
	3.50	11	5.0	5.0	55.0
	3.67	32	14.7	14.7	69.7
	3.83	22	10.1	10.1	79.8
	4.00	15	6.9	6.9	86.7
	4.17	18	8.3	8.3	95.0
	4.33	3	1.4	1.4	96.3

4.50	3	1.4	1.4	97.7
4.67	5	2.3	2.3	100.0
Total	218	100.0	100.0	

AV_CAPACITY2

		Frequency	Percent	Valid Percent	Cumulative Percent
	1.40	1	.5	.5	.5
	1.80	9	4.1	4.1	4.6
	2.00	14	6.4	6.4	11.0
	2.20	10	4.6	4.6	15.6
	2.40	10	4.6	4.6	20.2
	2.60	15	6.9	6.9	27.1
	2.80	7	3.2	3.2	30.3
	3.00	9	4.1	4.1	34.4
	3.20	11	5.0	5.0	39.4
Valid	3.40	10	4.6	4.6	44.0
	3.60	27	12.4	12.4	56.4
	3.80	23	10.6	10.6	67.0
	4.00	25	11.5	11.5	78.4
	4.20	26	11.9	11.9	90.4
	4.40	7	3.2	3.2	93.6
	4.60	10	4.6	4.6	98.2
	4.80	3	1.4	1.4	99.5
	5.00	1	.5	.5	100.0
	Total	218	100.0	100.0	

AV_CHALLENGES2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.40	1	.5	.5	.5
	1.80	9	4.1	4.1	4.6
	2.00	14	6.4	6.4	11.0
	2.20	10	4.6	4.6	15.6
	2.40	10	4.6	4.6	20.2
	2.60	15	6.9	6.9	27.1
	2.80	7	3.2	3.2	30.3
	3.00	9	4.1	4.1	34.4
	3.20	11	5.0	5.0	39.4
	3.40	10	4.6	4.6	44.0
	3.60	27	12.4	12.4	56.4
	3.80	23	10.6	10.6	67.0
	4.00	25	11.5	11.5	78.4
	4.20	26	11.9	11.9	90.4
	4.40	7	3.2	3.2	93.6
	4.60	10	4.6	4.6	98.2
	4.80	3	1.4	1.4	99.5
	5.00	1	.5	.5	100.0
	Total	218	100.0	100.0	

AV_COMMUNITY2

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	2.40	2	.9	.9	1.8
	2.60	4	1.8	1.8	3.7
	2.80	6	2.8	2.8	6.4
	3.00	12	5.5	5.5	11.9
	3.20	27	12.4	12.4	24.3
	3.40	26	11.9	11.9	36.2
	3.60	31	14.2	14.2	50.5
	3.80	30	13.8	13.8	64.2
	4.00	33	15.1	15.1	79.4
	4.20	26	11.9	11.9	91.3
	4.40	7	3.2	3.2	94.5
	4.60	8	3.7	3.7	98.2
	4.80	4	1.8	1.8	100.0
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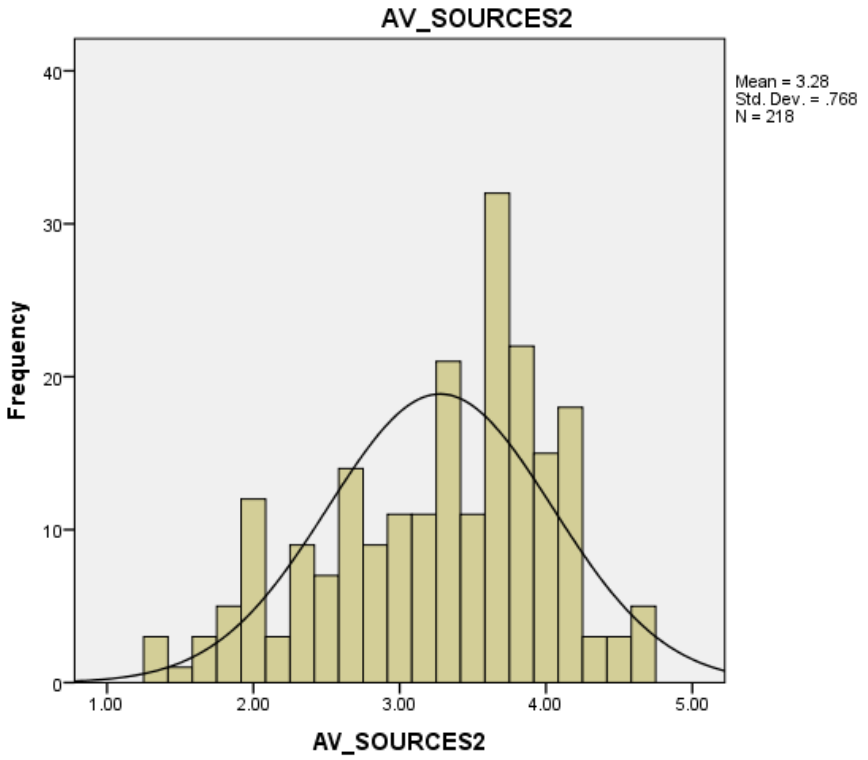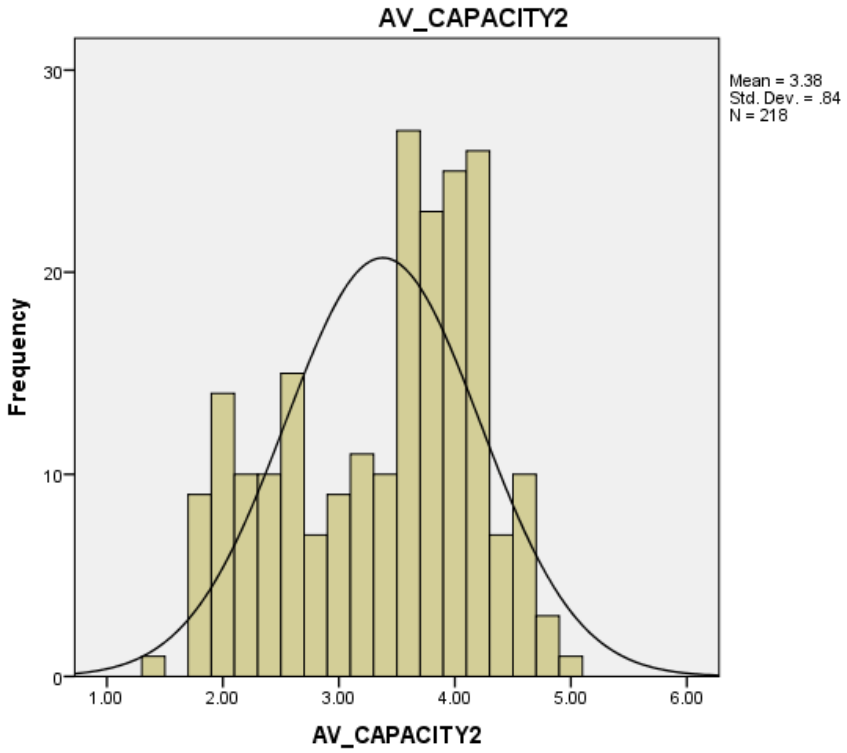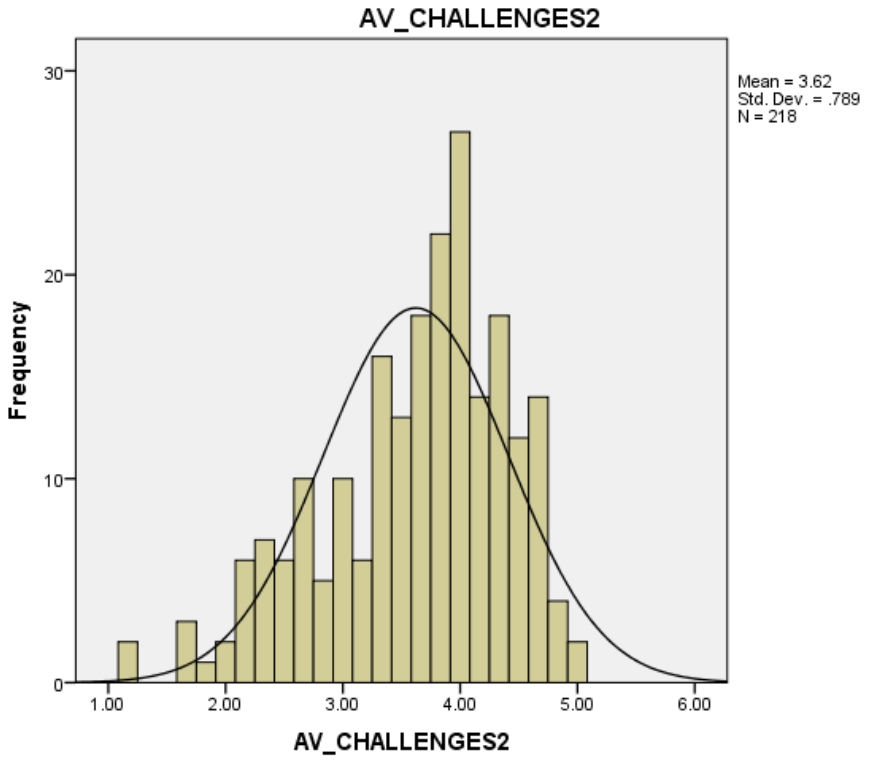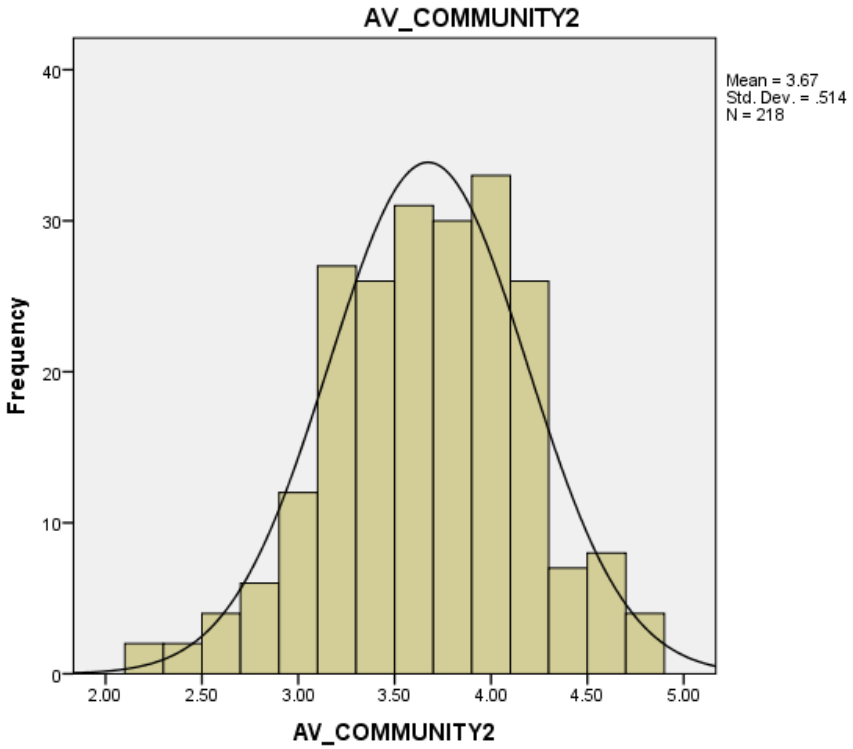
The Internet-Based Model of Higher Distance Education – A Case of the Warsaw University of Technology

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ABSTRACT

In the Polish academic environment, many activities have been devoted to improve and enrich didactics. Many of them are based on the implementation of modern technologies and the Internet into various forms of academic education. The paper analyses legal framework, potential and barriers related to e-learning in Polish institutions of tertiary education. The aim of the article is to present the organisational structure, the model of functioning and management and the types of courses offered by the Centre for Open and Distance Education at Warsaw University of Technology (CODE WUT). The role of CODE WUT in shaping the culture within the organisation and its implementation in the academic world has been described. This was followed by a description of an academic multimedia textbook model and its role in the educational process. The article also attempts to define the basic business processes and analyses their structure using the BPMN notation. Finally, students' opinion on

e-learning significance and their evaluation of effectiveness and satisfaction of online classes were empirically surveyed and discussed.

Keywords: open and distance learning, education, e-learning, studies via the Internet, distance learning

INTRODUCTION

E-learning is a modern and interactive method of distance learning using the Internet and electronic educational content. Currently, e-learning can be found in nearly all aspects of life, from business, politics to social and private spheres. Its outstanding characteristic is the possibility of learning in any given place, time and pace. The ever, increasing number of schools offering e-learning proves its effectiveness and of this type of learning method.

Polish academicians have been enriching didactics with various forms of Internet and modern information technology (IT). Intensive development of e-learning in Poland, which has caused significant changes in didactics at most universities, is historic. One of the main drivers for e-learning development was financial support for European Union (EU) funds. Projects that were financed and supported covered implementations of e-learning platforms, development of multimedia educational materials, online courses and training, and conferences and workshops promoting e-learning. A second important factor was a change in the law, which mandated applications of distance learning methods and techniques. Consequently, increasing research interest in e-learning in Poland has led to much published work on a national level, but mainly in Polish. E-learning is practiced in many Polish universities, and its forms are varied (Table 1).

Table 1: Academic e-Learning Models in Poland Concerning Administration and IT

(Source: Own work)

	Administration centralized	Administration decentralized
Platform centralized	**Fully centralized** F_1 ... F_n → P → A	**Informatically centralized** F_1 ... F_n → A_1 ... A_n → P
Platform decentralized	**Administratively centralized** F_1 ... F_n → P_1 ... P_n → A	**Fully decentralized** F_1 ... F_n → P_1 ... P_n → A_1 ... A_n
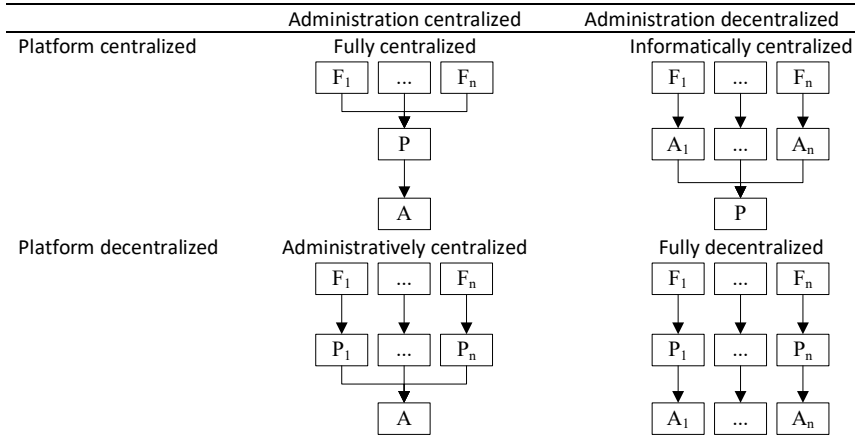
Note: A – administration; F – faculty; P – platform.

The system of higher education in Poland is based on the Act of 27 July 2005: Law on Higher Education. This act provides rules, terminology and typology for higher education in Poland. According to (POLON: System Informacji o Nauce i Szkolnictwie Wyższym [System of Information on Science and Higher Education]). There are 397 institutions of tertiary education in Poland academic (including 139 public and 258 non-public). The first implementation of e-learning in Polish universities took place in the late 1990s.

At present, this form of education is used by more than 60% of Polish universities. The most commonly used form of education is blended learning, where platforms are used to support traditional learning. In the e-learning formula, the most common are general occupational courses (eg. Health and safety courses, library training and language courses). However, a relatively small number of universities still offer on-line studies. The current legal system allows the use of e-learning in Polish higher education (Kula & Zalewska-Traczyk, 2008). In this respect, the basic legislation regulating remote learning is the following: Regulation of the Minister of Science and Higher Education of 25 September 2007 on the conditions to be fulfilled in order to enable the teaching of studies to be carried out using the methods and techniques of distance education and its three subsequent amendments.

The provisions contained in this regulation allow conducting teaching activities using distance learning methods and techniques on all faculties of study and at all levels of full-time and part-time studies. The most important of the provisions contained in this legal act are:

- The number of hours taught on-line cannot exceed 60%;
- Necessity to prepare academic staff for distance learning, provision of information and communication infrastructure (synchronous and asynchronous) between teachers and students;
- Providing teaching materials in electronic form;
- Providing students with personal consultations with teachers at the university headquarters;
- Providing ongoing control of the activity of the classes;
- Organisation of cyclical trainings for students preparing for the use of e-learning activities;
- Training in the field of practical skills, including laboratory, field and workshop classes, should take place in real life, in didactic classes requiring the direct involvement of academic teachers and students. Distance learning methods and techniques, including virtual laboratories, may only be of assistance to this extent.

The majority of Colleges and Universities also have internal regulations governing the organisation and functioning of e-learning. These regulations are issued under the rector's management and ordinances, resolutions of the senate or faculty councils, and regulations of the e-learning units coordinating activities in this field at the university level.

PRESENTATION OF THE CENTRE FOR OPEN AND DISTANCE EDUCATION

General Information

One of the largest Polish e-learning academic unions is the Centre for Open and Distance Education at Warsaw University of Technology – CODE WUT (OKNO: Ośrodek Kształcenia na Odległość [Centre for Open and Distance Education]). Using the internet and media the Centre organises,

informs and co-ordinates regular as well as long distance learning. The aim of CODE WUT is also to aid and promote new technology growth and forms of education, based on the latest internet and teleinformatique, as well as coordinating international partnership of the Warsaw University of Technology in that scope. CODE WUT tasks include (Maleńczyk, 2015):

1. Organising and coordinating I and II level e-students, post-graduate and short-term.
2. Coordinating preparation of didactic materials and overseeing this process.
3. Promoting and coordinating WUT open education and distance learning actions though the Internet.
4. Conducting research programmes.
5. Assisting preparation of teachers to lead distance lessons.
6. Inspiring and conducting exhibition work promoting using of education techniques supported by teleinformatique tools.
7. Organising science education conferences and seminars treating distance learning.

Implementing the above mentioned tasks the centre cooperates with basics and other organisational units from Warsaw University of Technology organisations taking part in distance learning, also (as much as needed) with other schools, science institutes and specialised institutions from Poland and abroad. CODE conducts lessons in cooperation with three WUT faculties: Electronics and Information Technology, Mechatronics and Electrical Engineering. The research and teaching staffs of the centre are accompanied by members of other faculties, such as: Physics, Mathematics & Information Science, Production Engineering, Management and Administration & Social Science.

Table 2: CODE - Fact and Figures (Data for 2017/2018)
(Source: Own work)

Type	Value	Notes
Faculties	3	
Fields of study	4	
Specialisations	9	
Students	Approx. 1000	700 (B.Sc.), 300 (M.Sc.)
Employers	12	
Academic teachers	Approx. 120	
Courses	Approx. 150	
Laboratory rooms 2	2	+ faculty resources
e-Learning platforms	2	

Table 2 presents the most important quantitative information on the functioning of the centre

Organisational Structure and Financing Actions

The organisational structure of CODE (Figure 1) is a typical functional structure, incorporating functional sectors lead by specialists. The work of the Centre is directed by the Head Director, who is responsible for its functioning to the rector. The Dean proxies have direct didactic supervision over the Centre (heads of institutions conducting extramural distance studies organised by the Centre). CODE carries out its goals on the basis of annual work plans prepared by the Head, in agreement with Programme Board CODE, whose function is planning and opinionating actions.
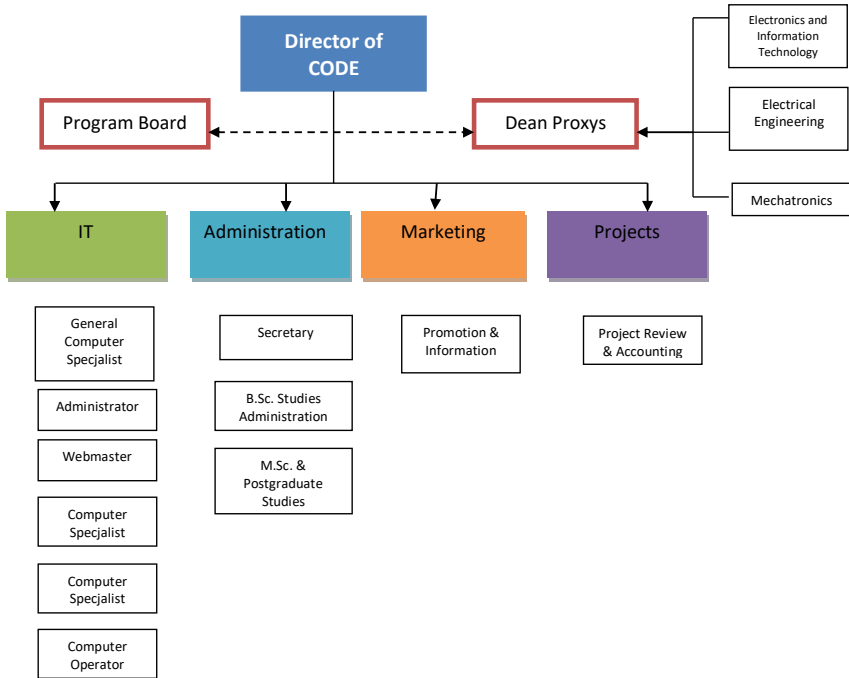
Figure 1: Organisational Structure of CODE WUT
Source: Own work

The Centre for Open and Distance Education (CODE) activity is financed by:
- Part of I and II level studies fees;
- Student payments from post-graduate studies and courses led and coordinated by the centre;
- Income from research programmes financed by the Ministry of Science and Higher Education, European funds and other work;
- Income from projects carried out within the European distance learning programmes;
- Direct payment from WUT budget;
- Direct payment from sponsors outside WUT.

Business Process Modelling Notation in the Example Case of CODE

Business processes occurring in the Centre can be identified and analysed according to their structure using BPMN grading (Business Process Modelling Notation). The process involves a section of centrum activity, where a new teaching programme is the stimulus to engage in studies. An example of such analysis of key centre activity (i.e. recruitment and conducting studies) using BPMN is shown in Figure 2.
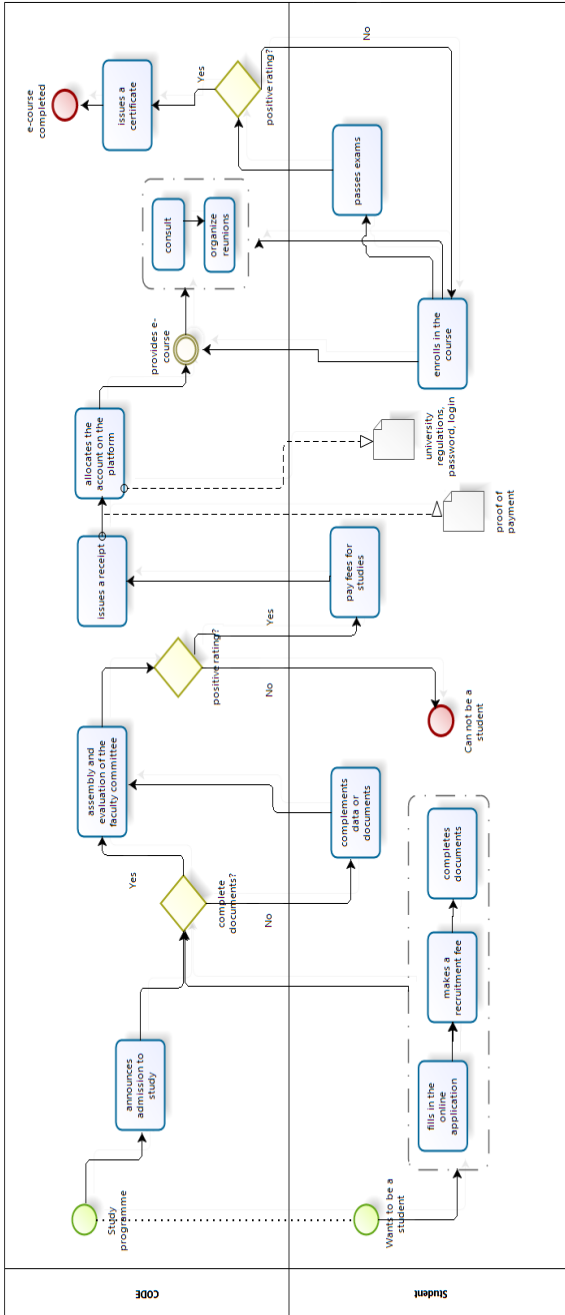
**Figure 2: Core Business Process CODE
(Source: Own work)**

The model presents a clear and logical organisation of tasks (operations, events and processes) that make up the whole system. In a given situation it is a guarantee of eliminating organisational obstacles by way of student certification.

The presented process model can be used to visualise the recruitment path and organisation of the online study process to future users (students). In addition, this model can be used to build a user-friendly graphical user interface, which clearly guides the person who is interested to register as soon as possible.

Code's Extra-Curricular Activity

CODE WUT actively participates in multiple activities aiming to propagate e-education and environment integration. Among the activities of this type are listed as below:

- PTNEI (Polish Learned Society for the Internet-Based Education);
- Conferences (Virtual University: model, implements, practice) since 2001;
- Seminar – Progress on the Internet-Based Education, since 2009;
- Projects co-financed by the European Union (since 2003 CODE WUT carries out at least one project per year).

PTNEI gathers people dealing in educational activities using the latest information technology. It was formed in need of acting on behalf of development and growth of e-education in Poland, functioning within the guidelines of association law. It is a legal entity (Maleńczyk, 2015; PTNEI: Polskie Towarzystwo Naukowe Edukacji Internetowej [Polish Learned Society for the Internet-Based Education]).

Since the academic year 2009/2010, and under PTNEI patronage, an open environment seminar 'Internet Education Progress' has been launched. The theme of this seminar can be broadly described as education using internet, multimedia techniques, and informatics and telecommunications tools. The seminar meetings are held once a month throughout the whole academic year.

Since 2001, CODE WUT, together with the University of Warsaw, Polish-Japanese Academy of Information Technology, along with Warsaw University of Life Science organise a yearly conference called Virtual University: Model, Tools, Practice.

EDUCATIONAL OFFER AND MODEL OF STUDIES

Faculties and Specialisations

CODE offers non-stationary Internet studies on the following levels:
- Engineer;
- Master of Science;
- Postgraduate;
- Specialist Courses.

The system of studies is compliant with The Bologna Declaration on the European Space for Higher Education. CODE offers programme of studies compliant with requirements and education standards of the faculties of Warsaw University of Technology.

CODE education offers are listed specifically in Table 3. The offer is based on cooperation of Centre of Open and Distance Education with three faculties of Warsaw University of Technology (Kula & Gładysz, 2008; Kula & Gładysz, 2009).

Table 3: Description of CODE Courses
(Source: Own work)

Course Title	Duration	Field of study	Specialisations	Faculty
1. Extramural Engineering B.Sc. Studies	Four-year	1.1. Electronics and telecommunication	1.1.1. Computer engineering	Faculty of Electronics and Information Technology
			1.1.2. Multimedia techniques	
			1.1.3. Teleinformatique	

		1.2. Information technology	Applied informatics	Faculty of Electrical Engineering
		1.3. Automation and Robotics	Industrial informatics	Faculty of Mechatronics
2. Extramural Interfaculty M.Sc. Studies	Two-year	2.1. Information technology	Internet systems management support	Faculty of Electronics and Information Technology
			2.1.1. Software engineering 2.1.2. Information technology in business	Faculty of Electrical Engineering
3. Postgraduates Studies	One-year	3.1 Information Technology and Internet Techniques		Faculty of Electrical Engineering

SPRINT Model of Studies

CODE WUT has designed and implemented its own model of distance studies –SPRINT. The key foundation of the SPRINT model is the individualisation of the key aspects of studying via internet: pace, place and studying time. Fulfilling these is made possible with constant technology updates, providing distance education in the SPRINT model, special focus on the e-learning platform and tools intended for creating didactic material.

The SPRINT model assumes leading didactic classes by means of three basic forms of student activity: course, laboratory meeting and degree (Figure 3).

Figure 3. The General Model of Studies in CODE
Source: Own work

Course

The didactic online time is realised according to the studies schedule in specific time-frames, based on base didactic material - the e-textbook. Upon completing subject courses, the student is in constant asynchrony and synchronic contact with the teacher. The intensity of these contacts, and choice of communication channels, are dependent on the specific subject and the teachers' preference. Online classes for each subject are intermixed with traditional classes. The curriculum and order of traditional classes are individually tailored to each subject. Each class subject ends with an exam.

Laboratory meeting

Weekly stationary classes which focused on intensive workshops, conducted in the schools on-site laboratories. Classes are held daily and are segmented into thematic blocks lead by lecturers of given subjects. A laboratory meet is held once a semester, thus the thematic blocks of the meet regard subjects realised during a given semester.

Degree thesis

A diploma project prepared by students during the two last half-semesters under the supervision of a Diploma Promotor. A diploma work concerns the practical implementation of knowledge and abilities gained during studies. The themes and schedule of the work are determined by the

student and guardian. This is an individual piece of work by the student together with the leader, realised with the use of virtual laboratories, as well as direct individual contact and with the use of the e-learning platform.

Academic Year Calendar

The studies that are currently offered via Internet (SPRINT) enable an individual programme to be conducted. The academic year is divided into four half-semesters (spring, summer, autumn, winter) lasting eight weeks each. During a single half-semester, students usually complete two to three subjects, although sometimes only one. The number of subjects within one half-semester depends on the student's choice. Thus, such a division leads to a better organisation of the student's worktime and helps them manage their progress in studies.

The form of the completion of the lectures during studies is the stationary exams. Such exam is being led in a traditional way by the university. Laboratories and selected projects are managed during weekly on-site conventions (PTNEI: Polskie Towarzystwo Naukowe Edukacji Internetowej [*Polish Learned Society for the Internet-Based Education*]).

1st year	2nd year	3rd year	4th year
Laboratory meeting 1	x	x	x
half -semester 1	half-semester 5	half-semester 9	half-semester 13
half-semester 2	half-semester 6	half-semester 10	half-semester 14
half-semester 3	half-semester 7	half-semester 11	half-semester 15
half-semester 4	half-semester 8	half-semester 12	half-semester 16

Laboratory meeting 2	Laboratory meeting 3	Laboratory meeting 4	Laboratory meeting 5
BASIC COURSES	FIELD OF STUDY COURSE		SPECIALISED COURSE
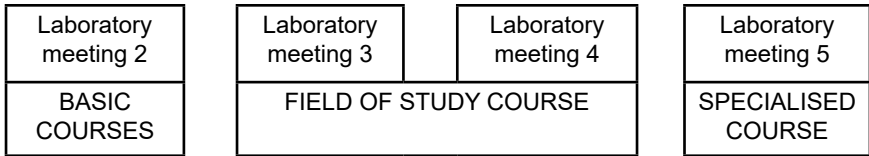
Figure 4: The SPRINT Model
(Source: Own work)

Contact with the Teacher

During the accomplishment of each of the subjects, the students remain under constant supervision of their guardian. The available didactic materials on the platform act as the base for the subject - the key element is still the didactic process on the e-learning platform, which relies on constant contact between student and teacher. This contact is enabled by synchronic tools: messengers and virtual classes - as well as asynchronous tools: e-mail, discussion forum, subject WWW pages, and open tasks.

Stationary Classes, Accounting and Project Exercises

During the eight week of the semester, traditional classes with workshops and exercises are organised at the school. These are an obligatory element of the subject in the SPRINT model. Classes are usually held on Saturdays, during which students learn practical abilities and have a chance to discuss online classes (e.g. they can solve problems arising during realising online material).

Exams and Passing Tests

Passing classes are held in the school. These are exams or passing tests conducted in project form. Exams are held usually in the eighth or ninth week of the semester.

E-learning Platforms

Currently the Centre uses two LMS (Learning Management System) class platforms.

SAS:
• Proprietary Studies Administration System,

Moodle:
- Bachelor's and master's degree studies,
- Postgraduate studies,
- Courses, projects.

Academic Textbooks

Academic textbooks are developed by school professors and lecturers, according to course programmes accepted by the Faculty of Electronics and Information Technology, Faculty of Electrical Engineering, Faculty of Mechatronics.

E-books and material preparation is a branch of the IT team of Centre of Open and Distance Education. For e-books CODE uses self-made template. Such template is based on HTML files with the course content. Sometimes the pure HTML is not enough. That is why technologies like Flash, Java, and Java script are used. Recently video layers to e-books have been added. The recordings are converted into FLV files and are included in the e-book. Moreover, for interactive courses presentations that connect PowerPoint slides with voice or even video comment are being built. Preparation of the full interactive courses, tests, are tutorials are also possible.

Course	Learning Units	Learning Unit 1
Author's note	Chapter 1:	Introduction, objectives
Requirements for computer	LU 1.1 LU 1.2	Knowledge segments
How to use an electronic book	LU 1.n	Problems
What to know, to understand	Chapter 2:	Exercises
Learning Units	LU 2.1 LU 2.2	Glossary
Examination requirements	LU 2.n	Bibliography

HTML version		PDF or HTML version

Figure 5: Structure of the Academic Textbooks
Source: Own work

Lecture materials would be enriched according to the possibilities, using graphics and illustrations, animations, video and audio clips with explanations and comments, multimedia presentations, questions and tasks with or without key.

The distribution of textbooks is in both forms: PDF documents form (review possible by the use of free Acrobat Reader Programme) as well as HTML version - shared on e-learning platforms.

E-learning in the Student's Opinion

The Centre regularly conducts surveys to identify students' opinions on the effectiveness and satisfaction of e-learning (Kula & Plebańska, 2011). The responses given by the students participating in the study indicates that e-studies are considered useful both in the context of student self-development and the position of the employee in the company. The content level of e-studies is assessed as high. Students also highly evaluate e-learning as a form of training for active people.

The main barrier to the implementation of e-studies is that the respondents are limited in contact with the persons conducting the classes (Kula & Plebańska, 2012). A possible recommendation to solve this problem will be the introduction of obligatory online consultations in the course of conducted subjects. The didactic effectiveness of this type of studies is, according to students, comparable to the effectiveness of traditional methods of acquiring knowledge. Both the value of knowledge and skills acquired during e-learning and the level of overall e-learning satisfaction are highly evaluated.

CONCLUSIONS

CODE WUT education offer is systematically enriched by creating new studies and specialisations, as well as using new and advanced multimedia tools used to be used in preparing the course subjects. It is necessary to prepare new tools to conduct projects and computer simulations using advanced software, and enabling distance experiments and laboratory work.

Another important future issue is creating a network of schools, which would be able to offer similar studies based on the same didactic material and software. This dispersed network will allow the students to interact and contact with their teachers, thus broadening the subject and specialisations offer, and will significantly lower the cost of material preparation.

CODE established its main directions of development. These are:
- Continuous technological improvement;
  Improving applied information technologies, implementing new technologies and improving hardware and software.
- Utilisation of internet courses for conventional studies;
  Internet courses are excellent forms of supporting conventional studies, allowing automation and improvement of communication process between lecturer and students.
- New forms of didactical and science materials;
  Adding open access materials and publications.

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THE EFFECT OF PLANNED BEHAVIOUR THEORY ON AGROPRENEURSHIP INTENTION: THE MODERATING ROLE OF GENDER

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ABSTRACT

Agriculture is the second largest contributor to Sabah's Gross Domestic Product (GDP), with an average contribution of 24% annually. It is also proven in many third world countries that investment in agriculture plays a crucial role in poverty reduction, providing more job opportunities, and ensuring food security. Sabah recorded the highest rate of unemployed youth in 2018 and remained as the state with the highest score of hardcore poor people in Malaysia; thus, Sabah will be economically benefited from agricultural growth. However, the number of youth participation in the agriculture sector is still low at a rate of approximately 15%. Agricultural entrepreneurship or also known as agropreneurship among youth, needs to be broadened to promote greater opportunities in the agriculture sector. Therefore, using the Theory of Planned Behaviour (TPB), this research examines agropreneurship intention and the moderating effect of gender among youth in Sabah, Malaysia. A total of 382 youth

participated in the survey. Partial Least Squares-Structural Equation Modeling 3.0 was used to analyse the collection of data. The results found that attitude of the youths towards agropreneurship and perceived behavioural control have a positive effect on agropreneurship intention. Meanwhile, subjective norms did not have a significant effect on agropreneurship intention, and gender has no moderating effect. In line with the first Sabah Agriculture Blueprint 2021–2030, this study intends to contribute to the formulating of policies and relevant programmes, especially in accelerating agropreneurship participation. It also contributes to Sabah's aspiration of becom-ing a hub for the agriculture sector in this region.

INTRODUCTION

Food security is a major worldwide concern and will continue to be a global issue for the next 50 years and beyond (Rosegrant, 2003). Food security refers to the state of having reliable access to sufficiency and nutritious in food. The biggest challenge for ensuring global food security is to sustain agricultural growth in order to increase productivity and food supplies (Singh, Chintagunta, Agarwal, Kureel & Kumar, 2020). Thus, to ensure that food security is established, there is a need to design programmes and policies for agricultural growth unceasingly. Among the critical initiative is to encourage youth participation in agropreneurship (Yusoff, Ahmad, & Halim, 2016b). Agropreneur or agricultural entrepreneurs continuously develop more new products and strive to increase not only the production aspect but also the food quality, innovations in the business process, distribution, and marketing (Pindado & Sánchez, 2017; Dias, Rodrigues, & Ferreira, 2019).

Apart from food security, agriculture remains a significant part of Malaysia's economy. In 2018, the agricultural sector contributed 7.3%

(RM99.5 billion) to the Gross Domestic Product (GDP) (Malaysian Department of Statistics, 2020). Evidently, the agriculture sector provides job opportunities, increase food security, improve the food self-sufficiency level (SSL), and reduce the reliance on food imports. It is also widely known that in developing countries, investment in agriculture is more effective in reducing poverty than in the non-agricultural sector (Christiaensen, Demery, & Khul, 2011). The agriculture entrepreneurship is well suited for Sabah state since Sabah recorded the highest number of unemployed youth as well as the highest number of extremely poor people in Malaysia.

Given the importance and contribution of the agriculture sector, Malaysia's government has placed great emphasis on the development of modern agriculture in this country by promoting more agricultural entrepreneurship or agropreneurship in this field. In addition to providing various monetary and non-monetary assistance for the agriculture sector, the government is also actively promoting the sector through the slogan 'agriculture is businesses' to attract more youth participation in agropreneurship. This slogan aims to create awareness and encourage more people to view agriculture as an entrepreneurship activity that generates income rather than just for self-consumption (Yusoff, Ahmad, & Halim, 2016a). Recently, Sabah launched the first blueprint for the agriculture sector. The ten-year blueprint or known as Sabah Agriculture Blueprint 2021–2030, aims to boost the agriculture sector to ensure food security and attract public participation, especially among youth (eBook Sabah Agriculture Blueprint 2021–2030).

Unfortunately, although the Malaysian government has shown considerable amount of intention to modernise the agriculture sector, the local youth is generally still uninterested in agropreneurship (Kamaruddin, Abdullah & Ayob, 2018; Yusoff *et al*., 2016a). The youth perceived agriculture with negative images, such as filthy, exhausting, and uncertain income (Abdullah & Sulaiman, 2013). According to the numbers, only 15% of youth participated in the agriculture sector (Abdul Kadir, 2014). Many of the individuals found to be involved in agropreneurship such as farming were aged 50 years and above (Ahmad, 2020). Therefore, future agropreneurs should be groomed and familiarised with the sector, especially among the youth (Yusoff, 2017). The growing global demand for agricultural products provides great potential to develop more youth agropreneur. Youth

agropreneur is the key to explore and build the agro-food industry into becoming a competitive and sustainable industry.

Therefore, it is crucial to identify factors that influence youth intention to get involved in the agricultural sector. The main purposes of this research are to examine the relationship between each of the Theory of Planned Behavioral (TPB) dimensions (attitude, perceived behavioural control, and subjective norm) and agropreneurship intention among youth in Sabah, Malaysia, and the moderating effect of gender. TPB is one of the most influential factors affecting entrepreneurial orientation. However, TPB is rarely used in predicting agropreneurial intention. This can be seen in some research that tend to overlook the agricultural sector for an extended period (Fitz-Koch, Nordqvist, Carter & Hunter, 2017). Through the findings, results indicate males are seen to dominate the agriculture sector which is imperative to investigate the moderating effect of gender on the relationship between TPB and agropreneurial intention. However, there is a possibility that with the current technology and advancement, female intention to participate in agropreneurship are said to be expedited.

LITERATURE REVIEW AND HYPOTHESES

Agropreneurship Intention

Agropreneurship aims to modernise and promote the establishment of enterprises in the agricultural industry. At the same time, it could be considered as an attempt to establish an organisation that combines the innovative aspect of agriculture. An agricultural entrepreneur or agropreneur is also known as a person who makes improvements that leads to higher agriculture production (Dias *et al*., 2019). Agropreneurship has become increasingly important in both agriculture and entrepreneurship, particularly in the definition of new and modern agriculture (Yusoff, Ahmad, & Halim, 2017), where innovation, satisfaction, and new consumer expectations are the primary concern in the agriculture sector (Nnodim & Aleru, 2020).

On the other hand, the ability of the intention to predict human behaviour is the key argument of entrepreneurial intention studies. Intention can be defined as a cognitive predictor of a person's readiness to execute a given behaviour (Shook & Bratianu, 2008). Entrepreneurial intention refers to 'the conscious state of mind that precedes action and directs attention toward entrepreneurial behaviours, such as starting a new business and becoming an entrepreneur' (Moriano, Gorgievski, Laguna, Stephan, & Zarafshani, 2012, p. 165). Accordingly, agropreneurial intention can be defined as a person's willingness to be self-employed by creating a new agricultural- based business venture to pursue capital (Yussof, *et al*., 2016b). Among the competing intention models used in numerous intention studies is the Theory of Planned Behavior (Ajzen, 1987).

Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is an extension of the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980). These models are based on the assumption that individuals make rational, reasoned decisions to participate in specific behaviours by evaluating the available information. The success of behaviour is determined by the person's intention to participate in the process, influenced by the ease with which it can be, their belief to overcome the barriers, and the perceptions of significant others (Ajzen, 2002).

Extensive research and meta-analytical reviews provide strong empirical support for TPB as a powerful model to explain and understand entrepreneurial intention (Vamvaka, Stoforos, Palaskas, & Botsaris, 2020). The ability of a TPB model to predict the entrepreneurial intention in previous research using the value of variance was about 35% in the U.S.A. (Krueger,Reilly, & Carsrud, 2000), 27% in South Africa (Gird & Bagraim, 2008), and 40% in Turkey (Ozaralli & Rivenburgh, 2016). According to Cohen (1988), the value of variance that exceeds 26% is substantial. In short, the TPB model provides a substantial explanation of entrepreneurial intention.

The influence of attitude towards agropreneurship on agropreneurship intention

In this study, attitude towards agropreneurship is defined as the desire or not keen towards agropreneurship activities based on their individual's perception of agropreneurship (Chen & Lai, 2010; Krueger *et al.*, 2000; Liñán & Chen, 2009). Ajzen and Fishbein (2000) defined attitude as the general feeling of an individual's favourableness towards anything that can evoke a response from an individual. Attitude towards a specific object will automatically occur if individuals hold a belief about an object. Zampetakis, Anagnosti and Rozakis (2013) carried out an analysis and found that the attitude towards agropreneurship influence the youth's agropreneurship intention in Greece and India. Another empirical evidence among youth in South Africa indicate a higher entrepreneurial attitude that led to greater consequences of agropreneurship intention (Saheed & Kavoos, 2016). Similarly, a study conducted by Ambad and Damit (2016) among undergraduate students in Malaysia found that personal attitude is the most significant predictor of entrepreneurial intention compared to other TPB dimensions (Beta value=0.667). Additionally, a meta-analytic study by Schlaegel and Koenig (2014) showed a greater understanding of entrepreneurship by those with positive attitudes towards entrepreneurial practices. The youth's positive attitude towards agropreneurship, such as enthusiasm and determination, encourage them to be involved in agropreneurship (Yusoff, Ahamd & Halim, 2017). In short, the attitude towards agropreneurship is, therefore, expected to increase agropreneurship intention. Thus, the following the first hypothesis of this study is formulated:

Hypothesis 1: Attitude towards agropreneurship positively influences agropreneurship intention.

The influence of perceived behavioural control (PBC) on agropreneurship intention

Perceived behavioural control is the individuals' ability to control the probable consequences and their belief in overcoming challenging encounters in the agropreneurship process (Ajzen, 1991; Ajzen, 2002; Kolvereid, 1996). Lately, PBC has been debated among scholars due to the

ambiguity of the empirical findings concerning its effect on intention, partly because of the uncertainty over its conceptualisation and operationalisation (Vamvaka *et al*., 2020; Yap, Othman, & Wee, 2013). Originally, Ajzen (1985) developed PBC as a one-dimensional construct, almost similar to Bandura's (1977) social learning self-efficacy paradigm, which is the perception of an individual's ability to execute courses of action required to deal with prospective situations. The belief that the PBC and self-efficacy processes are mostly similar has inspired some researchers to replace PBC with the self-efficacy construct in their studies (Krueger *et al*., 2000; Moriano *et al*., 2012). However, the current study examined PBC using the initial unidimensional construct developed by Ajzen (1985).

It has been found that youth who recorded a high level of PBC, have better perception of business viability (Yusoff, Ahmad & Halim, 2019). In the aspect of agropreneurship behaviour, PBC is considered to help establish an agro-based enterprise (Eid, Badewi, Selim & El-Gohary, 2019). Equivalently, individuals who are confident that the potential outcomes of agropreneurship would be more motivated to venture into agropreneurship. PBC in regard to agropreneurship intention among youth is highly probable, due to their inclination towards challenging and harsh conditions naturally found in the agricultural sector, which could instigate their interest in agropreneurship (Yusoff *et al*., 2017). Therefore, the second hypothesis is formulated:

Hypothesis 2: Perceived behavioural control positively influences agropreneurship intention.

The influence of subjective norm (SN) on agropreneurship intention

Although it has been theorised that individuals with higher subjective norms will, in turn, have higher levels of entrepreneurial intentions, the findings are inconsistent (Luc, 2018). Subjective norms refer to the support from the key person or group of people on a particular decision. Subjective norms are determined by the perceived social pressure to comply with others' views (Ajzen, 1991). In this study, the subjective norms consist of support from family, close friends, and colleagues, as proposed by Kolvereid (1996).

In previous studies, the effect of subjective norms on intention formation proved to be generally weaker than the influence of attitudes (Ham, Jeger, & Ivković, 2015). Furthermore, Krueger, Reilly, and Carsrud (2000) found that subjective norms are not correlated with individuals' intention to set up their businesses. Interestingly, if the person possesses a high internal locus of control and has a strong orientation towards taking action, subjective norms are less predictive of intentions (Ajzen, 1987; Bagozzi, Baumgartner & Yi, 1992).

However, numerous research works found that subjective norms have a significant influence on entrepreneurial intention. The study conducted by Soon, Rahman, and Nadia (2016) found that subjective norms have the strongest effect on entrepreneurial intention among youth in public universities in Malaysia. Similarly, the meta-analytic test conducted by Schlaegel and Koenig (2014) found that subjective norms positively influenced the entrepreneurial career choice. A recent study conducted among 523 students from different universities in China Zhejiang province revealed that subjective norms positively influence entrepreneurial intention (Shi, Yuan, Bell & Wang, 2020). Furthermore, subjective norms are essential for explaining agropreneurship intention, especially among youth in Malaysia (Awang, Amran, Nor, Ibrahim, & Razali, 2016; Saraih, 2019). Therefore, the third hypothesis is suggested:

Hypothesis 3: Subjective norm positively influencing agropreneurship intention.

The Moderating Role of Gender on Theory of Planned Behaviour and Agropreneurship Intention

Gender remains an area in which specific business education initiatives may be created to reduce gender influence in the development of new businesses. Besides that, Haus, Steinmetz, Isidor and Kabst, (2013) found that women are far less likely than men to turn their thoughts into action. The results of research by Indarti and Rostiani (2008) and Ooi and Ahmad (2012) revealed that the link between gender and entrepreneurial purpose is substantial. Another research by Brenner, Pringle, and Greenhaus (1991) suggested that women favour opportunities that could improve their potential

skills and abilities, which encourage them to seek appropriate jobs that fit their needs. In contrast, men prefer higher income, uncertainties, and scrutiny (Verheul, Thurik, Grilo & Van der Zwan, P., 2012). Thus, the socio-cultural element that influences entrepreneurship may have different effects on both genders (Karimi *et al*., 2013). Majority of registered entrepreneurs in Malaysia are males, whereas women only owned 20.6% of the business establishment. Moreover, women entrepreneurs account for only 9.8% of the total ASEAN population (SMECorp, 2019). In general, the agriculture sector is a male-dominated job (Shisler & Sbicca, 2019). Therefore, based on the above findings, attitude towards agropreneurship, PBC, and subjective norms are projected to indirectly influence youth's intention to become agropreneurs through the moderating role of gender. Thus, the following hypotheses are constructed:

Hypothesis 4a: Gender moderates the relationship between attitude towards agropreneurship and agropreneurship intention. The impact of attitude towards agropreneurship on agropreneurship intention is higher among male youth and lower among female youth.

Hypothesis 4b: Gender moderates the relationship between perceived behavioural control and agropreneurship intention. The impact of perceived behavioural control on agropreneurship intention is higher among male youth and lower among female youth.

Hypothesis 4c: Gender moderates the relationship between subjective norms and agropreneurship intention. The impact of subjective norms on agropreneurship intention is higher among male youth and lower among female youth.

Conceptual framework

The framework of this study is shown in Figure 1. The independent variables are the three dimensions of TPB, namely, attitude, perceived behavioural control, and subjective norms, while gender is used as a moderator.

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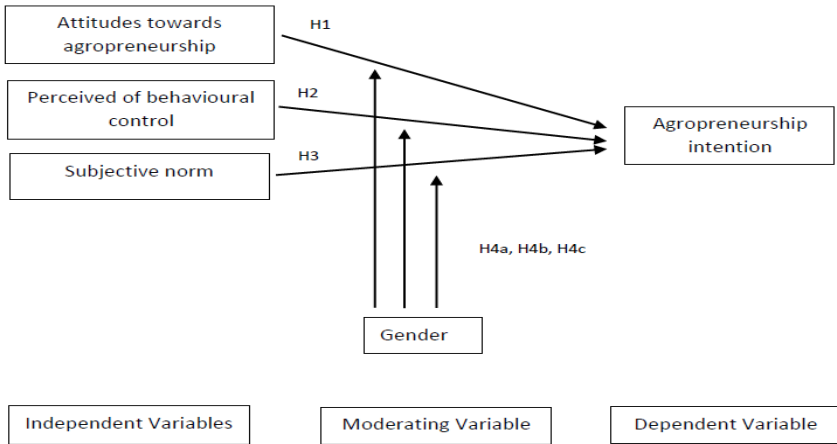
Figure 1: Conceptual Framework

METHODOLOGY

Respondent Profile

Respondents of this study are youth aged ranging from 18 to 30 years old from Sabah. This definition is based on the new amendment made to the Youth Societies and Youth Development Act (Amendment) Bill 2019. Respondents were selected based on the eligibility criteria established for the selection of the samples. A total of 400 questionnaires were distributed to youth in Sabah. After removing questionnaires with incomplete answers and irrelevant, the remaining samples consisted of 382 respondents (191 males and 191 females). Most of the respondents were aged between 18 to 20 (202), demonstrating a valid per cent of 52.9%. Out of 382 respondents, 108 respondents were between 21 and 23 years old (28.3%). Respondents with the age of 24–26 were 16.8% (64); meanwhile, there were only 8 (2.09%) respondents aged 27–30. With regards to the respondents' educational level, the data showed that the majority of the respondents were Diploma's holders or 52.9% (202), which exceeded those with SPM/

STPM/Sijil SKM qualification or 27.7% (106) of the total respondents. Bachelor's degree holder respondents represented approximately less than half of the SPM/STPM/*Sijil SKM* respondents or 17.3% (66). Additionally, 6 (1.6%) and 2 (0.5%) respondents were Master's holder and a doctorate's holder, respectively.

Sampling Technique and Data Collection Method

Convenience sampling was used as the sampling technique in this study. Convenience sampling refers to the collection of information from sample who are accessibly available to provide it. Convenience sampling is perhaps the best way to quickly and efficiently obtain information (Sekaran & Bougie, 2016). The self-administered questionnaire was used to collect data in-person, while electronic questionnaires were sent to the population of youth in several colleges and universities in Sabah. The data collection was conducted in March 2020, and the information obtained was analysed using the statistical Smart PLS 3.2.9 software.

Measurement

Measurements used in this study were adapted and modified from previous research. Firstly, attitude towards agropreneurship employed six items adapted and modified from Liñán and Chen (2009). The second measurement; perceived behavioural control (PBC) was also measured using six adapted and modified items from Kolvereid (1996). Thirdly, the independent variable, subjective norm (SN), was measured using four items, as suggested by Autio, Keeley, Klofsten, Parker & Hay (2001). The six items used for the dependent variable were developed by Thompson (2009), which have been adapted and modified. A 5-point Likert scale was used to reflect the respondents' answers.

DATA ANALYSIS AND RESULT

Reliability and Validity of Measurement

In PLS-SEM, the first stage is to perform the measurement assessment

to ensure that all variables' validity and reliability are satisfactory prior to hypotheses testing. In this stage, the following assessments were performed:

i. Internal consistency – Cronbach's Alpha, Composite reliability, ρA-Dijkstra – Henseler's rho,
ii. Convergent validity – Factors loading and Average Variance Extracted-AVE), and,
iii.Discriminant Validity – Fornell and Larcker Criterion, Cross Loadings and Heterotrait-Monotrait Ratio of Correlations (HTMT)

As shown in Table 1, only 1 item from PBC was removed due to low loading (less than 0.7), as suggested by Chin (1998). After the item was removed, all internal consistency and convergent validity were satisfactory. Each construct achieved the composite reliability coefficients above the recommended cut-off of 0.7 (see Table 1). Therefore, the items within each variable show high internal consistency and high reconstruction of the findings, as suggested by Fornell and Larcker (1981).

Table 1: Internal Consistency and Convergent Validity

Variables and Items	Loading	Composite Reliability	AVE
Agropreneurship Intention (AI)		**0.952**	**0.768**
I intend to start my own agropreneurship business in the future.	0.864		
I am constantly looking for agropreneurship opportunities.	0.860		
I start saving to have my own agropreneurship business.	0.867		
I read books on procedures for initiating agropreneurship business.	0.847		
I make plans to start my own agropreneurship business.	0.919		

I dedicate time to learn how to create an agropreneurship business.	0.898		
Attitude		**0.921**	**0.660**
In my opinion, being an agropreneur has more advantages than disadvantages for me.	0.724		
I like to make a career as an agropreneur.	0.837		
If I had the opportunity, I would start my own agropreneurship business.	0.854		
If I had the resources, I would start my own agropreneurship business.	0.775		
In my opinion, being an agropreneur gives me great satisfaction.	0.847		
Among several options, I would rather choose to become an agropreneur as a career.	0.831		
PBC		**0.854**	**0.543**
If I wanted, I could easily become an agropreneur.	0.759		
In my opinion, by becoming an agropreneur, I would have sufficient control over my business.	0.794		
There are very few circumstances outside my control that may prevent me from becoming an agropreneur.	0.575		
If I become self-employed in the agriculture sector, the chances of success would be very high.	0.809		

If I pursue a career as a self-employed in the agriculture sector, the chances of failure would be very low.	0.722		
SN		**0.926**	**0.758**
If I become an agropreneur, my family would consider it to be a good career.	0.836		
If I become an agropreneur, my close friends would consider it to be excellent.	0.897		
If I become an agropreneur, my colleagues would consider it to be marvellous.	0.891		
If I become an agropreneur, other people close to me would consider it to be wonderful.	0.858		

DISCRIMINANT VALIDITY

The discriminant validity of Fornell and Larcker Criterion, Cross Loadings, and Heterotrait-Monotrait Ratio of Correlations (HTMT) was performed, which demonstrated adequate Fornell and Larcker's criterion. In addition, the cross-loading indicates that discriminant validity is achieved, as the constructs are distinctly different from each other. The result in Table 2 shows that HTMT values fulfil the recommendations by Henseler *et al.* (2015), which are not more than 0.90. Hence, demonstrating evidence of discriminant validity that indicates the degree to which one construct differs from the other.

Table 2: HTMT

	Agropreneurship Intention	Attitude	PBC	SN
1. Agropreneurship Intention				
2. Attitude	0.733			
3. PBC	0.697	0.756		
4. SN	0.550	0.733	0.697	

HTMT<0.90

Results of Hypotheses Testing

The second stage in Smart-PLS is the assessment of the structural model or hypotheses testing. The hypotheses in this study were tested using the bootstrap re-sample technique with an iteration of 5000 sub-sample. As shown in Table 3, the attitude towards agropreneurship (H1: β = 0.488, p =0.000), and the perceived behavioural control (H2: β = 0.282, p =0.000) were positively related to agropreneurship intention. Meanwhile, subjective norm ((H3: β = 0.024, p =0.355) has an insignificant relationship with youth's agropreneurship intention. Besides that, Table 4 also exhibits the moderating effect of gender. Contrary to the expectation, all hypotheses were not significant. Therefore, H4a, H4b, and H4c were not supported.

Next, the effect size of the independent variables was assessed to determine their effect on agropreneurship intention. As suggested by Cohen (1988), the effect size ($f2$) values above 0.02, 0.15, and 0.35 represent small, medium, and large effects. Thus, as shown in Table 3, the $f2$ values of attitude ($f2$ =0.231, PBC, $f2$ = 0.088) and subjective norm ($f2$ = 0.001) suggested that attitude has a medium effect size, and both PBC and subjective norm have small effect size on agropreneurship intention. The R2 value is 0.511, which indicates that 51.1% of the variance in agropreneurship intention can be explained by the attitude towards agropreneurship, perceived behavioural control, and subjective norm. According to Cohen (1988), R2 value exceeds 0.26, indicating its substantial level of predictive accuracy. Lastly, the predictive relevance (Q2) of the model was assessed using the blindfolding procedure. Q2 values for the endogenous are found to be greater than zero(Q2=0.387), indicating that the model possesses a predictive quality (Hair *et al*., 2017).

Table 3: Hypotheses and result for Direct Effect

	Relationship	Path coefficient	Standard Deviation (STDEV)	T value	LLCI (5%)	ULCI (95%)	Supported	f2	R2	Q2
H1	Attitude -> AI	0.488***	0.056	8.802	0.353	0.541	Yes	0.231	0.551	0.387
H2	PBC -> AI	0.282***	0.054	5.188	0.122	0.305	Yes	0.088		
H3	SN -> AI	0.024	0.06	0.373	-0.104	0.084	No	0.001		

Table 4: Hypotheses and Result (Moderating Effect)

	Relationship	Path coefficient	Standard Deviation (STDEV)	*T* value	LLCI (5%)	ULCI (95%)	Supported
H4a	Att*Gender -> AI	0.002	0.06	0.04	-0.097	0.106	No
H4b	PBC*Gender -> AI	0.009	0.052	0.125	-0.081	0.091	No
H4c	SN*Gender -> AI	0.023	0.06	0.416	-0.073	0.125	No

DISCUSSION

The main objectives of this study are to examine the effect of TPB on agropreneurship intention among youth in Sabah, Malaysia, and to determine the moderating effect of gender in the relationship between the two. Several important implications that apply to academicians and policymakers can be drawn from the findings. Firstly, the results show that attitude towards agropreneurship has the strongest relationship dan effect on agropreneurship intention. This finding is similar to Ambad and Damit (2016), who found that if youth perceived agropreneurship as favourable and desirable, it would increase their intention to become an agropreneur. Likewise, this study's finding corroborates the research in other countries, such as in Greece (Zampetakis *et al.*, 2013) India (Devi, 2015), and in South Africa (Saheed & Kavoos, 2016). In short, the youth attitude towards agropreneurship plays a crucial role in determining their agropreneurship intention. When the youth assessment of starting a business is positive, they are likely to show higher levels of agropreneurship intention.

Secondly, it is found that PBC has a positive effect on agropreneurship intention. If the youth has a higher perception of ease of performing agropreneurship behaviour, they would be more inclined to choose agropreneurship. As mentioned by Yusoff *et al*. (2017), PBC in regard to agropreneurship intention among youth is highly probable due to their inclination towards challenging and tough circumstances that are naturally found in the agricultural sector, which could instigate their interest in agropreneurship. Furthermore, youth knowledge on the current technological

development in the agricultural sector is critical in determining their decision to get involved in agropreneurship. Notably, agriculture nowadays is no longer seen as a tough and difficult job as it used to be years ago. Previously, the agriculture sector relies heavily on workforces and animals with low agriculture produce. However, nowadays, with biotechnology and genetic engineering, the production of agriculture has increased, and the modified seed by scientists has transformed the crop yields tremendously.

Meanwhile, subjective norms did not influence the youths' agropreneurship intention. This finding implies that youths have a personal stance when it comes to career choice. They do not rely on other people's opinions or social pressure. In other words, the support and approval from the family, peers, and certain individuals do not affect youth agropreneurship intention. As suggested by Ham, Jeger, and Ivković (2015), subjective norms have weak predictive of entrepreneurial intention. Additionally, Kruger *et al.* (2000), Ajzen (1987), and Bagozzi *et al*. (1992) found that subjective norms had no significant effect on entrepreneurial intention, especially when the individuals had strong internal locus of control and higher orientation towards taking action.

In terms of the moderating effect, although the agriculture sector and entrepreneurs are mostly dominated by males, however, findings indicate that gender do not contribute towards strengthening or weakening the relationship between TPB dimensions and agropreneurship intention. In other words, gender do not influence the relationship between TPB dimensions and agropreneurship intention.

IMPLICATIONS

This study presents some important theoretical implications and provides useful, practical suggestions for researchers and policymakers. Theoretically, the attitude towards agropreneurship was found to be the strongest predictor of agropreneurial intention. This study also contributes to the Theory of Planned Behaviour, especially in the agropreneurship field. Although TPB is widely used in determining entrepreneurial intention, there are limited studies that used TPB as a predictor of agropreneurship intention, particularly in Sabah, Malaysia. Consistent with the previous research that

found TPB to have substantial predictive accuracy, the R squared of the TPB model in this study was 55.1%; it is higher than other previous studies such as meta-analytic reviews, 28% (Schlaegel & Koenig, 2014), 35.0 % in the U.S.A. (Krueger *et al*., 2003), 27% in South Africa (Gird & Bagraim, 2008), and 40% in Turkey (Ozaralli & Rivenburgh, 2016). Thus, this study can be replicated in a different setting, especially in agropreneurship research, where further focus and research are deemed necessary.

This research plays an essential role in assisting the government and policymakers' formulation of policies and preparation of programmes. The research also contributes to the state aspiration to become a hub for the agriculture sector for Sabah. The government, agencies, learning institutions, and related parties should do more promotions in the agriculture sector among Sabahan youths. Besides that, the government should put more effort to modernise and increase agricultural production to attract youth involvement in this sector. With the advanced and sophisticated technology and strong government support, the agriculture sector is no longer associated with negative images, such as filthy, exhausting, and uncertain income (Abdullah & Sulaiman, 2013). These days, the agriculture sector uses drones, temperature and moisture sensors, and GPS technology, among others, to monitor crops. These technologies significantly reduce dependency on human resources and increase yields using fewer resources. Youths should therefore be exposed to the various agricultural advancement, which might be able to change their attitude and perception towards agropreneurship and its promising future.

CONCLUSION, LIMITATIONS, AND FUTURE STUDIES

This study has successfully achieved its research objective of examining the effect of the Theory of Planned Behaviour on agropreneurship intention among youth. The agriculture sector should be given more attention by the government to increase food security and ensure sufficient nutritious food availability in Malaysia. Currently, Malaysia is importing most of its food supply from India, Indonesia, Thailand, China, and New Zealand. Therefore, youth involvement in agropreneurship will not only potentially solve the nation's food security issues but also reduce the unemployment and poverty rate, especially in Sabah. Notably, Sabah is considered among the

poorest state in Malaysia. The low participation of youth in agropreneurship will result in creating more unemployment crisis and reducing the food production due to decreasing in agricultural activities (Swarts & Aliber, 2013).

In terms of limitation, this study used only the TPB dimensions as predictors for the agropreneurship intention. Thus, future studies should integrate more theories, such as Shapero's Entrepreneurial Event theory, John Holland's Theory of Career Choice (RIASEC), Social Cognitive Theory (SCT), and others. The integration of these theories would contribute to a more robust and holistic understanding of agropreneurship intention.

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SMRJ

GOVERNMENT EXPENDITURES AND ECONOMIC GROWTH: EVIDENCE FROM MALAYSIA

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ABSTRACT

This paper aims to empirically analyze the relationship between government expenditures and economic growth in Malaysia from 1987 to 2016. This study uses the time series data in identifying the economic growth determinants in Malaysia. The Multiple Linear Regression (MLR) is used to establish the relationship between government expenditure which are education expenditure, health expenditure, defense and security expenditure, and social services expenditure towards the economic growth in Malaysia. The findings for this study indicate all the independent variables have a significant relationship towards economic growth in Malaysia where the health expenditure is the most influenced government expenditure component towards the economic growth in Malaysia. These findings may give some overview of policy implications to the policymakers on optimizing the effects of government expenditure on economic development.

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Keywords*: government expenditures, economic growth, multiple linear regression*

INTRODUCTION

Economic growth is the process by which the productive capacity of the economy is increased over time to bring about rising levels of national output and income (Smith, 2003). In other words, it portrays economic growth as a primary quantitative measure based on the rate of change of GDP. For decades, the relationship between government expenditure and economic growth has created much attention and became a great concern for both economists and policymakers (Hasnul, 2015). Government expenditure has been debated as a medium either to enhance the country's economic growth or only as an expenditure in many countries' fiscal policy thus resulting in doubtful and controversial issues (Hasnul, 2015). Abdullah *et al*. (2010), views government expenditure as an important tool that can give a contribution to a country's economic growth including Malaysia. It also reflects the incident of expansion in the economy since the economic growth has a close relationship with the long-term economic situation. Furthermore, government expenditure is also an important factor that must be enhanced to maintain economic growth at a high-level. This is because, government expenditure is an important component that can be used to restore the economy (Abdullah *et al*., 2010). Historical data from the World Development Indicators (2018) in Figure 1 shows that Malaysia's GDP growth has been fluctuating continuously from 1990 to 2016 with significant declines recorded from 1984 to 1985, 1997 to 1998, 2000 to 2001, and 2007 to 2009. This indicates that even though there are solid efforts in macroeconomics management, Malaysia is still facing the challenges arising from the external development and risks due to a higher open economic environment. Due to the above, there had been numerous past studies that were directed to investigate the role of government expenditure towards the economic growth in a nation's level. However, the empirical findings from the past studies were found to be distinct from one another and of a mixed interpretation. As indicated by Noraina and Nur Azura (2010), public social expenditure on education and healthcare is fundamental to the advancement of Malaysia's economic development aspects. Nevertheless, Abdul Jabbar Abdullah (2013) contested that higher education is not creating a higher

financial development but rather is contrarily influencing the economy. This study will be interested in assessing the mixed findings facilitated by past researchers concerning the relationship between education expenditure, health expenditure, defense and security expenditure, and social services towards economic growth. The time-series data in Malaysia will be used to perform the empirical analysis. Besides, as an aid to fiscal policy, it is additionally valuable to have a greater understanding of the relationship between government expenditures and economic growth. In this manner, this study highlights the significance of government since it may be utilised as a competent direct for monetary arrangement.
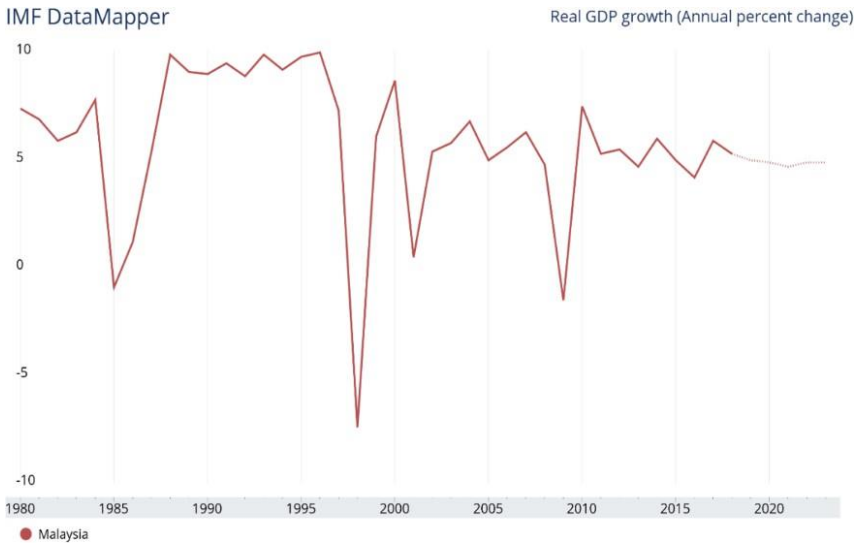
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Figure 1: Malaysia's GDP Growth [U2]. Source: World Economic Outlook (April 2018)

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Theoretical Review

The theoretical review of economic growth was based on Keynesian theory (Chau, Khin, Tay, & Meng, 2016). This theory views government expenditure as an exogenous policy instrument that can influence GDP growth (Iftikhar & Husnain, 2011). Furthermore, it assumes that increasing government expenditure will result in aggregate demand to be higher and ensuring the economic growth to increase rapidly (Nurlina, 2015). Thus, this theory can also be used in economics study to investigate the significant relationship between government expenditure and economic growth (Govindaraju & Rao, 2011). This study uses the Keynesian theory to identify the relationship between government expenditure and economic growth as the theory expressed that as a fiscal policy instrument, the government expenditure is useful to achieve short-term stability and a higher long-run growth rate. It is recommended for the government to intervene in the economy through fiscal policies since it plays an important role in the development process (Srinivasan, 2013). This theory also suggests that government expenditure gave a positive contribution to economic growth based on the multiplier effects in the Keynesian model (Srinivasan, 2013).

Empirical Review

Dependent Variable (Economic Growth)

Economic growth or known as GDP is defined as an increase in the productive capacity of an economy (Palmer, 2012). It is the result of which the economy can produce many additional quantities of goods and services (Palmer, 2012). GDP is also a measure of the goods and services value which are produced in the economy regardless of many factors of production being used to produce these goods and services. Many studies have been done to identify the relationship between government expenditure and economic growth. However, these studies have produced mixed results. Hasnul (2015) has shown either negative or positive results of government expenditure

towards economic growth. Besides that, a study carried out by Stevan Gaber and Ilija Gruevski (2013) also found the positive and negative significant relationship between government expenditure towards economic growth. A study in East Africa by Gisore, Kiprop, Kalio, Ochieng, and Kibet (2014) has found that government expenditure has a positive significant relationship with economic growth. Regardless of all positive results found, some studies however showed different results as proven by Hasnul (2015) were proven the negative significant relationship between government expenditure and economic growth in Malaysia.

Empirical Review on Independent Variable

(i) Education Expenditure (ED) with Economic Growth (GDP)

Education and development are an important tool which can improve the competitiveness of a country (Rambeli, Ramli, Hashim, Affizah, & Marikan, 2016). Therefore, the government has to provide education to everyone since education is a powerful tool that can be used in reducing poverty, enhancing economic growth, empowering people, improving private earnings, promoting a flexible and healthy environment and create a competitive economy (M. Afzal, M. Farooq, H. Ahmad, *et al*, 2010). [U3] According to Churchill, *et al* (2015), education expenditure provides a positive impact on economic growth as it develops the social welfare of a country. In the meantime, the gain from the educational sector would increase the productivity of labour as well as the increase of economic growth (Churchill, *et al*, 2015). Despite that, there were several studies which findings have shown the opposite. De Meulmester and Rochet (1995) stated that the relationship between education and economic growth can also be negative and not always positive. Some previous researchers also argued that education is just an application and therefore cannot be used to improve a country's economy. Gisore, Kiprop, Kalio, Ochieng, and Kibet (2014), found that education expenditure has a negative significant relationship with economic growth. Therefore, the following hypothesis is developed:

H_1 = There is a significant relationship between education expenditure towards economic growth[U4]

(ii) Health Expenditure (HE) with Economic Growth (GDP)

World Health Organization (WHO) has stated that the government plays an important role to provide a greater quality of life for the citizens through a good health system since health is an important determinant of economic development for improving a population's health. This means that a healthy population in turn can results in higher productivity, increase in income, thus resulting in a better economic performance (Wang *et al*., 2015). Besides, to have sustainable development and economic growth of a country, human capital and health improvement programmes are very important and needed (Chai *et al.*, 2008). However, less attention has been given in analysing the relationship between government expenditure in health care and economic growth especially in developing countries (Ahmad *et al*., 2016). For instance, in sub-Saharan Africa (SSA) and other developing regions which relatively lack in resources, the governments in these regions gave less attention to health expenditure (Aboubacar & Xu, 2017). A study was done in East Africa by Gisore, Kiprop, Kalio, Ochieng, and Kibet (2014) also found that health and defense expenditure have a positive significant relationship with economic growth. However, a study done by Hasnul (2015) showed a different finding where the health expenditure showed an insignificant relationship towards economic growth. Therefore, the following hypothesis is developed:

H_2 = There is a significant relationship between health expenditure towards economic growth (U5)

(iii) Defense and Security Expenditure (DS) with Economic Growth (GDP)

Defense and security expenditure is defined as an expenditure by governments that influences the resources it takes up, especially when it leads to or facilitates conflicts (Dunne, 2014). It is found that there has been a growing interest in the role of defense and security expenditure in the last four decades especially about developing countries such as Malaysia. Based on the very first study done by Benoit (1973), he found that the relationship between defense and security expenditure on economic growth has a significant positive relationship. This is because the defense and security expenditure can boost economic growth. Since Benoit's study, there

have been many other studies trying to identify the relationship of defense expenditure on economic growth. On the contrary, a study done by Haseeb (2014), found that the relationship between defense and security expenditure has a negative significant relationship with economic growth and strongly suggested that the policymakers need to focus more on the development expenditure rather than defense expenditure (Haseeb, 2014). Moreover, there is a significant negative relationship between defense and security expenditure on economic growth which has been found by a study carried out by Aziz *et al*. (2017). Therefore, the following hypothesis is developed:

H_3 = There is a significant relationship between defense and security expenditure towards economic growth[U6]

(iv) Social Services Expenditure (SS) with Economic Growth (GDP)

Social protection is a set of policies and programmes designed to reduce poverty and vulnerability in a country. It is being done by promoting efficient labor markets, lessening the exposure of risks to the people, and enhancing their capacity to protect themselves against risks and loss of income (Édes *et al*., 2012). Malaysia is a developing country that is going to become a developed nation in a few years to come, therefore, government expenditure on social services is needed for the economy's development (Noraina & Azura, 2010). These services are an investment or capital by the government to carry out economic development projects. This is because it can enhance the socioeconomic status and thus, improve economic growth (Abdullah *et al*., 2010). Therefore, the following hypothesis is developed:

H_4 = There is a significant relationship between social services expenditure towards economic growth. Based on the discussion in the previous section, the following theoretical model is developed (Figure 2).
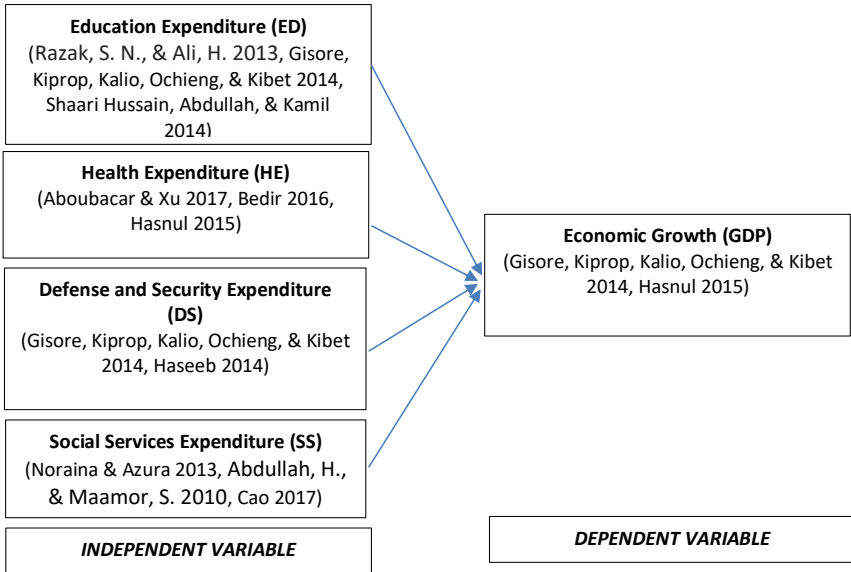
Figure 2: Theoretical Framework for the Study

METHODOLOGY

Data Collection and Research Design

This study is carried out on yearly basis starting from the year 1987 to 2016 to determine the relationship between the Education expenditure (ED), Health expenditure (HE), Defense and Security expenditure (DS), and Social Services expenditure (SS) towards economic growth (GDP). In this study, time series analysis is applied where the data is a set of observations on the values required by variables at different times. The model used is applied to gain a better understanding of the strengths and structures of the observed data. Therefore, Econometric Views (E-views 9) software is used as an excellent tool to view and test the regression analysis and to answer the research objectives. The tests list includes the Descriptive Statistics, Unit Root test (Augmented Dickey-Fuller & Phillips- Perron), Normality Test (Jarque-Bera), and Multiple Linear Regression. Whereas the impacts of on the Education expenditure (ED), Health expenditure (HE), Defense

and Security expenditure (DS) and Social Services expenditure (SS) towards economic growth (GDP) are examined using the following model:

rgdp,t = 0 + ed,gdp red,t + he,gdp rhe,t + ds,gdp rds,t + ss,gdp rss,t + ε [U7]

FINDING

Descriptive Statistics

Table 1: Result *F*-Test & *T*-Test Statistics

	LGDP	LED	LHE	LDS	LSS
Mean	26.99968	1.659719	1.209693	2.459479	6.404267
Median	27.01522	1.620627	1.207225	2.455443	6.842210
Maximum	27.73378	2.035744	1.580919	2.887033	7.988543
Minimum	26.02954	1.375873	0.993710	1.921661	3.761200
Std. Dev.	0.490459	0.165252	0.165897	0.308593	1.222169
Skewness	-0.356671	0.786926	0.365106	-0.050470	-0.858106
Kurtosis	2.112545	3.124401	1.922958	1.790243	2.510975
Jarque-Bera	1.620543	3.115611	2.116534	1.842126	3.980660
Probability	0.444737	0.210598	0.347057	0.398096	0.136650
Sum	809.9905	49.79157	36.29079	73.78438	192.1280
Sum Sq. Dev.	6.975938	0.791934	0.798135	2.761656	43.31722
Observations	30	30	30	30	30

***,** and * denote significant at the 1%, 5% level and 10% level respectively

The standard deviation of GDP is 0.490459 and has a negative skewness with a value of -0.356671 which indicates that the distribution of the data is negatively skewed. The value of kurtosis for GDP shows that it is being considered as platykurtic distribution with a value of 2.112545 which is less than 3, the value of kurtosis value for normal distribution. Platykurtic distribution is the distribution with less peaked in the mean, and thinner tails compared to normal distributions. The standard deviation of ED is 0.165252. ED has a positive skewness with a value of 0.786926 which indicates that the distribution of the data is positively skewed. The value of kurtosis for ED shows that it is being considered as leptokurtic distribution with a value of 3.124401 which is more than 3 which means the sharper peak and fatter tails distribution. The Jarque-Bera value for ED shows an insignificant result which failed to reject the null hypothesis where it indicates that the data is normally distributed. The standard deviation of HE is 0.165897 and has a positive skewness with a value of 0.365106. The value of kurtosis for HE is being considered as a normal distribution with a value of 1.922958 which is less than 3. The Jarque-Bera value for HE shows an insignificant result that failed to reject the null hypothesis where it indicates that the data is normally distributed. The standard deviation of DS is 0.308593 with a value of -0.050470 which indicates that the distribution of the data is negatively skewed. The value of kurtosis for DS shows that it is being considered as platykurtic distribution with a value of 1.790243 which is less than 3, the value of kurtosis value for normal distribution. The Jarque-Bera value for DS shows an insignificant result that failed to reject the null hypothesis where it indicates that the data is normally distributed. The standard deviation of SS is 1.222169 with a value of -0.858106 which indicates that the distribution of the data is negatively skewed and the value of kurtosis for SS shows that it is being considered as a platykurtic normal distribution with a value of 2.510975 which is less than 3. The Jarque-Bera value for SS shows an insignificant result which failed to reject the null hypothesis where it indicates that the data is normally distributed.

Unit Root Test

Table 2: Augmented Dickey-Fuller (ADF) Test

Variables	Level		1st Differences	
	No Trend	**Trend**	**No Trend**	**Trend**
GDP	1.9759 (0.9997)	-0.6807 (0.9652)	-4.6248 (0.0010)***	-4.8457 (0.0031)***
ED	-2.4500 (0.1377)	-2.4269 (0.3591)	-5.5620 (0.0001)***	-5.4423 (0.0007)***
HE	0.2550 (0.9715)	-2.6812 (0.2509)	-5.9634 (0.0000)***	-6.1822 (0.0001)***
DS	-1.0231 (0.7314)	-3.1947 (0.1081)	-2.7600 (0.0779)*	-3.3135 (0.0890)*
SS	-1.5692 (0.4851)	-2.4414 (0.3524)	-5.4507 (0.0001)***	-5.3617 (0.0009)***

***, ** and * denote significant at the 1%, 5% level and 10% level respectively

The result of the Augmented Dickey-Fuller Test shows that the data for GDP is stationary at 1st difference for both trends and no trend at 1% significant level with a 99% confidence level. Meanwhile, the result level for both trends and no trend, the data shows that the result for GDP is insignificant. As for ED variable, the result shows that the data is stationary at 1st difference for both trends and no trend at a 1% significant level with a 99% confidence level. Meanwhile, the result level for both trends and no trend, the data shows that the result for ED is insignificant. Next, the result of the data for HE is stationary at the 1st difference for both trend and no trend at a 1% significant level with a 99% confidence level. Meanwhile, the result level for both trends and no trend, the data shows that the result for HE is insignificant. The result of the data for DS is stationary at 1st difference for both trends and no trend at a 10% significant level with a 90% confidence level. Meanwhile, the result level for both trends and no trend, the data shows that the result for DS is insignificant. The result for

SS is stationary at the 1st difference for both trends and no trend with a 99% confidence level where the result level for both trends and no trend is insignificant. As the *p*-value of the dependent and independent variables is below the significant level at 1% and 10%, thus the null hypothesis will be rejected. Therefore, it can be concluded that the data is stationary at a 1st difference with the trend and no trend.

Table 3: Phillips-Perron (PP) Test

Variables	Level		1st Differences	
	No Trend	Trend	No Trend	Trend
GDP	1.9759 (1.0000)	-0.6807 (0.9652)	-4.6248 (0.0010)***	-4.8457 (0.0011)***
ED	-2.4500 (0.0877)*	-2.4269 (0.2544)	-5.5620 (0.0001)***	-5.4423 (0.0007)***
HE	0.2550 (0.9955)	-2.6812 (0.3281)	-5.9634 (0.0000)***	-6.1822 (0.0001)***
DS	-1.0231 (0.7684)	-3.1947 (0.0590)*	-2.7600 (0.0000)***	-3.3135 (0.0000)***
SS	-1.5692 (0.4751)	-2.4414 (0.3524)	-5.4507 (0.0001)***	-5.3617 (0.0008)***

***,**and * denote significant at the 1%, 5% level and 10% level respectively

Based on the result Phillips-Perron test, the data of the dependent and independent variables is stationary at 1st difference for trend and no trend at a 99% level of confidence. This finding is supported by a statistically significant PP test for the data at 1st difference. As the p-value for the dependent and independent variables are below the level of significance then the data is considered as stationary thus rejecting the null hypothesis.

Normality Test (Jarque-Bera Test)

Table 4: Result Normality Test (Jarque Bera Test)

Variables	Coefficient Value (*p*-value)
GDP	1.620543 (0.444737)
ED	3.115611 (0.210598)
HE	2.116534 (0.347057)
DS	1.842126 (0.398096)
SS	3.980660 (0.136650)

***, ** and * denote significant at the 1%, 5% level and 10% level respectively

The normality test is also being tested for each variable by using the Jarque-Bera which proved that the result for GDP, ED, HE, DS, and SS are insignificant Thus, it has failed to reject the null hypothesis at a 10% significant level with a 90% confidence level. Therefore, this indicates that the data for GDP, ED, HE, DS, and SS are normally distributed.

Results of the Estimated Regression

Table 5: Result Multiple Linear Regression (MLR)

Coefficient	Coefficient Value	P-value
β_0	26.50016	0.0000***
$\beta_{ed,gdp}$	-0.482658	0.0022***
$\beta_{he,gdp}$	1.380619	0.0000***
$\beta_{ds,gdp}$	-0.485200	0.0005***

$\beta_{ss,gdp}$	0.128634	0.0001***
F-statistic	107.0760	0.0000***
R^2	0.944849	
Adjusted R^2	0.918062	

***, ** and * denote significant at the 1%, 5% level and 10% level respectively

Table 5 shows four types of variables where economic growth (GDP) as a dependent variable, meanwhile education expenditure (ED), health expenditure (HE), defense and security expenditure (DS), and social services expenditure (SS) as independent variables. Therefore, the result of the model equation as follows:

$$r_{gdp,t} = 26.50016 - 0.482658\ r_{ed,t} + 1.380619\ r_{he,t} - 0.485200\ r_{ds,t} + 0.128634\ r_{ss,t} + \varepsilon$$

The result of the coefficient shows that the education expenditure (ED) has a negative significant relationship with economic growth (GDP) in Malaysia. The null hypothesis 1 has been rejected because the coefficient $\beta_{ed,gdp}$ is significant at a 1% significant level with a 99% confidence level. The variable has a coefficient of -0.4827 which indicates that, if education expenditure increases by 1%, the economic growth will decrease by 0.4827%. [U10] This shows that there is a negative significant relationship between education expenditure and economic growth in Malaysia (Gisore, Kiprop, Kalio, Ochieng, and Kibet, 2014). De Meulmester and Rochet (1995) stated that the relationship between education and economic growth can also be negative and not always positive. Some previous researchers also argued that education is just an application and it is not being used to improve economy [U11]. Besides that, it has been stated by Blaug (1970) that investment in education is just merely consumption. This is because the investment made by the government in obtaining knowledge or skills is only for the individual interests and it does not give any contribution to economic growth. Thus, this indicator shows that increase in the education expenditure would expect to push economic growth and vice versa.

Furthermore, health expenditure (HE) has a positive relationship with the economic growth (EG) in Malaysia where the null hypothesis 2 has been rejected because a coefficient $\beta_{he,gdp}$ is significant at 1% significant level with 99% confidence level. The variable has a coefficient of 1.3806 which indicates that, if education expenditure increases by 1%, the economic growth will increase by 1.3806%. This shows that there is a positive significant relationship between health expenditure and economic growth in Malaysia (Bedir, 2016). It is because when a person is healthy, their work can be more effective and efficient, thus contributing more of their time in more productive activities (Bedir, 2016). A study was done in East Africa by Gisore, Kiprop, Kalio, Ochieng, and Kibet (2014) also found that health and defense expenditure has a positive significant relationship with economic growth. Meanwhile, Craigwell *et al*. (2012) has surveyed the viability of government expenditure especially on healthcare and education in 19 Caribbean nations, and found that health expenditure has a huge positive and significant relationship with economic growth. It is because when people are in good health, they are will be more productive and as a result, it can help to improve economic growth.

Meanwhile, the defense and security expenditure (DS) has a negative relationship with the economic growth (GDP) in Malaysia which null hypothesis 3 has been rejected because the coefficient $\beta_{ds,gdp}$ is significant at 1% significant level with 99% confidence level. The variable has a coefficient of -0.4852 which indicates that, if defense and security expenditure increases by 1%, the economic growth will decrease by 0.4852%. This shows that there is a negative significant relationship between defense and security expenditure and economic growth in Malaysia (Haseeb, 2014). Besides that, there is a significant negative relationship between defense and security expenditure on economic growth (Aziz *et al*., 2017). This is because they found out that defense and security expenditure does not have proper potential that can affect the economic development. A survey by Dunne (2014) mainly within the Keynesian framework, also suggests that defense expenditure gives no effect on economic growth. It has been certain that there is no evidence of a positive relationship and instead it is likely to have a negative relationship (Dunne, 2014).

The result of the coefficient shows that the social services expenditure (SS) has a positive relationship with economic growth (GDP) in Malaysia.

The null hypothesis 4 has been rejected because the coefficient $\beta_{ss,gdp}$ is significant at a 1% significant level with a 99% confidence level. The variable has a coefficient of 0.1286 which indicates that, if social services expenditure increases by 1%, the economic growth will increase by 0.1286%. This shows that there is a positive significant relationship between social services expenditure and economic growth in Malaysia (Cao, 2017). Based on the previous study by Noraina dan Azura (2010), the result also shows that there is a positive relationship towards economic growth in both the short run and the long run. It shows that social services expenditure is important to the development of human capital and economic growth. Thus, this can help to produce better human capital and gain economic sustainability (Noraina & Azura, 2010). The result for F-statistic is 107.0760 which indicates that the null hypothesis has been rejected because the F-statistic is statistically significant at 1% significant level with 99% confidence level. The result shows that at least one of the independent variables used in this study has a significant effect on economic growth in Malaysia. The adjusted R2 value is 0.918062 which indicates that 91.81% of the variation in economic growth (GDP) is explained by all of the variations of independent variables which are education expenditure (ED), health expenditure (HE), defense and security expenditure (DS), and social services expenditure (SS). The remaining 8.19% of the variation in economic growth is explained by other factors that are omitted in the model.

CONCLUSION

It is a stance through this finding where the government expenditure does matter to the economic growth in Malaysia. It was proven via the Multiple Linear Regression Model where the result shows that all the independent variables tested (ED, HE, DS and, SS) have a significant relationship with economic growth (GDP). Two independent variables are found to have a negative significant relationship which is education expenditure (ED) and defense and security expenditure (DS) and another two independent variables have a positive significant relationship which is health expenditure (HE) and social services expenditure (SS). All these results have been supported by the previous studies conducted to prove the significant and insignificant relationship. Additionally, the results of this study suggested that health expenditure (HE) as the most influenced government expenditure

component towards economic growth (GDP) in Malaysia. As the health expenditure (HE) is the most influenced, the researcher suggested that the government needs to reallocate the budget and should increase the budget allocation towards health expenditure (HE) (Low *et al*., 2013). This suggestion also applies to the social services expenditure (SS) as well as its result also showed a positive significant relationship with economic growth (GDP) in Malaysia. This is because, an increase in health expenditure (HE) and social services expenditure (SS), will also increase the economic growth. If the government increases its spending on health expenditure, this can improve a population's health. A healthy population in turn can result in higher productivity, increase in income, thus resulting in a better economic performance of a country (Aboubacar & Xu, 2017). The government also needs to increase its spending on social services expenditure as well. These services are an investment or capital by the government to carry out economic development projects. This is because it can enhance the socioeconomic status and thus, improve economic growth. As the government begins to focus more on the social planning, several social workers also need to be urged to be more actively participate in a social activity that emphasizes more on the preservation of public welfare and needs (Abdullah *et al*., 2010). In short, one can conclude that as the education expenditure (ED) and defense and security expenditure (DS) have a negative significant relationship, the policymaker would need to change and implement policies that can give better defense and security facilities and education to the population. This is because, a good defense and security facilities and education will help the improvement of human capital and upgrading economic development.

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EFFECTS OF DUAL-LANGUAGE PROGRAMME (DLP) ON THE USAGE OF ENGLISH ADJECTIVES AT PRIMARY SCHOOL LEVEL IN MALAYSIA

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ABSTRACT

Students from selected Malaysian schools are currently learning Mathematics and Science in English under the DUAL Language Programme. They are exposed to additional hours of English compared to non-DLP ones. This paper investigates the extent to which the extra hours of English language exposure assist primary school students in grasping the morphological structures of English adjectives. The cross-linguistic differences in Malay and English could be one of the main reasons students face difficulties in acquiring English adjectives. Data were collated from two different Year 2 classes involving a DLP and a non-DLP group. Vocabulary Size Test (VST) measured the use of base form of adjectives while Comparative Adjective TEST were used for the comparative ones. Test scores were analysed to gauge the possible significant difference between the control and the experimental groups. The findings reveal that the mean scores for DLP group are not significantly higher than non-DLP group for both tests.

Keywords*: dual language programme, adjectives, primary schools*

INTRODUCTION

The English language is no longer used within specific circles as its usage has become increasingly global. As Firth (1996) emphasizes, English is a contact language between persons who do not share a common native tongue or a common culture, and for whom it is the chosen foreign language of communication. As the English language is currently used worldwide, being competent and having a bigger size of lexical items is indeed tremendously beneficial. Based on Kachru's (1992) three circles model, Malaysia is located in the outer circle where the language has been used as a second language. English has become widely used by people from different sectors and diverse social backgrounds. Hence, to master the language, a proper educational system needs to be in place as it is one of the most crucial methods in increasing English competency.

Proficiency in the English language involves mastering various skills such as reading, writing, speaking and listening and the core catalyst in being effective in using all those skills is having vast vocabulary items. Once a person has a large repertoire of English words stored in his brain, the process of learning will be easier since it leads to an independent process of acquiring the language. Mokhtar *et al*. (2010) emphasize that the ideal vocabulary size for university students is 17, 000 word families of noun, adjective, verb, and adverb.

In ensuring that a second language learner has no difficulty in learning and using English as he becomes older and continues his studies at the tertiary level, early exposure to the language is undoubtedly essential. The implementation of the teaching and learning of Mathematics and Science in English called 'Pembelajaran dan Pengajaran Sains dan Matematik dalam Bahasa Inggeris' (PPSMI) started in 2003 and ended in 2012. Though the policy aimed to raise the standard of English proficiency and keep Malaysians abreast with science and technological knowledge, PPSMI raised a lot of issues when some parents and teachers did not agree with its implementation. Selamat, Esa, Saad, and Atim's (2011) research findings suggested that PPSMI should be stopped mainly due to the shortage of

teachers who have mastered the English language in teaching of mathematics and science. The learning of the two subjects in English did not help students to be competent in the language due to teachers' tendencies to code-switch when they were teaching. Though code-switching can be part of a teacher's repertoire of teaching techniques, its excessive use may limit learners' much needed exposure to the target language. This notion of over-reliance on code-switching is reiterated by Isahak *et al.* (2008) in a study on 3903 primary five students where they found that 85% of the teachers code-switched the English language with their mother tongue (cited in Suliman, Mohd Noor and Md. Yunus (2017). The concern that many students are unable to speak and write fluently in English has led the government into implementing yet another policy called 'To Uphold Bahasa Malaysia, To Strengthen Bahasa Inggeris' (MBMMBI). The Ministry of Education (MoE) (2015) has introduced a new programme under this policy known as Dual Language Programme (DLP) with the aim to enhance the acquisition of the language among pupils in primary and secondary schools. The implementation of this programme with a specific investigation on the usage of the English adjectives is the focus of this paper.

DUAL-LANGUAGE PROGRAMME (DLP)

The process of formulating and implementing a national education policy is complex as there are numerous variables to be considered based on the nature of the country. Bell and Stevenson (2006) describe education policy as 'a dynamic process in which the nation state exerts power and deploys resources in conjunction with regional, local and even institutional agencies'. In the Malaysian scenario, education policy has been an intensely discussed issue especially in relation to the teaching of Science and Mathematics. DLP requires students who are involved in the programme to learn the two subjects in English. On the other hand, the rest of the students in national and national vernacular schools use Malay or their native language of either Mandarin or Tamil as the medium of instruction. Only Standards 1 and 4 students are involved in the implementation of this programme at primary schools while only Form 1 students are involved at secondary level. The previous implementation, PPSMI, differed from DLP in this term; all students had to participate in it.

MoE's (2015) four requirements for a school to implement DLP are;
i.   A school must have adequate sources
ii.   The teachers must be ready to implement DLP
iii.   There is demand and support from parents
iv.   The school has good achievement in the Malay language.

Suliman, Mohd Noor, and Md. Yunus (2017) mention in their study on DLP that there are three main objectives of this implementation. They are:

i.   Providing knowledge to the students so that they are ready to compete with other graduates as well as to assist students in employment.
ii.   Assisting and capturing students' enthusiasm of STEM education at the tertiary level. (STEM refers to Science, Technology, Engineering, and Mathematics).
iii.   Allocating more hours of learning the English language so that the students can improve English proficiency.

Globally, DLP is not a new language immersion programme because it is implemented in other countries such as Japan, Finland, and United States of America (US). As for the latter, Steele *et al*. (2017) report that the US has a similar programme for kindergartens all the way to high school level with participants speaking, among others, Russian and Spanish as their mother tongues. It results in rapid improvement in mastering English and aids students well at the tertiary level. The same stand is applied in Malaysia when the MoE implements DLP in hope to prepare students with the adequate knowledge of English basically because most reference books in colleges and universities are in the language. Noriza *et al.* (2011) highlight that their research on teachers as well as lecturers indicate that the majority of them provided positive feedback and in terms of readiness, 65% of them were ready to teach Science and Mathematics in English. From the perspective of students, a study on DLP which was conducted by Tuah and Mohini (2010) found that most students supported the implementation of the programme on the basis of employability.

The same nature of implementation is also practiced in countries in Europe and North America where foreign languages are utilised to teach and learn non-language subjects. This implementation is known as Content-

Based Language Instruction and Immersion (CBLI). North America and Europe have implemented CBLI for a few decades now and the results have been surprisingly impressive. For instance, Aziz and Maarof (2015) highlight the study conducted in Finland where the researchers made a comparison between students who were involved in CBLI and those who were not. Their way of answering a question is found very different whereby CBLI students answered with more justifications provided and their choice of lexis kept changing. The study shows evidence that by participating in CBLI the students' size of lexical items expanded. Other than that, CBLI students were found to interact more with teachers in the classroom by voicing out their opinions and answering questions voluntarily.

The emphasis of this current study is to see how the exposure to the English language affects the vocabulary size of students. In a related study, Harji, Balakrishnan, Bhar, and Lecthumanan (2015) explored the vocabulary levels of Malaysian undergraduates. Their study focused on a few variables such as year of study, gender and courses. The findings showed that students who majored in Law and IT have larger vocabulary size compared to those majoring in Management. They further elaborated that Law and IT students were more exposed to the English language and their lexical size kept increasing as they used different words according to different contexts and situations. This finding strongly suggest that exposure to the language aids students in improving English proficiency.

This study focuses on DLP as a strategy used by the Ministry of Education to assist students to widen their lexicon. Aitchison (2012) defined 'mental lexicon as human word-store or mental dictionary' thus, lexical size is defined as the vocabulary size one has in their brain. Having a larger size of English words is beneficial since the English language has become an international language where most people speak using it around the globe and it is advantageous for an individual to use the language as a skill to convey any messages to the society. Nation (1990), as cited by Mokhtar *et al.* (2010) mentioned that learners need to be at approximately 2,000- and 3,000- word level to communicate, while 5,000- words will assist them in the classroom. Words from the University Word List (UWL) will help students understand their textbooks and academic materials at the tertiary level. The UWL is 'a word list created by combining four pre-existing lists, two based on corpora and two based upon frequently annotated words by students in textbook (Wadden, Ferreira, & Rush, 2016)'.

Vocabulary, in general, comprises numerous word classes. Nevertheless, the main focus of this study is limited to adjective whereby it attempts to ascertain whether early exposure of English language could improve the use of adjectives among students. It is broadly observed in some studies (e.g. Jalaluddin, Awal, and Bakar (2008) and Lotfie, Kadir, and Pilus (2017)) that the distinctive linguistic features between Malay language and English language cause students to face difficulties to grasp the rules and be fluent in the English language, the same difficulty is hypothesized in the learners trying to acquire English adjective that have morphological and metalingual differences from Malay. As learning vocabulary is important for language literacy, Mohd Asraf, Abdullah and Md Zamin (2016) in their study on the different performances between boys and girls, advocated that early exposure to reading should start even at primary level.

VOCABULARY ACQUISITION STRATEGIES

As highlighted by Schmitt (2000) 'vocabulary acquisition is incremental in nature'. And therefore, students cannot grasp all the English lexical items in a short period of time. Schmitt emphasizes that the students should acquire vocabulary gradually and the process of acquisition should start from an early age. Whatever their starting point is, once the students are enrolled into colleges and universities, they are expected to have a certain quantity of vocabulary to aid their process of learning. In a study by Bahns and Eldaw (1993), they found that students continued to improve and become more native-like as the day passed and their lexical items keep growing each day. They emphasized that 'word-knowledge type took time to develop', (Bahns & Eldaw, 1993, p.118). It can be inferred that there is indeed a difference in writing as well as speaking between students who are exposed to English in their early age from those who are not.

Schmitt (1997) listed out approximately 54 strategies used in acquiring English words. The three significant categories of strategies are determination strategies (DET), social strategies (SOC) as well as memory strategies (MEM). In brief, DET is related to intrinsic motivation as the students themselves decide to learn and make an effort to acquire lexical items. The strategies in SOC involve the people around the learners such as teachers and parents who play an important role in assisting them. Lastly,

MEM includes tests, the frequency of studying and also the use certain discourse such as pictures or songs to learn new words. Social strategy (SOC) echoes the nature of DLP where students are supposed to undergo early exposure of English.

Ozender (2016) and Treffers-Diller and Milton (2013) emphasized that vocabulary size is essential in all aspects of language such as reading, listening, writing as well as speaking. Tests and interviews were conducted in both research to discover students' vocabulary size. Even though the two studies were carried out in different places, their findings showed how larger vocabulary size assists students to cope with their studies, especially in their tertiary education. Similarly, Tan's and Goh's (2017) study provided the evidence that larger vocabulary size assists students in their academic endeavours especially in comprehending reading materials. According to their study which involved students in tertiary education in Malaysia, the lowest vocabulary size obtained is 4,000-word families and this was found to correlate with the students' lower reading proficiency test score of 27.5%. The finding showed that only 1.89% students from the sample have an adequate vocabulary size with the mean vocabulary size at 10,200-word families.

DLP acts as one of the strategies for students, in particular, to improve their English language competency. This study focuses on how DLP represents a strategy to broaden the adjectives correctly.

ADJECTIVES

Rusiecki (1985, p.1) claimed that 'adjectives can only be defined by a set of complementary criteria, morphological and syntactic'. The simple definition of an adjective is a further explanation of a noun. This is as defined by Payne (2006, p.116) who said that an adjective is "a word that can be used in a noun phrase to specify some property of the head noun of the phrase". An adjective gives an attribute or a quality to a certain noun. Quirk (1972) explained further by giving four significant features of an adjective which are listed below:

1.   An adjective can occur in attributive position.
2.   An adjective can occur in predicative position.
3.   An adjective can be categorised further into comparative and superlative forms.
4.   An adjective also can be pre-modified by the intensifier.
     There are four basic forms of adjectives in English which are the base, comparative, superlative, as well as participial (Dahami, 2012). The distinctive feature of these forms is the suffixes. Below is an example of suffixation process causes different forms of an adjective:

     a. Base form: Alice is a smart student.
     b. Comparative form: Alice is smarter than Joanna
     c. Superlatives form: Alice is the smartest in the class
     d. Participle form: Alice has an interesting book to read.

Adjectives can also be classified into three categories of peripheral semantic types which are the physical property, human propensity as well as speed (Dixon, 2004). The examples of each type are listed below.

1.   Physical property: hard, rough, and weak.
2.   Human propensity: sad, generous, and proud.
3.   Speed: fast, slow, and quick.

As for comparisons, the English adjectives require the use of more and most for longer words, e.g. more and most substantial. As for shorter words of one or two syllables, inflections are needed to indicate comparative and superlative forms. The comparative forms are explained by Delahunty and Garvey (2010) as follows:

1.   If the base form adjective ends in
     a. /-e/, /-r/ is added to signify comparison, e.g. nicer
     b. vowels + consonants; /-t/,/-d/,/-g/,/-m/, and /-n/, the last consonant need to be written twice + /-er/, e.g. hotter and sadder.
2.   If the base form adjective has two syllables and ends with /-y/, change the phoneme /-y/ into /-ier/ to indicate comparative adjective, e.g. prettier.

As mentioned in the earlier part of this paper, the distinctive features between Malay and English adjectives can cause difficulties for students to grasp and comprehend the English ones. Mohd Noor, Hamzah, Husain, and Che Su (2015) categorised Malay adjectives into five particular categories namely:

Table 1: Types of Adjectives

No.	Adjective	Example
1	Base form	*Cantik* (pretty), *bagus* (good), *sedap* (delicious)
2	The addition of affix	*Kemerahan* (reddish), *tertinggi* (highest), *serendah* (as low as)
3	Double adjective	*Besar-besar* (huge), *sepandai-pandai* (as clever as), *kemerah-merahan* (reddish)
4	Compound adjective	*Merah jambu* (pink), *ringan tulang* (diligent), *riang gembira* (joyous)
5	Comparative adjective	*Sebesar* (as large as), *lebih pandai* (smarter)

The main difference between the Malay and English adjectives is their place in a phrase whereby a Malay adjective comes after a noun (pelajar cemerlang). Meanwhile, in English, an adjective precedes a noun; hence it becomes 'excellent student'. Syntactically, this kind of difference may lead to confusion in using an adjective phrase.

The focus of this study is on base and comparative form of adjectives. The difference between English and Malay comparative adjective is the placement of an affix. In English, there are two methods of indicating comparison which are by adding the suffix –er to an adjective, together with 'than', as well as by adding quantifiers; 'much' and 'more' and followed by 'than'. However, in the Malay language, the comparative adjective can be illustrated by using the quantifier; *lebih* (more) followed by daripada (than). Interference of the first language could be the main reason of students facing difficulty to grasp the rules of English adjective. Both of the studies by Jalaluddin, Awal and Bakar (2008) and Singh, Singh, and Ravinthar (2017) found that more than 50% of their participants were unable to answer correctly the questions on comparative and superlative adjectives. The main factor that led to their findings was the absence of similar rules in their native language, thus, the researchers deduced this as first language interference.

It should be mentioned that as the participants in this study were Standard two students, the superlative adjective was omitted in the instrument because the topic is not included in their syllabus. The hours of exposure to linguistic features may help students to acquire and comprehend relevant rules. Therefore, it was hypothesized that DLP class students might grasp the rules and excel in the test compared to non-DLP class students.

METHODOLOGY

This study employed a mixed method design combining a quasi-experiment and content analysis. It is considered as a quasi-experiment because there were two intact groups involved in the study. The quasi-experiment helped answer the first research question while content analysis was adopted for the second research question. The experimental group in the study was the DLP group which used English as the official language of instruction in Science and Mathematics. The control group used the Malay language as a medium of instruction for the two subjects. The summary of the quasi-experiment is shown in Table 2.

Table 2: Summary of the Quasi-Experimental Design

Type of group	DLP (Treatment)	Test	
		VST	CAT
DLP class	/	/	/
Non-DLP class		/	/

This study utilised two tests which are Vocabulary Size Test (VST), and Comparative Adjective Test (CAT). Content analysis was performed on CAT to investigate further the types of comparative adjectives used by the students.

The tests, VST and CAT, aimed to collect data to answer the two research questions, thus, both groups, the experimental and the control group were involved in the tests. Vocabulary Size Test (VST) was used to answer the first research question on the size of English adjectives of the subjects. There were 40 words scattered in a table comprising nouns, verbs, and adjectives. The students were required to circle the adjectives in the table. The total of the adjectives in the table were 20 with a total of

20 marks. This test was adapted from ESL Library (ESL Library, n.d.) and most of the words listed were based on the Standard two English syllabus (MoE, 2017). Some of the adjectives were intentionally taken outside the syllabus to test their proficiency. All the 20 adjectives in the test were attributive (Quirk, 1972) in nature.

Due to the fact that the participants were Standard two students, this study only focuses on two types of adjectives which were base form and comparative form. VST focused on the base form of English adjectives which included an attribute of a person or an object. The subjects were given 20 minutes to complete this test. The test was validated in the pilot stage of the study. The reliability index for the test is high at .81.

The second test, Comparative Adjective Test (CAT), required the students to fill in blanks with the correct comparative adjective forms by adding a respective suffix. The result of the second test aimed to answer the second research question. CAT was adapted from an educational website which is ESL Library, managed by Red River Press Inc (n.d.). The website was meant to assist both teachers and students in learning and improving their proficiency in the English language.

CAT concerned with the correct use of comparative adjectives among the students in the sentences given, and measured whether they managed to grasp the structure of comparative English adjectives or not. The base form of the adjectives were provided for each sentence. All the questions were a declarative sentence which suited their level. An example was given to assist students to recap what they have learned in class as well as to assist them to capture the structure of English comparative adjectives. An extract of the test is as follows:

A tower is (tall) _____ than a house.

The students were allocated with 20 minutes to answer this test. The test was validated during the pilot study stage of the research. The reliability of the test was checked by running Cronbach's Alpha which provided the considerably high reliability index of .74. The summary of the research design is shown in Table 3.

Table 3: Summary of Research Design

No	Research Questions (RQ)	Data Collection	Data Analysis
1	Is there a significant difference between the mean scores of DLP students' and normal class students' vocabulary size of adjectives?	Vocabulary Size Test (VST)	Descriptive and inferential statistics – means and standard deviations, independent samples *t*-test
2	Is there a difference between DLP students' and non-DLP class students' usage of comparative adjectives?	Comparative Adjective Test (CAT)	Descriptive analysis Inferential statistics - means and standard deviations, independent samples *t*-test Content analysis of sentences

FINDINGS AND DISCUSSION

RQ1: Is there a significant difference between the mean scores of DLP students' and non-DLP class students' vocabulary size of adjectives?

In answering the research question, the data from the Vocabulary Size Test (VST) were analysed using independent sample t-test to compare the mean scores between experimental (DLP) and control (non-DLP) groups. The results indicate that 21 students from DLP managed to identify at least half of the adjectives listed in the table whereas for non-DLP group, there are 18 students obtained 10-20 marks this test. As can see from the graph in Figure 1, a majority of the students face no difficulty in terms of identifying attributive adjectives listed. Both groups; DLP and non-DLP indicate minimum differences in their score.
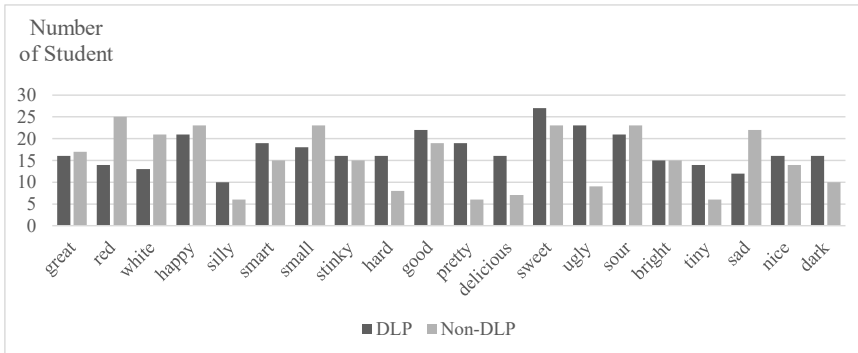
Figure 1: Comparison Between DLP and non-DLP Groups in Identifying Adjectives

The test was further analysed by using independent sample t-test to compare the mean scores between students from DLP and non-DLP groups. Table 4 indicates descriptively that the DLP group obtained a higher mean score than non-DLP group; (M=12.41, SD=3.83, M=11.22, SD=3.74) respectively.

Table 4: The Comparison Mean Scores of VST between DLP and Non-DLP Group

GROUP	N	Mean	Std. Deviation	Std. Error Mean
DLP	27	12.41	3.83	.74
Non-DLP	27	11.22	3.72	.72

As presented in Table 5, even though the DLP group scored higher than non-DLP group, the result indicate that there is no significant difference in the scores for DLP and non-DLP at $t(52)=1.15$.

Table 5: Independent Sample *t*-Test Result of VST between DLP and Non-DLP Groups

	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
DLP	1.15	52	.25	1.19	1.03	-.88	3.25
Non-DLP	1.15	51.96	.25	1.19	1.03	.88	3.25

Discussion on the Findings of Vocabulary Siza Test (VST)

The mean scores of the test conducted indicated that the students from DLP scored higher than non-DLP group. It evidently showed that a year of DLP implementation during Standard 1 did facilitate them in improving their English language. Though encouraging, the implementation of DLP, at this point, did not stimulate students' English adjective acquisition as much as expected because there is no significant difference between DLP and non-DLP groups inferentially. This differs from the findings in a study by Aziz and Maarof (2015) on Finnish students who were involved in Content-Based Language Instruction and Immersion (CBLI). The size of their lexical items increased compared to those who were not involved in the programme. Unlike the current study, theirs was not limited to an individuated word class or in other words it included vocabulary acquisition in general.

In the case of the findings in the current study, external factors might be the reasons why the obtained mean score between these two groups did not show much difference. For instance, there is a possibility students from the non-DLP group were getting additional English input such as tuition or extra classes after school. Besides, family educational background is the other example of an external factor which could influence the findings of this study. A study by Owusu, Amuzu and Agor (2015) provided evidence that family background and English proficiency are closely related. The study which was based at Ghana Baptist University College revealed that the students who had educated parents were doing better compared to other students because their parents had been supervising their English proficiency. Students' background had not been a variable of this study but it may have been the confounding variable to its result.

From another perspective, the implementation of DLP might assist students' language proficiency in different areas and contexts. For example, the longer allocated hours of English exposure may assist students in terms of their acquisition of lexical items in general as well as their pronunciation of English words. Waxman and Guasti (2009) found that children acquire larger size vocabulary of a noun than adjective when there are exposed to the language in a certain period of time. Pholsward (2015) also highlighted in his study the same test was conducted to two different groups with different age. The second group which was in secondary three school scored higher in vocabulary test compared to primary six students. He deduced from the results that the longer year of exposure to the language itself facilitate learners efficiently in acquiring lexicons. In this study, the students from DLP group were exposed to the English language more than students from non-DLP group and as hypothesized earlier, the DLP students might possess larger vocabulary size in general compared to non-DLP students as it could be seen in the result, DLP obtained higher mean score than non-DLP.

In addition, DLP may not the best approach to assist students in broadening their English adjective but it might help in a different angle of English proficiency which is reading skills. Moghadam and Adel (2011) claimed that CBLI which has the same nature of DLP facilitated students in reading. Based on their analysis, it indicated a statistically significant value among students who were experiencing CBLI compared to ordinary students.

RQ2: Is there a difference between DLP students' and non-DLP students' use of comparative adjectives?

Descriptive analysis was run on CAT scores and it can be seen from Table 6 that the DLP group obtained a higher score (M=14.00, SD=3.22) than non-DLP group (M=11.44, SD=1.34).

Table 6: The Comparison of CAT Scores between DLP and Non-DLP Group

GROUP	N	Mean	Std. Deviation	Std. Error Mean
DLP	27	14.00	3.22	.620
Non-DLP	27	11.44	6.95	1.34

The same method of inferential statistical analysis as VST which was the independent sample *t*-test was applied. The comparison of mean scores between these two groups are presented in the table below. Table 7 indicates that there is no significant difference for CAT between DLP and non-DLP at *t* (52) = 1.73.

Table 7: Independent Sample *t*-Test Result of CAT Scores between DLP and Non-DLP Group

	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
DLP	1.73	52	.09	2.57	1.48	-.43	5.52
Non-DLP	1.73	36.68	.09	2.57	1.48	-.43	5.54

According to the CAT results, there were four repeated errors for both experimental and control groups. Below is the list of questions the majority of the students failed to answer correctly regardless of the group they were in.

1. His cat is _____ (fat) than my cat.
2. A fire is _____ (hot) than a cup of tea.
3. An elephant is _____ (big) than a mouse.
4. A rose smells _____ (nice) than a sunflower.

The same pattern of answer was written for the first three questions above. The majority of the students failed to write the correct answer because they added the suffix -er without doubling up the final consonant of the root words. For example, students would write *fater instead of fatter and *hoter instead of hotter. According to the result, the number of DLP students who could answer correctly for fat was 2, hot (2) and big (3 students) respectively meanwhile there was only one student from the non-DLP group who managed to answer all these questions correctly. The other interesting finding was discovered for the fourth question. There were six students from DLP group and three students from non-DLP group who wrote the correct answer for the comparative adjective form of nice. The remaining students wrote *niceer which must have been based on their initial understanding that the suffix -er is added to form a comparative adjective.

Discussion on the Findings of Comparative Adjective Test (CAT)

It can be inferred from the mean scores of CAT that the number of students from DLP group who managed to answer correctly was higher than non-DLP group. That observation is indeed encouraging in terms of the success in the implementation of DLP, specifically in helping learners to grasp the concept of the needed inflectional forms for comparative and superlative adjectival forms. It is also undeniable that the *t*-test result indicate that the difference between DLP and non DLP scores was not significant. This result could be linked to the interference of the first language, Malay, which do not have the same rules of inflections to indicate comparisons (Mohd Noor, Hamzah, Husain, & Che Su, 2015). Jalaluddin, Awal and Bakar (2008), Singh, Singh, and Ravinthar (2017) and Abubakar *et al* (2017) studies also indicate that their participants had difficulties in answering questions related to comparative and superlative adjectives. And indeed as mentioned above, it is interesting to find out that the majority of students were not able to write the correct comparative adjective for fat, hot, big and nice. The English language rely on suffixes to indicate the comparative forms for these words (Delahunty & Garvey, 2010). There is no parallel affixations in the Malay language except for the case of –ter, a prefix is added to a base form but only in a superlative form, not in comparative form. This occurs in such a case like tercantik (the most beautiful). This absence of similar rule could be one of the main reasons why students were not able to answer correctly.

CONCLUSION

Essential findings were discovered and based on the results, of both tests; VST and CAT, the students from DLP group scored higher than the students from non-DLP group which supported the initial hypothesis; the implementation of Dual-Language Programme does support the acquisition of English adjective and also the use of the comparative adjective. One the one hand, it can be cautiously interpreted that the Dual-Language Programme was successful to a certain extent but on the other, it did not overwhelmingly facilitate students in broadening English adjective and also comprehending the different rules in English adjective.

At the beginning of the study and based on the research questions, two possible hypotheses were formed. It was hypothesized that the DLP students scored higher for both tests; VST and CAT. The second hypothesis was there was a statistically significant difference between DLP and the non-DLP mean score for both tests. The first hypothesis was accepted as the mean score for DLP students were higher for both tests. However, the difference showed in the mean score for both tests was found not statistically significant between these two groups. Thus, the second hypothesis was rejected. It has to be acknowledged that this supports Aziz (2009) and Singh, Abdul Rahman and Hoon (2010) who strongly believed that teaching Science and Mathematics in English did not assist students in improving their English proficiency yet weakening students' achievement in Science and Mathematics subject, especially in the rural area schools.

However, the results of this study could have been influenced by methodological limitations. For example, there were constraints in administering the more robust pre-test post-test experimental design. A comparison of the two test scores could have favoured DLP more convincingly. It is noteworthy to highlight that Dual-Language Programme is a new implementation which requires a lot of researches and subsequent improvements to accommodate the 21st century generation and their learning environment and most importantly, the global demands of the English language in the future.

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PROFILING INTERNAL FORCED MIGRANTS IN NORTH-EASTERN NIGERIA: A GEOGRAPHICAL ANALYSIS

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ABSTRACT

The objective of this paper is to characterise internal forced migrants displaced in North Eastern part of Nigeria as the result of conflicts, and natural disasters. It was estimated that nearly 1.8 million out of the total of more than 2.1 million internally displaced people in Nigeria dwell in this region. Data obtained from the United Nations International Organisation for Migration (IOM, Nigeria), was used to attain the research's goal using Geo-Information techniques (GIS analysis) and statistical analysis. Results revealed that 55 percent of internally displaced people are female while 45 percent are male; it also revealed that 60 percent of IDPs in Northeast Nigeria are dwelling in host communities, while the remaining 40 percent are found in formal and informal camps. The study also revealed that 99.9 percent of the migrants flee because of conflicts and communal clashes, while 0.1 percent escape due to natural disaster. It further revealed that the majority of IDPs were displaced in the year 2015 due to an increase

in the number of conflicts and insurgent activities in the region. Finally, this research found that Borno state has the highest number of IDPs, formal and informal camps, and host community settlements.

Keywords: *camp; GIS; IDPs, migration; profiling; shelter*

INTRODUCTION

The term 'forced migrant' has emerged in recent years through the academic scholarship and policymaking, which refers to a person who has been forced to leave his or her habitual place of residential origin for reason natural or human-induced reasons (Turton, 2006). Hansen (1996) adduced that forced migration has turn out to be a new problem-oriented academic field of enquiry, encompassing the fields of Geography, Economics, Environmental Management, Sociology, Anthropology, Political Science, Law and International Relations.

Forced migration is the results of war, famine and political tussles. These disruptions have increased globally in the last three decades (Pumariega, Rothe, & Pumariega, 2005). According to the United Nations High Commission for Refugees (UNHCR), the number of displaced people around the world has almost doubled from 33.9 million in 1997 to 65.6 million in 2016 (UNHCR, 2017), out of which 40.3 million were internally displaced people or Internally Displaced Persons (IDPs), 22.5 million refugees and 2.8 million asylum seekers.

Internal Displacement Monitoring Centre (IDMC), defines internal forced migrants, which is also referred to as IDPs as:

> "Person or groups of people who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of, or in order to avoid the effects of armed conflict, situations of generalised violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognised state border (IDMC 2012)."

In this study, the terms internal forced migrants and IDPs are used interchangeably.

IDMC (2017) reported that at the end of 2016, there were about 40.3 million internally displaced people around the world; as a result of conflicts and violence. The report further shown that the number has almost doubled that of the year 2000 and has dramatically increased in the last five years. However, IDMC stated that this number does not include the number of unknown people that were forced to migrate as a result of disaster prior to, or in 2016. Similarly, the UNHCR (2017) has stated that the number of internally displaced people around the world has drastically increased from 35.8 million in 2012 to 65.3 million in 2015, precisely because of conflicts in the Middle East, Sub-Saharan Africa (Nigeria, Cameroon, Chad, etc.) and other regions of the world.

Nigeria has been a moderately peaceful, serene, multi-cultural, liberal and progressive country, blessed with abundant natural resources and skilled human resources. These create an avenue for its citizens and non-citizens to live in peace and harmony with one another (Joda & Olowoselu, 2015). However, in recent years the country has been plagued with numerous insurgencies that had led to untold human carnage. Lenshie & Henry (2016) reported that these insurgent activities have led to the killing and forceful displacement of many people. Migration here is seen as a strategy adopted by those people who have been obliged to flee their origin anticipating that by migrating, they are moving to a secure new destination that would provide them with shelter, safety, better quality of life and better opportunities (IOM, 2008 cited in Siddiqui 2014). Among the most recent insurgent activities causing havoc and forced migration in North-Eastern parts of Nigeria are the activities of Boko Haram Islamist group.

Boko Haram is a Hausa Language – a local Nigerian language – phrase, which means 'Western education is forbidden' is an insurgent group also known by its formal name as '*The Jama'atu Ahlus-Sunnah lidda Awati Wal Jihad"* which means 'Group of the People of Sunnah for Preaching and Jihad'. Boko Haram group was founded in 2001 with headquarters in Borno State, North-Eastern Nigeria. The group opposed western culture, western education, and influence in Nigeria (Adeyemi 2014; Joda & Olowoselu 2015; Oyeniyi 2013). Boko Haram has been particularly active

in Northeastern, Nigeria. They have also carried attacks in the neighbouring Niger Republic, Cameroon Republic and Republic of Chad (Abdulrasheed, Onuselogu, & Obioma, 2015; Aliyu, Moorthy, & Bin Idris, 2015) and subsequently initiated many people to flee away from their origin because of insecurity situation. Ibeanu (2015) reported that the activities of Boko Haram had led to a rising number of death and the forceful migration of more than a million people within the North-Eastern region.

United Nation International Organisation for Migration (IOM) (2018) and IDMC (2018) reported that there are about 2.1 million internally displaced people in Nigeria and about 1.8 million are found in North East region. National Emergency Management Agency (NEMA) however, disclosed that over 80 percent of internal forced migration in Nigeria is caused as the result of Boko Haram activities. (Shettima, 2015). In addition, Ibeanu (2015) noted that over 90 percent of internal forced migration in North East region is caused by the activities of Boko Haram, while the remaining is caused as a result of natural disasters and vendetta.

This research is aimed at profiling internal forced migrants in North-East Nigeria using Geo-information (GIS techniques), in order to understand their spatial characteristics and distribution.

LITERATURE REVIEW

Profiling internal forced migrants would help us reveal where the migrants are located, by determining whether they live in formal or informal camps or host communities. Profiling approach identifies certain information about the migrants; such information could be their demographic information such as age, gender, ethnicity, marital status, and year of migration. The process employed spatio-temporal connectors in determining the areas with the highest number of IDP and their spatial distribution pattern. Over the years, profiling approach has been used to increase knowledge and understanding about forced migration (Jacobsen & Furst Nichols, 2011). Profiling was first introduced by IDMC in the late 1990s and has since been accepted and extensively being used by Joint IDP Profiling Services (JIPS), UNHCR, IOM and other Non-Government Organisations (NGOs) (Laczko & Anich, 2011).

RATIONALE FOR PROFILING INTERNAL FORCED MIGRANTS

Sequel to 1951 UNHCR convention held in Geneva, there was a severe concern by humanitarian and donor support agencies, government organisations and NGOs who were anxious to provide support, assistance and protection to forced migrants. However, these agencies were faced with difficulties in identifying and supporting these individuals (Jacobsen & Furst Nichols, 2011); this is because of the large number of internal forced migrants, who usually go unnoticed when they arrive at their new destination for shelter as they share the same characteristics with the inhabitants of the host location and have the same citizenship right, only that they were forced to flee their residential areas as economic migrants. Jacobsen & Nichols, (2011) observed that forced migrants in general, intentionally prefer to shun away from getting in contact with these agencies, simply because they do not want to be identified as forced migrants, this is even more common with internal forced migrants.

Therefore, government organisations and NGOs demanding to know their numbers, are left with estimates of significant but unknown figures who are out of view. Thus, the need for profiling in order to identify, characterise and document their exact numbers. Therefore, profiling in migration studies assist in addressing the following key issues:

1. Identifying internal forced migrants' demographic information
   Profiling process is a clear definition of identifying demographic characteristics of migrants: age, gender, residential place of origin, and reasons for displacement among many others. Accordingly, Malamassam (2016) found that demographic variables play an essential role in determining migrants' decision to move from point of origin to a new destination. This demographic information consequently informs the government and other humanitarian agencies regarding the areas where considerable assistance is needed.

2. Differentiating internal forced migrants
   Profiling migrants assist governments and humanitarian agencies in classifying and distinguishing them in order to provide them with the necessary assistance they may require based on their needs.

3. Mapping the distribution of internal forced migrants.
   Profiling migrants assist governments and humanitarian agencies to map the spatial distribution, migration flow pattern, originating and destination points of forced migration. These provide easy access to displaced people as their geographical locations have already been known and mapped through the profiling process.

MATERIALS AND METHODS

Study Area

The North-Eastern region of Nigeria is one of the six geopolitical regions and formerly an administrative area in Nigeria. It was founded on 27th May 1967 from the Northern part of the country with headquarters in Maiduguri, the present capital city of Borno state. The North East was divided into three states; Bauchi, Borno and Gongola states in 1978 and was further divided in 1991 to comprise of six states namely, Adamawa, Bauchi, Borno, Gombe, Taraba and Yobe State. The region covers a land area of about 280,419 KM2 and located between longitude 09°02′ – 14°38′ East and Latitude 06°30′ – 13°42′ North. It shares international borders with Niger Republic, Republic of Chad and Cameroon Republic and internal border with North West and North Central Regions of Nigeria. The population of the region was estimated around 24.5 million inhabitants (National Population Commission Projected 2011 population). The region sheltered about 1.4 million IDPs in June 2015 (IDMC 2015) and an estimated 4.6 million are in need of humanitarian assistance (European Commission for Humanitarian Aid 2016). In terms of socioeconomic activities, the region is ranked as the lowest in Nigeria and had a poverty rate of 69 percent in 2010, which is the highest in the country (National Bureau of Statistics 2010). A map of the study area is shown in Figure 1.
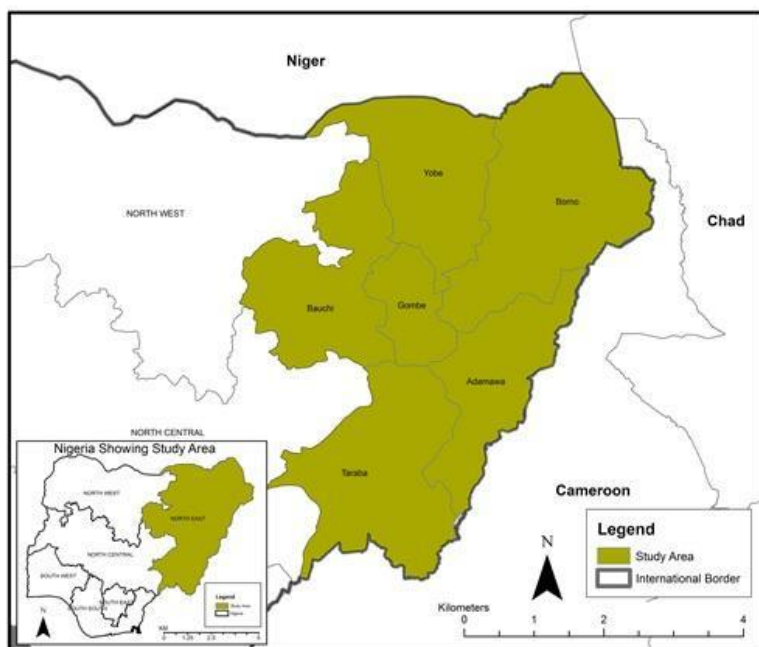
Figure 1: Study Area

Method

This study adopts a descriptive quantitative research approach, to which Williams (2011) explained that descriptive research approach is an essential research method that studies a situation as it exists in its present form. The approach involves gathering data that describe an event, organising, tabulating, depicting and describing the data, usually using visual aids such as graphs, charts and maps. Secondary data was used to achieve the objective of this study. Digital Tracking Matrix round 21 (DTM 21) data sets collected by the IOM Nigeria in February 2018 was used. Various statistical and GIS analysis were then carried out on the datasets in other to achieve the study objective.

Digital Tracking Matrix is a programme initiated by IOM in September 2014 in Nigeria with collaboration from Nigerian National Emergency Management Agency (NEMA), Adamawa and Borno state; State Emergency Management Agency (SEMA), with the aim to collect,

organise and disseminate data on IDPs, refugees and returnees in Nigeria. The first collected dataset was made available in December 2014 and was tagged DTM Nigeria Round 1; subsequently, datasets on forced migration were quarterly collected and updated every year, from various parts of the country, as of April 2018 when this research was conducted, DTM round 21 which was collected and made available in February 2018, is the most recent of the DTM records.

RESULT AND DISCUSSION

Data for DTM round 21 was collected from 2,244 locations. These include 1,987 host communities and 257 formal and informal camps in the study area. A total of 1,782,490 were identified as IDPs in the study area. Table 1 presents IDPs distribution and number of shelters per state in the study area.

Table 1: IDPs Distribution & Number of Shelters Per State

State	Number of Shelters	Number of Males	Number of Females	Total Population
Adamawa	474	76,520	87,630	164,150
Bauchi	329	25,034	28,275	53,309
Borno	609	609,109	755,430	1,364,539
Gombe	187	15,156	16,753	31 909
Taraba	228	28,858	34,414	63,272
Yobe	417	45,705	87,4443	105,311
Total	2,244	800,382	982,108	1,782,490

Source: IOM – DTM 21 (February 2018)

SPATIAL DISTRIBUTION OF IDPS BY STATE OF DWELLING

Result of IDP analysis by state of dwelling has shown that 76.55 percent are dwelling in Borno State, 9.21 percent are living in Adamawa State, 5.91 percent in Yobe State, 3.55 percent in Taraba state, 2.99 percent in Bauchi State and 1.79 percent in Gombe State. The distribution is presented in a map in Figure 2.
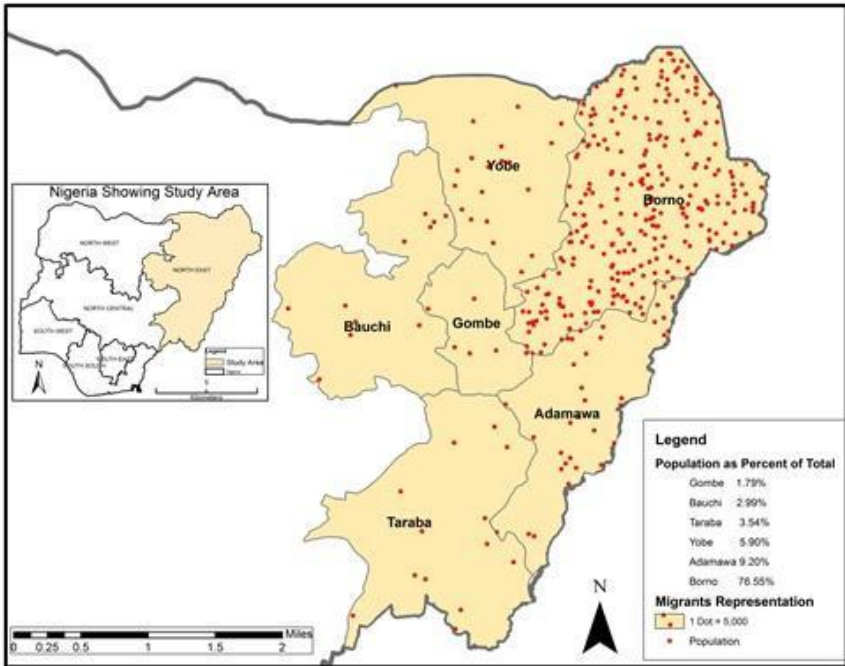
Figure 2: Distribution of Internal Forced Migrants by State of Dwelling

Source: IOM Nigeria (DTM 21)

DEMOGRAPHIC PROFILE

A detailed visual demographic characteristic of IDPs is presented and discussed with figures below.

The first demographic variable analysed is gender classification of IDPs in the study area. The result, as presented in figure 3, shows 55 percent are female, while 45 percent are male. These show that there are more female than male internal forced migrants in North-East, Nigeria. This finding is aligned with the previous findings by Ojo & Fanto (2017) and Torres (2002) citing that more females than males are found dwelling in IDP and refugee camps. Similarly, Manchanda (2004) found that about 52 percent of forced migrant in South Asia are females.
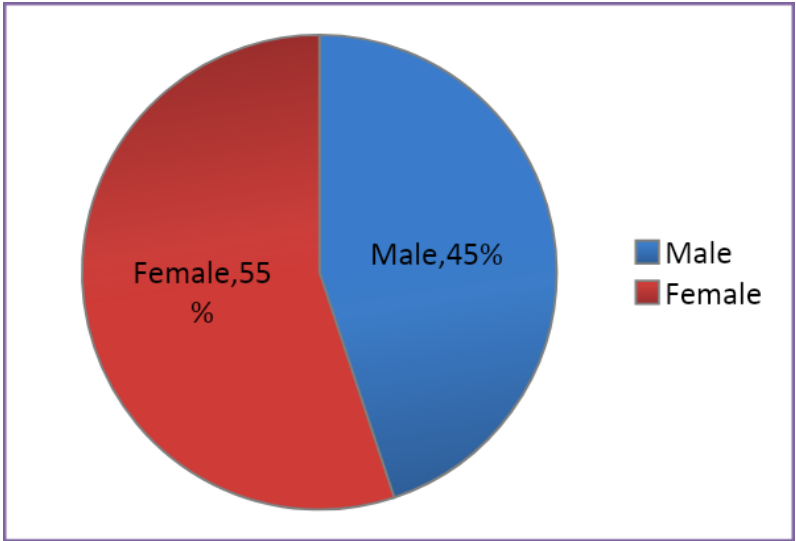
Figure 3: Gender Distribution of Internal Forced Migrants

Source: IOM Nigeria (DTM 21)

Gender and age classification of IDPs dwelling in the study area was further analysed in other to know the gender and age proportion of IDPs in this region. It is worthy to state that this study adopts the age classification used by IOM for DTM record dissemination. Findings revealed that 38.67 percent of IDPs in North-East Nigeria are between the ages of 18 – 59 years; within this age group, 19.08 percent are male, while 19.59 percent are females. Additionally, 4.79 percent are above 60 years, with 2.47 percent for male and 2.32 percent for female, in the same vein 6.58 percent are under a year old; with 3.33 percent male and 3.25 females. Result of the analysis is presented in Figure 4 below.
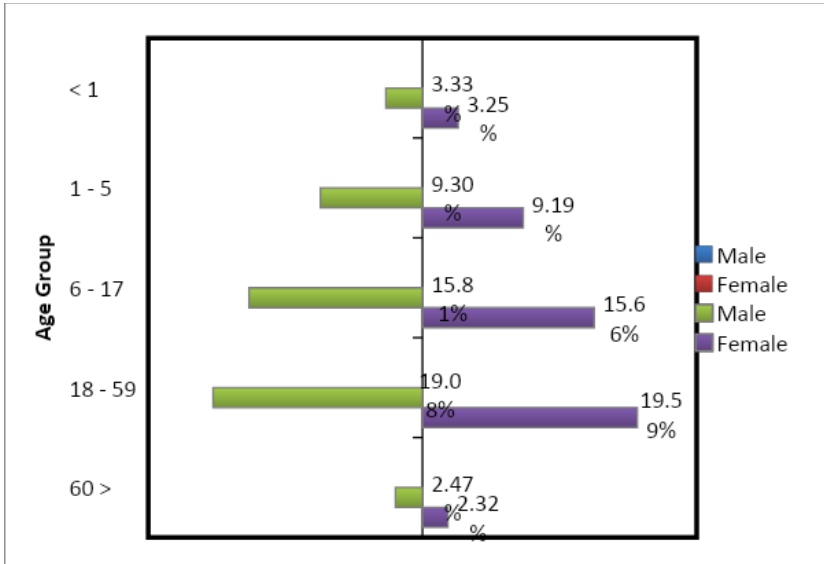
Figure 4: Pyramid Age & Gender Distribution IDPs

Source: IOM Nigeria (DTM 21)

Taking into consideration that internal forced migrants' dwell in different types of shelter, this study examines the types of shelter IDP and the distribution in this region. The result of the analysis found that 60 percent are dwelling in host communities, spatially distributed across the six states in the region, while 40 percent are living in formal and informal camps. Formal camps are managed by federal and state government and are found in Adamawa, Borno, Taraba and Yobe state. The result of the analysis is shown in Figure 5.
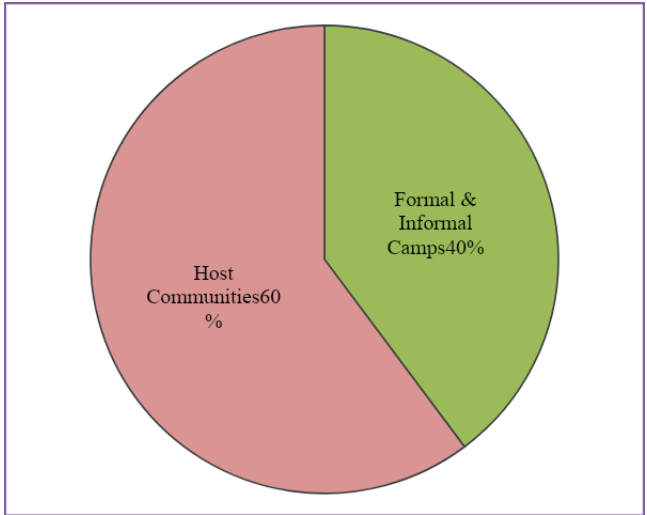
Figure 5: Shelter Type of Internal Forced Migrants

Source: IOM Nigeria (DTM 21)

In the same vein, a map of the study area was also used to show the distribution pattern of IDPs shelter type in each state, as shown in Figure 6 below. The result reveals that in Adamawa state, 95 percent of IDPs dwell in host communities, while 5 percent are living in formal and informal camps. Whereas, in Taraba state, 93 percent of IDPs are living in host communities, while seven percent are living in formal and informal camp. Similarly, in Yobe state, 97 percent are living in host communities, while three percent are dwelling in camps. However, in Borno state, the result reveals that 67 percent are dwelling in host communities, while 33 percent are living in formal and informal camps. Conversely, the distribution in Bauchi and Gombe state are slightly different as all the internal forced migrants in these states are dwelling in host communities.
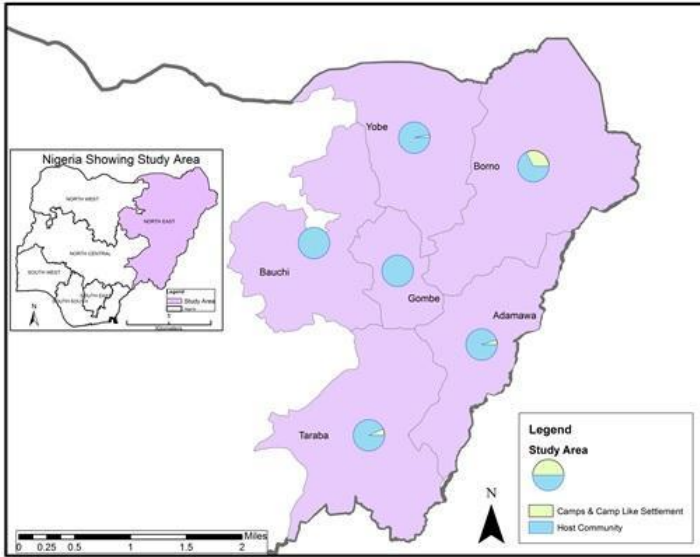
Figure 6: IDPs Shelter Type Distribution per State

Source: IOM Nigeria (DTM 21)

CAUSES OF FORCEFUL MIGRATION

Armed conflict remains the main reason for forced migration around the world (Ferris, 2012; IDMC, 2016; Mbanugo, 2012; Mohammed, 2017; Walicki Swain & Bilak, 2015). Results of this study reveal that conflict-induced forced migration is the main reason for internal forced migration in the study area. As presented in figure 7, the result shows that 94.4 percent are displaced because of insurgent activities, 5.5 percent because of communal clashes and 0.1 percent by natural disasters.
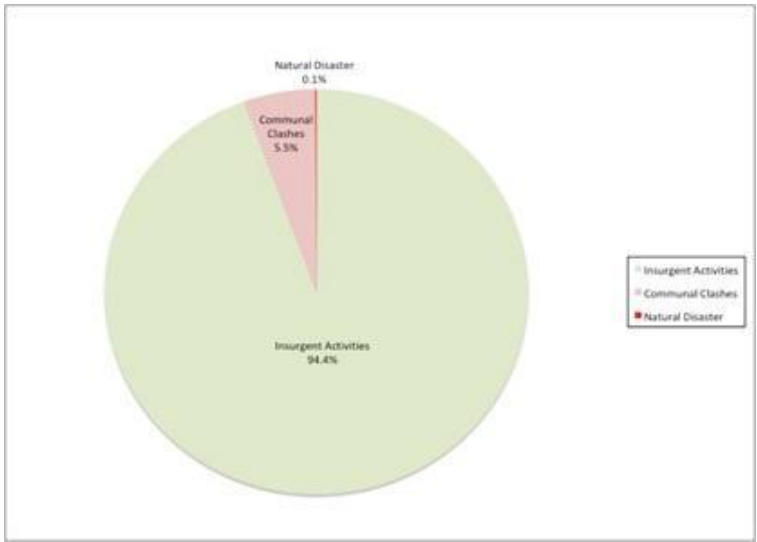
Figure 7: Reason for Internal Displacement

Source: IOM Nigeria (DTM 21)

YEAR OF FORCED DISPLACEMENT

The objective here is to determine the year of forced migration by IDPs in the study area. Taking into consideration that internal forced migration is connected with temporal characteristics, this study analyse the distribution of IDPs by their year of first displacement. The result presented in Figure 8 has shown that, prior to 2014 only Bauchi, Gombe and Taraba states had some IDPs dwelling in those states, while from 2014 to 2017 all the six states had recorded a significant number of internal forced migrants. Thus, this could be attributed to the insurgent activities and insecurity situation in the region.
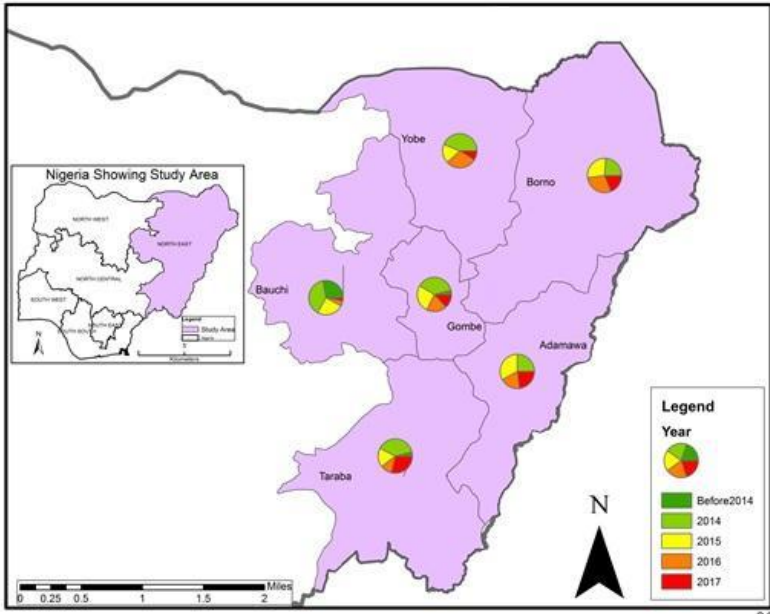
Figure 8: Temporal Distribution of Internal Forced Migration by State Dwelling

Source: IOM Nigeria (DTM 21)

The analysis of the temporal distribution of IDPs within the years under study is shown in figure 9. The result shows that the year 2015 has the highest number of IDPs in the study area with a representation of 31 percent; this is followed by 2014 with a representation of 20 percent, whereas 19 percent of the internal forced migrants dwelling in the North-East Nigeria flee their habitual residential origin in the year 2016. However, only one percent of IDPs in the study area stated that they were internally displaced before the year 2014.
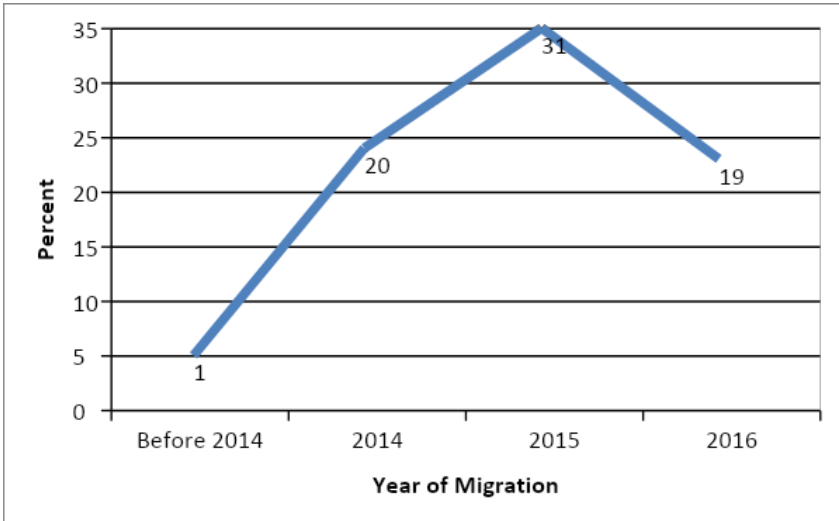
Figure 9: Temporal Distribution of IDPs Year of First Displacement

Source: IOM Nigeria (DTM 21)

CONCLUSION

The North East region of Nigeria has intensely been faced with a sizeable number of IDPs in Nigeria; which is caused by the activities of Boko Haram insurgent group in the area. As a result, this made the study area, a hub of IDPs in Nigeria, to produced and sheltered the highest number of internally displaced people in the history of the country. NEMA (2016) reported that this region produced 86 percent of the total population of internal forced migrants in Nigeria.

This study profile and characterise IDPs in North East, Nigeria. Data was sourced from United Nations Agency – International Organisation for Migration, Nigeria, specifically DTM 21, was used. The study found that 94 percent of IDPs in this region were displaced because of insurgent activities in the area, it was also found that Borno state has the highest number of IDPs in the study area in general. Moreover, more female IDPs that male was found in the study area, this finding is therefore in consistence with discoveries from around the world, example is Manchanda (2004), who also

found more female forced migrants than males in South Asia. This study also found that majority of IDPs dwelling in the study area, are between the ages of 18 – 59 years.

The findings from this research also indicated that majority of IDPs in the study area are dwelling in host communities. Besides that, it was also found that, armed conflict and insurgent activities are the major causes of internal forced migration. Finally, it was discovered that an overwhelming proportion of IDPs in the study area were displaced in 2015.

The findings of this study have created the need for additional research that would utilise Geo-information techniques in studying internal displacement from geographical perspective.

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