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RESEARCH ARTICLE

The Financial Challenges of Parents of a Child with Autism in Addis Ababa, Ethiopia: A Qualitative Study

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Abstract

Little is known about the financial challenges of autism. This study looks into the financial challenges faced by parents of a child living with autism in Addis Ababa, Ethiopia. Twelve in-depth interviews and four key informant interviews were held with the professionals in Joy and Nehemiah Autism Centers. The participants were selected via the convenience sampling method. The data were transcribed and analyzed through thematic data analysis. All the participants underlined that caring for a child with autism spectrum disorder (ASD) requires extra cost, attention, and effort. Most of the participants complained about the financial burden in relation to the cost of fulfilling the basic needs (high cost of food and clothing), transportation, and medical expenses. The system has to proactively work to address the financial and other concerns of the parents. The service is limited and unsatisfactory compared to the need. On the service provision, the government should try and address the different unmet needs and challenges of these children and their parents by providing proper attention and financial support.

Keywords: Autism; Parents; Financial Challenges

Introduction

Autism is a developmental disorder characterized by difficulties with social interactions, social communications and an unusually restricted range of behaviors and interests (Agyekum, 2018). The economic impact of having a child with the disorder is enormous and families with autistic children often experience a strain on their financial resources (Benson & Karlof, 2009; Linares-Gonzalez, 2006; Rogers, 2008). Glendinning (1986) indicated, Most private health insurance plans do not cover all expenses related to therapy and treatment for children with autism, and the payment for office visits and medications often results in huge financial debt. In addition to therapy and medical expenses, there are added economic burdens such as for accessing specialized educational toys, equipment like weighted blankets and vests, and much more (Cited in Hailemichael, 2014, p. 23).

ASD is known to be a costly disorder (New Zealand Ministries of Health and Education, 2008). Autism can place financial strains on parents in several ways. According to Lavelle et al. (2014), the average annual medical expense for a child diagnosed with autism in 2011 was about \$3,020. This cost was 18% higher than

for a child without a diagnosis of autism. The authors further stated the caregiver of a child with autism may face costly prescriptions, emergency room visits, physician office visits, as well as occupational, speech, and physical therapy.

Costs associated with having a child with autism are not only limited to the cost of interventions. Like other forms of childhood disability, parents of a child with autism often face greater outlays of time and money (Aadil, Unjum, Afifa, & Zahoor, 2014). Participation in an extracurricular activity for children with autism also puts additional costs on the family. Thus, caring for an autistic child requires more expense in the provision of care, special education, day service provisions, and family expenses as compared to a typically developing child. Jarbrink, Fombonne, and Knapp (2003) estimated that the total cost of raising a child with a disability is three times greater than the cost incurred in raising a 'normally' developing child. Similarly, according to Girdler and Brian (2012), the expense for a child with autism is more than triple that of a child without autism. Their results indicated that the financial costs of caring for a child with ASD can be associated with adverse effects in the lives of families of children with ASD (Jarbrink et al., 2003). Unfortunately, only a few studies have directly examined the costs that families of children with ASD must face, but rather implied the costs that families of children with ASD must pay.

Having a child with autism resulted in an average of a 14% loss in total family income. It is often extremely difficult for both parents to continue working full-time, which means a reduction in household income to go along with the increased expenses, thus leaving them with a reduction in financial resources during a time of increased financial need. Since many parents need a full-time job to access health insurance, loss of full-time employment can have a dramatic and negative impact on the family's financial situation (McConachie, Randle, Hammal, & Le Couteur, 2005).

The economic concern of parenting a child with autism is very harsh. The cost of caring for a child with autism in Trinidad throughout their lifetime is estimated to be \$3.2 million compared to an estimated \$1.9 million in caring for a normally developing child (Single Fathers Association of Trinidad and Tobago, 2012). The cost is inclusive of medical fees, therapies, special care education, and child care, which is very demanding. This financial burden can lead to more parental stress and burnout. These expenses are extremely high compared to the general income and cost of living in Trinidad (Single Fathers Association of Trinidad and Tobago, 2012).

Furthermore, in the first attempt to comprehensively survey and document the costs of autism to U.S. society, Michael Ganz, an Assistant Professor of Society, Human Development, and Health at the Harvard School of Public Health, found that the approximate cost of caring for a person with autism over the course of his or her lifetime is \$3.2 million and approximately \$35 billion a year is spent to care for all people with autism over their lifetimes (Ganz, 2006). Ganz (2006) broke down the complete costs of autism into two classifications: direct and indirect costs. There are many areas to consider for both classifications. The direct costs can include medical costs, such as physician and outpatient services, prescribed medications, and behavioral therapies that are estimated to cost on average more than \$29,000 per person in a year. There are also direct non-medical costs, which include special education, special camps, and child care which is estimated to annually cost more than \$38,000 for those individuals considered to have lower levels of disability and more than \$43,000 for those diagnosed with more disabling levels of autism.

There are also many indirect costs associated with autism. Ganz (2006) explains costs associated with the value of lost productivity as a result of a person being diagnosed with autism. Lost productivity is the difference in prospective income between someone with autism and someone without. Indirect costs also encapsulate the value of lost productivity for the parents of a person with autism. These costs can include loss of income due to reduced work hours or not working at all. According to the author, the estimated indirect costs for individuals with autism and their parents can range from \$39,000 to nearly \$130,000 annually. Fletcher, Markoulakis and Bryden (2012) interviewed eight mothers of children with ASD to

analyze the costs and benefits related to all aspects of the participants' lives.

Mothers acknowledged several expenses associated with their day-to-day experiences. For example, they all discussed the changes in their work or financial situations that resulted from raising a child diagnosed with ASD. Common expenses such as treatment costs, special dietary requirements, child care, private lessons, and cleaning/repairing homes were all mentioned as additional financial costs these families had to undergo. In addition, mothers mentioned the lack of funds available for family vacations, household renovations, and/or funds for siblings' future educational pursuits. Jarbrink et al. (2003) explained the added financial strain of caring for children with ASD. Costs associated with out-of-pocket expenses and the inability to use formal and informal services were reported as contributing to the strain experienced by the mothers.

With the estimated cost of caring for a child with autism in the U.S., some of the fathers may not be able to provide specialist care for their child and in some cases, the fathers had to quit their job to be full-time service providers for their children (Fletcher et al., 2012). The absence of outside work and low levels of employment are correlated with greater degrees of psychological distress, higher rates of despair, apprehension, and resentment (Gray, 2006).

Possible indicators of such heightened levels of stress consisted of spending a great amount of time caring for a child with autism, limited adult interaction, and lowered levels of income which are linked to increased economic hardships (Datz, 2008). The stress of time constraints, parental responsibilities, and financial burdens commonly lead to worry about necessary resources and the welfare of the family (Linares-Gonzalez, 2006). Generally, parents are the primary caregivers of a child with autism and often must bear the social challenges (stigma and discrimination), psychological challenges (stress and anxiety), and economic/financial costs associated with the behavior, treatment, and care (WHO, 2003). It appears that the challenges families face in connection with the developmental disabilities of children are more serious and complicated in developing countries like Ethiopia (Amakelew, Daniel, & Fasikawit, 2000). People with special needs in developing countries have encountered many problems as governments of many of those countries have never committed themselves to providing various services for these large groups of citizens (Getnet, 2013).

Method

The current study is done through a qualitative approach to gain insight into the experiences of parents of a child with ASD. A convenience sample of twelve parents and four key informant interviews were conducted. The parents were selected through the teachers and professionals in Joy and Nehemiah Autism Centers. The

collected data through in-depth interviews and key informant interviews were transcribed and analyzed using thematic data analysis.

Results

Financial Challenges of Raising a Child with Autism

Financial challenges are articulated as a constraint in their lives. All the participants agreed that caring for a child with ASD requires extra cost, attention, and effort. Hence, caring for autistic children has its own economic consequence. Financial challenges were commonly mentioned by most of the participants. In their caregiving process, parents incurred different kinds of financial expenses. Some of the participants complained about the financial burden associated with the cost of providing everyday basic needs (such as the high cost of food, clothing, and transportation costs). For instance, Belay and Meseret described the extra expense as:

Caring for the child requires extra expense. You need to provide a balanced diet. Unfortunately, he chooses certain types of food, for example, he likes cooked beef. The cost of buying a slice of meat is very high in which we are unable to afford due to our financial burden. I am also unable to afford the clothes, materials for the child's hygiene, and transportation costs for me and the child (Belay).

Having a child with autism plus the transportation cost for medical treatment or therapies and the increasing cost of food is the main financial burden for our family. ...We are using public transport. But it is not convenient for him, sometimes he cries and his tantrums would come when a lot of people are gathered on public transport. Managing his behavior in this situation is difficult. Let alone using a private taxi, using a minibus taxi is of high cost for me. I think the financial constraint is much stronger even than the emotional or social one for me (Meseret).

Two participants had resigned from their jobs to provide full attention and devote time to care for their child with ASD. Quitting a job has forced them to become a housewife which in turn affected the parents' income in being able to provide better care and treatment for their child. In this regard, Zahara explained:

I did quit my job just to take care of my child. I used to be a cleaner in a private company. I have stopped working and became a housewife believing my child requires more attention and care. Now, we are living by my husband's monthly income. Autism has affected a lot on my employment, income, and work.

Others raised the issues of medical costs and extracurricular services (like speech therapy) the child needed. For example, Ruhama shared:

I have spent all my money on medical services and buying medicines for my child. I am leading my life by petty trade. The money I am making is not sufficient for more than paying for the house rent and our food. If I had money, I would look for better care and treatment for my

child. Now I can't afford it and my only option is praying to God to improve my child's situation.

Two participants identified spending large sums of money on the services and treatment of their children.

Umm, in terms of finance, although we did not have many financial challenges, caring for an autistic child is like an investment venture that requires a huge amount of money. It is not easy; [with long out-breath] we have spent a great amount of money on medical services, medicines, special foods (like imported gluten-free diets), therapies, toys, and school supplies. It makes our finances tight. But still, thanks to God, because we have afforded (Abigail).

According to the key informant from Joy Autism Center, autism adds pressure on parents' expenses and contributes to financial constraints and difficulty:

When poverty is attached to autism, it is really difficult and devastating for the parent. A child with autism requires more time, energy, and money than a typical child. The parent falls into the paradox of making a living to survive and at the same time, they were plagued by providing care and support for their autistic children. Sometimes, the mothers would leave their job and employment and rely on their husband's income to provide better care. ...financially, it would also add pressure by requiring additional expenses for feeding, medication, transport, specialized toys, and services. Fulfilling all these needs, especially for a single and destitute parent, is appalling and overwhelming.

Finally, autism has created a financial challenge and pressure on the participants, meaning, almost all the parents claimed an imbalance between what they are earning and what the child's needs or demand creates stress in their homes and lives. The children require more care, effort, and money to teach them skills at home. Hence, the parents need space, toys, and time. Nonetheless, almost all the parents with financial constraints are not living in their own home and usually rent a small affordable house in a compound where other people live. They are also in need of a space to socialize their children in addition to the financial challenges they are facing.

Discussions

Caregiving for autistic children is expensive for parents. According to Saunders et al. (2015), families of children with ASD had a significant level of financial hardship because of their children's special needs care. Jarbrink et al. (2003) asserted that the financial cost of raising a child with a disability is estimated to be approximately three times greater than the cost incurred in raising a typically developing child. Participants of the current study attributed the financial burdens to clothing, food, medication, additional care, and treatment such as speech, cognitive, social skills therapy, and transportation costs. The parents explained that to keep the personal hygiene of a child with autism, extra clothing and sanitary pads are needed daily. In the provision of a balanced diet, the high

cost of food items is also challenging for the parents. Sharpe and Baker (2007) endorsed that many intervention strategies require long hours of one-to-one interaction with a trained therapist, and the use of costly foods or drug supplements. Parents of a child with autism often face greater outlays of time and money than they would for a typically developing child. However, the finding from the authors did not indicate a specific figure for the cost of intervention strategies and interaction with trained therapists.

According to participants of the current study, children with autism have special needs that require enormous investment. Similar to other children, parents need money to satisfy the needs of their children, including a balanced diet, clothes, and other basic needs. Those with relatively better economic status can at least provide the material needs of the children. However, parents with no sufficient source of income are likely to be challenged to meet their children's needs. For instance, findings from Weiss, Wingsiong, and Lunsky (2013) revealed that parents raising a child face different demands that require adequate income. As parents fail to meet these demands, it can lead to a crisis. A study by Dababnah and Parish (2013) in the West Bank stated that parents raising a child with autism experienced financial hardships to meet their children's needs. Myers, Mackintosh & Goin-Kochel (2009) noted that parents mentioned struggles concerning different expenses while raising their autistic children such as costs for therapies, special schools, and special diets. According to Ganz (2006), the lifetime costs of autism including direct and indirect costs have been estimated at \$1.4 million for someone without an intellectual disability and \$2.3 million for someone with an intellectual disability.

The long-term cost of medical treatment and custodial care is also a challenge for parents (Seltzer, Greenberg, & Krauss, 1995; WHO, 2003). Besides the medical cost and custodial care, costs for livelihood and other basic needs are waiting to be covered by the parents. Furthermore, the impact of autism on parents' labor market participation was noted by Gould (2004) who stated one or both parents often must reduce work hours or step out of the labor market altogether (as cited in Sharpe & Baker, 2007). Financial stresses of parents are also linked to costs of unfunded therapies, unexpected costs, and the necessity of having flexible work schedule/loss of

potential earning (Bevan-Brown, 2004; Hastings & Johnson, 2001; Gupta & Singhal, 2005).

Generally, these financial and caregiving burdens led parents to feel embarrassed about their child's condition. In their responses, participants highlighted the financial burdens associated with raising a child with ASD in Addis Ababa, Ethiopia. This finding is similar to the results of Karst and Van Hecke (2012) that revealed ASD has impacts on parents that included financial burden and poor quality of life; and Lai, Goh, Oei, & Sung (2015) who asserted that individuals with ASD and their parents are facing emotional, social, and financial burdens due to the lack of knowledge about the disorder, and inaccessibility of better supports and services among the public.

Conclusion

It is clear that, the parents faced financial constraints. Autism imposes extra and costly expenses to provide a balanced diet, to cover medical therapies, and to pay for extracurricular activities. The participants agreed that they have incurred extra expenses in an attempt to fulfill their child's needs. Besides the expenses, autism affects parents' income; a few parents were forced to resign from their jobs, or work fewer hours to care for their children. Thus, autism hinders some parents from work and puts a huge financial burden on the parents that in turn make their lives bitter and full of grief.

Implications

The findings of this study also demonstrate that facilities designed to accommodate children with disorders such as autism are not easily accessible to parents. Thus, the government and concerned bodies should try and address the different unmet needs and challenges of these children and their parents by providing appropriate care and financial support.

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RESEARCH ARTICLE

Organizational innovation and ports logistiques: The case of Agadir port

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Abstract

The aim of this work is to study the contribution of organizational innovation to the achievement of the logistical performance of the port of Agadir. The results of this research highlight three areas of innovative organizational practices: structure, IS, and Human Resources. The port of Agadir has an interest in adopting management practices. This fact is observed in our qualitative study where the significant impact of organizational innovation on the logistics performance of the port is positive. The mobilization of Network theory recognizes that the managerial approach is a strategic tool for the adoption of innovative organizational practices and not as a source of costs (Michel Callon and Bruno Latour (2016).

Keywords: Port logistics; organizational innovation; performance; structure; IS

Introduction

In recent years, markets have significantly evolved due to the spatial separation of production centers, consumption centers at the global level. As a result, organizations are constantly looking for strategies that would give them one or more competitive advantages (Serghini 2018). The economic globalization which refers to the integration of operations and markets in an economic area without borders (Azizi Ismail, N. (2008)) and advances in information and communication technologies (Hanna, 2010); is a central environmental force faced by organizations (MAGALA, M. and SAMMONS, A., (2008)).

In such a context, organizations are faced with a challenge to master the different aspects of performance in all phases of their supply chains; a challenge to develop their products without ignoring the quality of their services, to ensure that the resources and means invested in current production remain profitable to meet the needs of their future productions (Tidd J. and Bessant J. (2009)). For this, and given the evolution of the markets, it is not obvious that the acquisition of technological goods is sufficient to accomplish the tasks of steering and evaluating the performance of the supply chain, conditioned by the nature and diversity of flows which makes these tasks more difficult (serghini 2019; Rojo, A., Stevenson, M., Lloréns Montes, F. J., & Perez-Arostegui, M. N. (2018).

The port supply chain is a very sensitive link within a global logistics chain. Indeed, the port and maritime domain is subject to constraints related to time, cost, and quality. Port functions are changing to serve as an

economic catalyst and be centrally positioned to support industries engaged in international trade. Issues of economic stability and corporate responsibility shed new sense on port operations (Wang, N., Liang, H., Zhong, W., Xue, Y., & Xiao, J. (2012). More, growing environmental awareness is stimulating ports to improve their operational viability by considering the expectations of port stakeholders (Wang, N., Liang, H., Zhong, W., Xue, Y., & Xiao, J. (2012); serghini, (2021)).

To meet the current and future needs of ports and their stakeholders, ports must balance land, labor, and technology, as well as to function as a multifunctional business centre that can produce added value and growth for the hinterland. (Wang, N., Liang, H., Zhong, W., Xue, Y., & Xiao, J. (2012)). Port logistics is a major target of organizational and technological innovation, to cope with the increases in volumes to be processed, logistics has had to reinvent itself over the last decade to show ever greater agility in order to meet customer promises that have become extremely ambitious (Jeevan, J., Salleh, NHM, Loke, KB and Saharuddin, AH (2017)) . To achieve this, new processes have been adopted and new tools are being implemented throughout the supply chains (Schmied, S., Großmann, D., Mathias, S. G., & Banerjee, S. (2020)) Continuous improvement of the operation of a port is required, due to the high costs essential to its management. A marine container terminal is a complex system whose handling and transport of containers plays a crucial role, its operation depends on the relevance of decisions, both strategically and tactically as well as operationally (Saeed, K. A., Malhotra, M. K., & Grover, V. (2011)). At each level several problems emerge, such as the scheduling of handling equipment, the assignment of ships to the docks

or the optimization of storage spaces etc however, managers are required to make important decisions at maritime interfaces, here the complexity is related to the existence of many unclear or uncertain decision-making variables, contradictory objectives, and unreliable information (Tsanos, C., G. Zografos, K., & Harrison, A. (2014));

Faced with the increasing flow of containers, any container terminal must ensure its growth and profitability, while knowing how to control its environmental impacts. In addition, if the space and the number of resources of the terminals are not increased, it remains to adapt the flow to existing means and to improve the fluidity of flows. (Jiang, C., Fu, X., Ge, Y. E., Zhu, S., Zheng, S., & Xiao, Y.B. (2021)).

The main objective of the research is to explain and answer these questions: How is organizational innovation likely to impact the performance of the port supply chain? To what extent is the deployment of innovative logistics practices capable of improving the productivity and therefore the competitiveness of port stakeholders?

Theoretical and empirical foundations of research

The port is the crossroads of the performance of multiple supply chains in which several economic actors participate and or collaborate. The performance and fluidity of port passage is not an addition of isolated individual performances but the result of coordinated collective performances (Mongin O (2013)). Performance in ports takes different forms due to the complex nature of port operations (De Martino M., Errichiello L., Marasco A., Morvillo A. (2013)). However, the resulting challenge is the difficulty of measuring the performance of a port with this wide multitude of actors and strategies (Sohier J., Sohier D. (2013)).

Theoretical basis

Most of the indicators used as productivity, production, service, and utility indicators do not reflect the reality of port operations. However, researchers in the field of strategic and logistics management have suggested a wide range of determinants of measuring port performance without agreeing on a comprehensive port performance measurement tool Hult, G. T.M., Ketchen, D. J., & Slater, S. F. (2004). Thus, performance indicators are the common thread in measuring the quality of port service, performance determinants can be qualitative or quantitative (Liu, Y.; Lu, S.; and Zhang, P. (2013).

However, the qualitative determinants are those that can be interpreted subjectively and are related to the port's marketing efforts, and the degree of cooperation between stakeholders. (D'Este P., Rentocchini F., Vega-Jurado J. (2014)).

Faced with various economic, logistical, and environmental challenges, it has become essential that the port logistics chain follows an innovative approach and

that its organization is agile. These conditions push for the introduction of new management methods, techniques, and tools as well as the mobilization of innovative solutions and best practices (Curado C. (2018)).

Organizational innovation is studied in many disciplines, such as management and strategy, entrepreneurship, and marketing. Literature offers two perspectives for organizational innovation. The first perspective holds that innovation is a form of learning (Damanpour F., Evan W.M. (1984)) the second suggests a new idea (Damanpour F., Gopalakrishnan S. (1998)).

Damanpour F., Gopalakrishnan S. (1998) suggest that innovation is a means by which organizations respond to a variety of environmental changes. Another stream of researchers perceives innovation as a multidimensional organizational trait. Dubouloz S. and Bocquet R., Fariborz Damanpour(2016) consider innovation to include five dimensions: creativity, risk-taking, openness to change, future direction and proactivity. Similarly, Garcia R., Calantone R. (2002), proposes that innovation has four elements, namely creativity, strategy, application, and differentiation. Gay C. and Szostak B. (2019) classify organizational innovation into two categories:

Technological innovation: including products, services, and processes. And administrative innovation; including organizational structure, administrative process, and programs. Thus, innovation takes many forms, it can be tangible (as a product) or not (as new services and work practices). New or improved products, processes, management, and evolution of the organization (Isaksen S. G., Ekvall G. (2010)).

For this research, we use the following definition of organizational innovation: "Organizational innovation is an innovation comprising organizational and managerial practices, tools, processes, techniques and structures, new to the company adopting them and intended to improve the effectiveness and efficiency of internal organizational processes" (OECD, 2005).

Adopting an organizational innovation approach refers to various managerial and administrative behaviors, which vary greatly depending on the company (Julien and St-Pierre, 2015).

Different stages were highlighted: the exchange of information and the search for new ideas, while considering the "cost-benefit" analysis and paying particular attention to the pre-followed planning of development and ultimately the execution (Calabretta et al., 2017).

However, the objective of this work is to propose an integrative analytical framework for the adoption of the organizational innovation approach and its levels of analysis: internal background and interactions, external background and interactions, and relationships between organizational innovation and technological process innovation (Pichault F., Picq T. (2013)). To do this, we will exploit three axes: infrastructure, IS and HR management.

Empirical foundations

Over the last ten years the Commercial Port of Agadir has experienced a distinctive growth (14% by last year), it contributes to the export of highly perishable products including packaged fruits and vegetables and seafood (frozen or canned mainly) (ANP 2020). The port of Agadir handles 10.1% of national traffic and a third of all citrus and early exports. It plays a very important role in the economy of the kingdom and participates massively in regional activity (ANP 2020).

The port of Agadir is experiencing a growth in the containerization of traffic and has several stakeholders in the containerized maritime transport chain; and more specifically about the management of the port supply chain where the management of time, costs and quality of service are complicated (Serghini 2019).

The port of Agadir is the only port open to the entire southern region (before the port of Laayoune was built). Its influence extends to Ouarzazate since minerals extracted in this region are exported to the port of Agadir (EGSM Review n°32, (2020))

The choice of the port as a field of study is since today it is beginning to consider new market constraints and has sufficient potential for evolution and wants to be a privileged outlet for diversified transit. Thus, the modernization of the port of Agadir is at the heart of the national and regional concern that will contribute to the rationalization of port operations and the strengthening of its competitiveness.

Purpose and problem of the research

The port context is often characterized by the various issues that hinder the achievement of the level of performance requested. Thus, ports are recognized by their heterogeneity and the contradiction of the objectives of these actors, each of them to its own expectations and requirements. Also, port stakeholders are required to meet certain standards of costs and economies of scale, to meet the requirements of deadlines, and to provide a high rank of quality to the service provided (Serghini 2021).

In recent years, the port community, like other industries, has been required to adopt solutions that are less polluting, ecological and with the same level of quality of service, as well as to create and invent solutions and procedures that are more respectful of the environment (Mongin O (2013)).

We have listed some logistical issues that arise throughout the processes of the port logistics chain:

- Use existing facilities more efficiently to avoid overcapacity,
- Ensure a certain level of operating profitability
- Respond more quickly to structural and cyclical changes, such as new information technologies, just-in-time logistics, etc.

Faced with this multitude of challenges, stakeholders in the port logistics chain are forced to innovate to overcome

these challenges, which encourages our choice and explains our motivation to study: how does organizational innovation influence the performance of the port logistics chain?

Research Methodology

To understand the impact of organizational innovation on port logistics, we cannot be located outside the phenomenon, by going back and forth between theory and the field of research, so the present work is in an intermediate approach between positivism and interpretativism (F Wacheux (1996)).

The positioning adopted to carry out this research is characterized by a deductive logic, and an approach of a qualitative nature. This approach will be carried out in two phases: a first observatory and the second qualitative one.

Observatory phase

We carried out a site visit, namely the equipment park, the wharf, the restricted area, the container park, and the cold storage space. Thus, we witnessed a set of operations, such as customs clearance, loading and unloading, the passage of trucks to the scanner, handling of containers, as well as the various operations of pointing and checking loading and unloading lists, sequencing of boats, stowage plans, receipt vouchers, etc.

This first contact helped us to understand the reality and practices of the port community of Agadir and it allowed us to assess its adequacy with the pre-set objective and the research question targeted. This phase also allowed us to collect secondary data on the Sous Massa region, the port of Agadir and the containerized transport circuits of agri-food products exported from the Sous Massa region.

The qualitative phase

In this qualitative study we approached a variety of industries in the agri-food export sector, services (carriers, shipowners, freight forwarders, insurers) and public administration (Harbour Master's Office, Customs, Taxes, ANP) within the port of Agadir. We interviewed 18 operators, with a panel of interviewees of 45 individuals and brings together directors, technical service managers, engineers, site managers and logisticians. These are managers who carry out different tasks of port operations. We got interesting information, through direct contacts. And we were able to confirm the effect of organizational innovation on the efficiency of port operations.

Choice of organizational axes studied

The selection of these axes is based on two considerations. First, it is a reasonable choice given that each component of organizational processes certainly influences

responsiveness. Secondly, we focused on Knowledge Management. Perspective rather than performance. In this work, the focus is on illustrating and interpreting how and why the adoption of organizational innovation practices contributes to the acquisition of more efficient ports. Therefore, the axes chosen are sufficient to provide the evidence required for the analysis.

In this research, reliability and validity were considered in different ways. In terms of reliability, interviews were recorded, and in terms of validity, the theoretical framework was used as the basis for developing the relational model and assumptions. The choice of people involved in port processes for interviews has also increased its validity.

Results and discussions

We have noted that the port of Agadir is in a transition phase, which is why it must refocus its mission on activities necessarily involving the port in the port logistics chain. Certainly, the port of Agadir has shown a great desire for improvement through a panoply of projects and corrective measures of anomalies related to the different levels upstream and downstream of its supply chain.

The Axes studied

In this research work, we focused on studying three main axes, which are:

Axis 1: Port infrastructure

The first focus of our research was on the infrastructure made available to the actors of the port logistics chain and their degree of satisfaction after the exploitation of this infrastructure. Interviewees say there are still constraints in terms of tight storage space, delays, and congestion.

According to some operators, the most widespread constraint is that of the limited storage space either for the ships loading and unloading operations or for the container's storage. This is a space fixed as soon as the concession contract is concluded. The management is the optimization of this space is not an easy enough task because of the increase in traffic that exceeds the capacity of the operating port, moreover some customers prefer to store their goods in the port than elsewhere for security reasons which further increases the challenge.

According to the interviewees the storage space is often arranged according to the dominant traffic, if today the container traffic has increased the yard area will be adapted to absorb the mass of containers, if the traffic of the various dominates the storage area will be designed to store the various. This permanent change in storage policy generates costs in terms of spatial planning, equipment since each traffic has its own processing materials and staff since a crane operator who is trained to handle bulk

cannot process containers and even if he manages to do it will not be up to a specialist crane operator.

A solution for this storage problem has been adopted by the port of Agadir. This is stack storage or vertical storage which consists of increasing container storage levels from 3 levels to 4 or 5, but according to interviewed handling specialists, this solution is considered temporary because it is valid only for empty containers. According to them they can store the voids in 5 levels because their weights do not exceed 25 tons which is impossible for full containers for a reason of the heavy weight of the goods which will subsequently cause damage to the containers and to the stored goods and a degradation of the soil over time. Not to mention the constraint of the equipment because the best of the jumper carts can only stack on 3 levels.

Unfortunately, the port of Agadir suffers from structural logistical congestion to the extent that the constant nature of the infrastructure is insufficient for the level of traffic within the port or due to the lack of equipment. In addition, the new security system due to COVID-19 generates disruptions in port operations.

Administrative procedures or handling problems (customs, security procedures, etc.) can also be causes of congestion. It is very difficult to fight against occasional congestion (caused by COVID-19) because it can only be treated when it occurs, it is essential to focus on structural congestion to solve the problem and avoid degradation. Structural congestion is much more serious, as it has consequences for the entire port system. Admittedly, a ship treated late will have repercussions on the entire supply chain. A delayed unloading transfers the delay to another mode of transport. Finally, the delivery to the final customer who is marred by a delay and especially a possible additional cost. Each stage of the supply chain depends on another.

According to the interviewees, three forms of congestion are common at the port of Agadir are:

- Truck and Car Congestion: Road Degradation and Aging Weighbridges
- Congestion at unmarked or leased medians and storage areas: lack of storage areas
- Congestion at the port water body: Crane, gantry, or other handling equipment failures, etc. Also, the lack of dock for berthing and securing vessels due to unrecoverable wreckage.

The problem of delays is often related to the two constraints mentioned above; that of storage and congestion as well as customs procedures and formalities, the latter are related in the first place with international law and signed conventions, which reduces the margin of manoeuvre of the actors to fluidize them. Despite this complexity, the administration of customs and indirect taxes (ADII) is still trying to improve by dematerializing its procedures, which we will see in the following theme.

Most interviewees stated that the starting point for any organizational innovation is constraints and risks. Each through his job, they organize meetings where they

discuss the problems faced and the possible solutions. Then they move on to the post-implementation of these solutions if it works and show positive results on their performance, they try to adopt it and improve it as they go. Otherwise, they give up and continue their research. Some of them are part of a continuous improvement policy within the certification framework: MARSAMAROC is certified:

- ISO 9001
- OHSAS
- ENVIRONMENT
- 45001

They organize continuous improvement circles where they follow an approach to solve problems and achieve their performance goals.

Axis 2: Community information system

Interviewees reported that their structures have systems in place to exchange information in a more efficient and relevant manner. For other port stakeholders such as operating agents, information systems are at the heart of their innovative solutions. MARSAMAROC uses research and development consultants. It is in the process of implementing a Terminal Operating System (TOS) which consists of automating container movements, which will improve the management of the terminal. It will be operational once their equipment is equipped and after the installation of a control tower to track movements within the terminal.

Some freight forwarders interviewed consider the Port Net platform as a complex novelty to use, and which requires staff training as well as time to adapt with its integration, others say that it has negatively impacted their procedures.

The Moroccan Customs is also an institution involved in all international commercial operations, according to the interviewees of this establishment, the ADII is open-minded for any organizational or technological novelty that will improve customs formalities. This institution demonstrates its interest through dematerialization; for them it is very advantageous; the same applies to exporters and importers interviewed. According to the latter, the customs clearance time has been shortened compared to the dematerialization before, not to mention that they have noticed a gain in travel and a limitation of travel and consequently a gain in travel costs and shopping costs. Dematerialization has also made it possible to reduce human contact and therefore the chances for the practice of corruption.

However, constraints prevent the dematerialization policy to achieve the expected results, namely computer hardware failures, and intranet and internet networks are frequent. Also, the platforms used require more powerful hardware and considerable backup capacity. Unfortunately, the various actors are thinking about the costs of investing in technology.

Axis 3: Human Resources

Interviewees say that at the level of human resources, the essential tool to get staff to adhere to the process of implementing innovative solutions is training and support, to follow the changes.

Others require profiles that already master software, procedures, or digitization platforms.

In the context of this work the target was varied, each of its position requires certain profiles that seem important to it to improve the performance of its entity.

For Marsa Maroc, communication comes first, it has created an information architecture where each hierarchical level has its own point of dissemination. Interviewees suggested that meetings and minutes remain the preferred means by their managers to disseminate information and new solutions. For some interviewees, the disadvantage of certain solutions and the increase in the requirements for staff improvement and versatility may be the cause of the increase in the redundancy rate.

Discussion of research results

We highlighted that considering the constraints related to the port logistics chain was essential and was a pervasive problem in the port of Agadir. The actors and stakeholders of the port have become aware of these constraints and are trying to overcome and adjust them through innovations and organizational solutions. And dedicate resources and coordinate with their collaborators. Each link in this chain has its own stakes and challenges, which give rise to divergent problems and contradictory objectives.

According to this work, it appears that, for the port logistics chain to be efficient, it is necessary the support of the whole community in a policy of continuous improvement which will promote the involvement of everyone to innovate and solve the problems faced, delay, congestion, and limitation of storage spaces as well as the complexity of customs formalities. Each stakeholder has its own definition of performance, for some it is the financial profitability that matters most, for others their operational performance is the first concern. To achieve this, they have each implemented internal solutions or integrated community solutions to meet the challenges.

The results of our research show that there is a direct link between port logistics and organizational innovation, the success of this combination may depend on the efficiency of port actors to adapt to each constraint, which will allow them to achieve their performance objectives.

Conclusion

The seaport of Agadir must be able to evolve its working approach to capture long-term traffic; that is to say, not only to be a place of loading-unloading but to be a

logistics platform by the deployment of complex container massification structures and the offer of quality port services (short transit time, and responsiveness).

Certainly, the port of Agadir, like all ports, must ensure numerous links with the hinterland so we are talking about a complex network of organizations where the Port Authority (ANP and the captaincy) sees that its functions consist in leading a network and drawing up its development strategy, we are talking about a managerial mission.

We have tried, in this work, to present an overview of the logistics activities of the port of Agadir and starting from the hypothesis of port development with a managerial mode, organizational innovation is a solution to have a logistics performance. The activities considered require variable skills with a wide range of profiles, something that is little noticed at the port of Agadir, so port actors still suffer from a set of constraints in terms of limited storage spaces, delays, and congestion despite the efforts of the port authority. The concern for continuous improvement is omnipresent among the actors of the port community. Hence the use of organizational innovations and best practices and professional advice to achieve the objectives set.

This work requires a deepening because we have discarded an important dimension to make the subject understandable. This dimension is the sectoral specificity, the objectives, the constraints, the culture vary considerably from one sector to another. This will have an impact on the management of flows.

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- Revue Espace Géographique et Société Marocaine (REGSM) n°32, February 2020* Prospect-prospective transport infrastructure in the metropolitan area of Agadir (Morocco).

RESEARCH ARTICLE

Supply chains and COVID-19: impact on Jordan's, countermeasures and post-COVID-19 era

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Abstract

The objective of this paper is to assess existing information on the COVID-19 pandemic's impact on Jordan's supply chain and countermeasures adopted by businesses to mitigate supply chain interruptions. Many effects have been felt in the supply chain industry. The study will explain how travel restrictions have reduced international trade which has also affected Jordan's supply chain. Global business leaders may use information from this study in making necessary decisions relating to trade activities in the country. It will assess Impacts of COVID 19 in the supply chain Industry in Jordan particularly the impacts of supply chain on demand, on logistics, manufacturing, and finally on people. A series of economic implications and research options are provided based on these results.

Keywords: Global supply chain; manufacturing; demand; supply; logistics

Introduction

Corona virus which is scientifically known as COVID 19 is one of the major deadly viruses ever experienced and evidenced in the world (Peeri et al., 2020). The virus outbreak became a major issue to almost 80% of global countries (WHO, 2020). Jordan imposed major travel restrictions and cessation of movement in many regions. This was to help reduce the spread of the virus to other citizens as the disease caused many deaths among citizens (Baldwin & Di Mauro, 2020). The country also experienced rapid infection rates of the disease within its borders. Without observing and implementing health guidelines to help reduce the spread of the virus, Jordan would have lost many people to the disease (Alzoubi et al., 2020). However, there were many preventive measures which were put in place to help reduce the spread of the virus in the region.

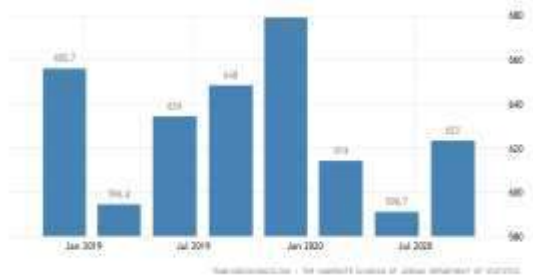
The pandemic's immediate impact on businesses is already severe, and the medium- to long-term implications are projected to be substantially worse (Haren and Simchi-Levi, 2020). COVID-19, according to a recent study, has produced instability in 94% of Fortune 1,000 companies (Fortune, 2020). According to a Dun & Bradstreet (2020) survey, 51,000 global corporations have one or more direct suppliers in Wuhan, and at least 5 million organizations have one or more tier-two suppliers in the Wuhan area, which is where COVID-19 originated. Additionally, a recent survey found that almost 938 Fortune 1,000 companies have tier-one or tier-two suppliers in the Wuhan area (Dun and Bradstreet, 2020).

The significant economic reforms enacted by Jordan throughout the previous two decades and various structural adjustment programs have resulted in nearly doubling the average Gross Domestic Product (GDP) during the 2010-2018 period and posted a 1.9 percent increase for 2018 (Forster et al., 2020). The transport industry which is one of the essential components of the infrastructure has a substantial influence on the economic growth of the nation and accounted for roughly 8.4 percent of Jordan's GDP in 2017. The announced plans to create a 1,000-kilometer railway network in Jordan which would provide train links with Asia and Europe, Turkey, and GCC is predicted to grow the market trajectory broader (Pedigo et al., 2020). However, with the onset of COVID-19 epidemic, a serious public health concern, there was impact on manufacturing, sales, supply chain, and on people (Zhu et al., 2020).

Covid 19 preventive guidelines by Jordan government promoted online trade which reduced physical trades. Since the virus is spread through contact when an infected person comes into contact with an uninfected one, it majorly affects trade markets and centers (Maliszewska et al., 2020). Gereffi (2020) explains that large-scale business organization with online websites benefited from increased demand of commodities when households engaged in online shopping during the pandemic. Additionally, the pandemic limited the movement of people and caused most of the businesses to be physically closed. This increased the demand of goods through the online space as most of these goods were required for survival. However, small-scale traders, for instance, sole

proprietors operating shops, hawkers, and retailers, who depend on physical selling of goods and services experienced reduced sales of products (Ligon et al., 2019). The adversity fairly spread to the small-scale businessmen. These small-scale traders found it difficult to adapt to selling their products through online platforms since their common consumers preferred shopping relatively large quantities of products from large popular organizations (Gereffi, 2020). The Supply chain sense in the complex operation on supplying resources to the same consumers, bearing in mind the small-scale trader was moving from competing locally into trying to adapt to competing with bigger online based and more established companies. These traders faced harsh technical obstacles such as transforming into digital supply chain with no time to learn or rather with a little time to learn, and yet they also had to adapt and fit in the market and keep up for them to be in business. Since small traders relied on other big traders for importing and exporting their products, COVID-19 was detrimental on the relationship because the big traders could not undertake the logistic processes. The Effect of Covid 19 on Jordan's GDP from transport in the country is presented as in the graph below.

Figure 1. Graph 1: Jordan's GDP from Transport



Source: The Hashemite Kingdom of Jordan Department of Statistics.

From the picture above, in January 2020, it depicts a distinct drastic rise in transport GDP as compared with 2019 then a drastic drop in July 2020 after restrictions were introduced in the country in March 2020. The difference between these quantities shows the possible effects of Covid 19 on Jordan's supply chain which in turn reduces the overall trade growth. The total reduced amount as displayed in the graph are to a large amount caused by the direct or rather indirect supply chain impacts of Covid 19 in Jordan. As a response to these requests for further information, this study conducts a systematic literature analysis and presents a detailed overview of the COVID-19 pandemic's effect on Jordanian supply chain.

As a result, it would be fascinating to learn how firms in Jordan are handling COVID-19-related difficulties, given that they frequently lack financial resources and work within stricter economic constraints than enterprises in industrialized and developed nations. Additionally, studies on firms' plans for addressing supply chain disruptions caused by COVID-19 are scarce and illusive (Butt, 2021; Choi, 2020). As such, this article will examine the remedies made by Jordanian businesses to solve COVID-19-related difficulties. The following research question is

produced to serve as the study's guidance for the remainder of the investigation. RQ: How is COVID-19 interfering with Jordan's supply chain operations? Specifically, this study seeks to examine the remedies performed by customers, suppliers, and distributors in response to COVID-19-related interruptions.

Two significant contributions are made by this work. First, it details the interruptions to supply chains induced by COVID-19. It discusses some of the solutions that buyers, suppliers, and distribution centers have implemented to offset COVID-19's influence on supply chains. Second, this research offers some constructive guidance to firms on how to manage supply chain disruptions in the aftermath of the COVID-19 epidemic. It also discusses new business opportunities that may exist in a post-COVID-19 environment and how firms might capitalize on these chances. Additionally, firms can employ these suggestions to strengthen themselves in the post-pandemic age.

Literature Review

Supply chain disruptions are defined as unplanned and unanticipated events that interrupt the normal flow of products and materials through a supply chain, exposing firms to operational and financial risks (Craighead et al., 2020). Wamba (2020) concentrated on the severity of interruptions, whereas Ellis et al. (2010) considered supply chain disruptions in terms of their frequency and magnitude. Disruptions in the supply chain can also occur at any point along the chain (Blackhurst et al., 2005). Risks associated with supply chain disruption are commonly related (Chopra and Sodhi, 2004; Thun and Hoenig, 2011).

Several studies have documented the many, potentially negative effects of disruptions on various supply chains, including accidents and natural disasters (Cooke-Davies, 2002), poor communication, part shortages and quality issues, operational issues (Chopra and Sodhi, 2004), transportation delays and port closures (Chapman et al., 2003) have all documented the many, potentially negative, effects of disruptions on various supply chains (Dubey et al., 2020). These studies have also demonstrated frequent and severe supply network interruptions on individual business or overall supply chain performance. Furthermore, maintaining a highly linked supply chain is becoming increasingly difficult (Wamba, 2020).

Increasing market globalization unpredictability and product life cycles, supply and demand, and increased usage of logistics partners distribution and manufacturing and all of these factors lead to a complicated global network (Dubey et al., 2019). The complexity of many supplier networks has caused many firms to understand that supply chain interruption is inescapable, and many have taken steps to avoid it (Ketchen et al., 2021). Furthermore, these studies have demonstrated that severe and frequent supply network interruptions have a negative impact on the performance of individual firms as well as the performance of supply chains in general. Additionally,

maintaining a highly integrated supply chain is becoming increasingly difficult (Wamba, 2020).

Discussion

Impact from Sources

Epidemics are a special sort of supply chain hazard characterized by the simultaneous disruptions of supply, demand, and logistical structure in a given region (Ivanov 2020). COVID-19 was found in a large number of publications from the review sample in these three supply chain components.

Table 1: Impact from sources

Area	Words Mentioned	Sources of Information		References
		N	%	N
1. Manufacturing	Manufacturing	44	%	575
	Production	42	%	737
	Operations	40	%	517
2. Supply	Supplying	32	%	117
	Sourcing	41	%	335
	Procurement	20	%	68
	Suppliers	44	%	560
3. Supply chain	Supply chain	38	%	531
	Transportation	41	%	344
	Distribution	34	%	150
	Delivery	36	%	163
4. Demand	Demand	43	%	542
	Sales	32	%	154
5. People	People	35	%	125
	Workers	22	%	65
	Consumers	38	%	185
	Buyers	25	%	76

Source: Research finding

The propagation of disturbances along the supply chain is significant; rather than being limited in one sector, the disruption flows to other sections, harming the supply chain's overall performance. The ripple effect is the name for this phenomenon (Dolgui et al. 2018). The various

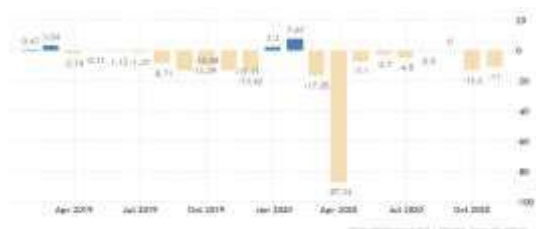
consequences of the COVID-19 interruption did not occur at the same time but were part of a cascade of ripple effects caused by severe shocks, such as the shutdown of manufacturing companies and industrial facilities in Jordan. The COVID-19 pandemic impacted five segments of the supply chain, according to the review sample:

manufacturing, demand, supply, people, and logistics. The consequences on each of these five categories are summarized in the subsections that follow.

Impact on Manufacturing

Plant closures, one of the most significant supply chain disruptions caused by the COVID-19 epidemic, had an effect on the manufacturing industry (Olsen et al., 2020; Panesar et al., 2020; Kumar et al. 2020; Migliori, et al., 2020). The manufacturing assembly halts for Jordanian enterprises began in March 2020, to stop the virus from spreading further (Ivanov, 2020). Jordan's industrial production in April 2020 fell to -87.34 percent from 2.3 percent in January of the same year as shown in the figure below.

Figure 2: Industrial Production in Jordan



Source: The Hashemite Kingdom of Jordan Department of Statistics.

It took a long time and a lot of effort to re-start manufacturing in Jordan. According to a study performed by the Institute of Supply Management in late February and early March 2020, Jordanian factories were operating at 50% capacity, with 56% of usual workers on the job. Manufacturing had to wait for supply to start up, adding to the delay (Van Hoek et al., 2020). Infected workers, safe distancing measures inside the facility, and reduced staff mobility owing to traffic restrictions all hampered the resumption of productivity (Seah, & Agrawal, 2020; Khan & Teicher, 2020; Schleicher, 2020).

Impact on Supply

The most often stated impact on supply was significant decreases in supply availability, leaving enterprises unable to balance supply and demand adequately (Dolgui et al., 2020). Kumar and Mishra (2020) pointed out that even important operations were subjected to considerable supply interruptions owing to supplier production shutdowns in Jordan. Prescription pharmaceuticals, textiles, potassium, phosphates, fertilizers were all mentioned in the articles as being heavily affected (Olsen et al., 2020; Bryson-Cahn et al., 2020). Beginning in March 2020, when Jordanian supplies were curtailed, factories began encountering input shortages from suppliers in China, Europe, and North America, causing them to operate below capacity (Paciocco, 2020). Internal

supply issues hampered manufacturers, who had to rely for their suppliers to scale up output before they could resume assembly (Kebede et al., 2020). Even food producers began stockpiling goods in order to avoid supply shortages caused by product expiration. Farmers are facing supply issues as a result of limited access to vital goods such as fertilizer and pesticides (Mouloudj, Bouarar, Fechit, 2020).

Impact on Logistics

The outbreak in Jordan disrupted transportation linkages between suppliers, manufacturing facilities, and consumers by decreasing the availability of various forms of transportation even when suppliers were able to satisfy orders (Kebede et al., 2020). The shipping industry experienced interruptions in all modes of transportation: sea, air, and land (Kabadayi, O'Connor, & Tuzovic, 2020). The suspension of Jordanian port operations in March 2020 substantially hampered sea/ocean freight (Al-Tammemi, 2020). As a result, shipping corporations increased blank sailings bypassing ports or whole string of ports entirely. The change in port operation hours prompted trucks to encounter delays while picking up and putting off goods (Ito, Hanaoka, & Kawasaki, 2020).

Because of the closure of manufacturing activities, firms ceased receiving deliveries from their suppliers, which increased short-term storage of goods (Abdallah, 2020) and generated further backlog at ports (Khan & Rayner, 2020). Airfreight was considerably hampered by limitations on cross-border movement of people and the cancellation of passenger flights, which reduced the availability of belly cargo (Rastogi & Arvis, 2020). Border crossing limitations and sanitary precautions at borders can have an impact on road traffic (Bielecki et al., 2020). This, along with limited operating hours at ports, resulted in severe delays in reaching consumers.

All of these effects on various modes of transportation reduced freight volumes (Abdullah et al., 2020), causing some smaller companies to exit the market and lowering overall capacity (Guerrieri et al., 2020) and ultimately increasing shipping costs (Bielecki et al., 2020). The unanticipated huge rise in online demand hampered firms with inadequate inventory dedicated to the online channel and created acute shortages of last-mile delivery capacity in reaching end customers (Hobbs, 2020). The negative impact was exacerbated by virus containment procedures, which included new packaging and cashless last-mile delivery regulations (Alshebami & Rengarajan, 2020). According to Aday and Aday (2020), the difficulty to reach end users resulted in considerable food waste and income loss for food producers.

Impact on Demand

Most of the publications in the evaluation depicted the impact of the coronavirus epidemic on demand in Jordan as bifurcated: while certain sectors saw big increases in demand, others saw considerable drops (Elavarasan et al., 2020). Essential goods, such as some grocery items, and

products protecting people from the virus, such as masks, hand sanitizers, and cleaners were in high demand, as well as some medications, herbs, and vitamins (Correa et al., 2020). A considerable portion of the food and beverage supplies placed in retail stores to satisfy peak demand (March–June 2020) were predicted to expire due to lockdowns (Balla-Elliott et al., 2020). Lockdown measures and working from home raised demand for non-essential commodities (Nicola et al., 2020).

Most other product categories experienced decreased demand, owing to economic uncertainty and virus control efforts (Meeke, Hassink, & Kalb, 2020). Demand for consumer gadgets, as well as garments and accessories, fell precipitously (Amit, 2020). Plant shutdowns lowered demand for equipment and chemical items used in automobile manufacture in the B2B market (Gereffi, 2020).

The cancellation of events and shutdown of restaurants owing to virus containment measures by the Jordanian Government lowered demand for food sold via this B2B channel, although the overall impact on demand for food seems to be favorable due to increased consumer demand. As a result, food consumption grew overall (Cavallo, Sacchi, & Carfora, 2020). Consumer preferences shifted, favoring big shipments of certain items and weekday delivery during shutdown times (SHARMA & MEHTA, 2020).

Impact on People

The infection spread across the population of Jordan at the same time that the supply chain disruption spread too (Rizou et al., 2020). Infections and anti-infection treatments may cause supply chain disruptions. People are a valuable resource in the supply chain as both employees and customers. Workers and customers may both have an impact on the supply chain. Demand variability and resulting demand–supply imbalances or shifting demand channels towards more online shopping can cause issues for businesses that are not flexible enough to adapt delivery networks quickly.

During the coronavirus outbreak, the most significant effect on individuals was on the workforce. Worker protection measures, or limits on migration caused labor shortages during the epidemic (Irudaya et al., 2020). Affecting supply and demand shocks, enterprises in production and delivery had to choose between safeguarding employees' health and preserving operational viability. Protective distances hinder output efficiency in factories (Hietanen et al., 2020). Reduced seasonal migrant worker availability causes considerable food waste and revenue loss for businesses. Industry professionals could not travel across borders to install or repair equipment for their clients due to border restrictions (Rizou et al., 2020).

Conclusion and Limitations

The paper presented and analyzed the results on the impact of COVID-19 on Jordan's supply chain based on exhaustive literature study. The research indicated that the incident affected various levels of the supply chain. The study found five primary impacts: manufacturing, demand, supply, logistics, and people. The fact that all these impacts stemmed from the same incident underlines the scale and complexity of the COVID-19 disruptions. The incident not only unfolded at several tiers of the supply chain, but also interrupted them. During the epidemic, many supply chains faced serious difficulty. The research indicated that the epidemic constrains individuals, their mobility, and their behavior, and hinders or makes the utilization of people as a resource unreliable. Because humans are engaged in all phases of the supply chain, whether as customers, employees, suppliers, or drivers running logistics systems, all stages were impacted. Thus, the pandemic event's human component was previously disregarded in prior supply chain resilience studies. The study provided here contributes to our understanding of the role of individuals in supply chain disruptions. As a result of the coronavirus outbreak in 2020, a series of disruptions occurred. A pandemic may impact supply networks in various ways, spanning time and space. Managers should now be better prepared to deal with a future epidemic.

The research given has limitations, just like any other study. The research addressed the current state of information about the nature of the supply chain disruption induced by the coronavirus pandemic (including literature until the end of December 2020). There are limits to how thorough a picture of the ripple impact across the supply chain can be created due to the time delay in the publishing process and the fact that the epidemic is continuing, and the consequences of the pandemic still linger in the economy. Another drawback is the process of doing an organized literature review. Because the technique relies on secondary data, some of the nonacademic contributions included in the literature sample to better represent contemporary arguments regarding this issue may be called into question as to their veracity and robustness. Nonetheless, their arguments are intriguing because they contribute to the communal narrative about how supply chains should approach the COVID-19 issue in the future. Therefore, future research should be focused on establishing how the epidemic is affecting business continuity planning. Future research should also include a cross-continental analysis to see whether the outbreak of the pandemic has a bigger impact on supply chains in Asian nations than in European ones. Using digital technology to diminish COVID-19's effect on the manufacturing side of supply chains should be the focus of future studies. The internet of things (IoT) and robots, among other technologies, have been mentioned as ways to simplify the production process.

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RESEARCH ARTICLE

Narrow Concept of Accountability in Public Sector Expenditure: Measuring Accountability Proportionately and Progressively

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Abstract

Accountability is one of the main elements of the realization of good governance which is currently being pursued in Indonesia. The government is asked to report the results of the programs that have been implemented so that the public can assess whether the government has worked economically, efficiently and effectively. Accountability can be seen from an accounting perspective, a functional perspective and an accountability system perspective. This Scientific Journal uses normative legal research and uses a statutory approach and a legal concept approach. the development of the public service paradigm from a broad concept of accountability to a narrow concept of accountability in public sector procurement spending that uses providers of goods and services, both as business entities and individuals, is done through the selection of providers of goods and services. The power to set policies is exercised by the legislature, specifically in the policy of setting the state budget, known as budget rights. Meanwhile, the executive power in the field of state finances is known as the general power for managing state finances. Based on this, the concept of governance which emphasizes the mechanism in carrying out functions by actors involved in certain sectors has not shown a certain mechanism, as well as the principle of accountability which is an element of governance that is still an accountability concept with general evaluative character (umbrella concept). The very broad, general and evaluative, is very difficult to define practically and empirically because there are no operational standards for accountable behavior.

Keywords: Accountability; Good Governance; Public Sector Expenditure

Introduction

Along with the adoption of the concept of governance in the administration of government, the management of the public sector has undergone significant developments and paradigm shifts. Many thoughts from public sector management experts who discuss this new paradigm, such as David Osborne and Ted Gaebler in their work Reinventing Government or entrepreneurship bureaucracy (Sugiyarti 2015), as well as the thoughts of Colin Talbot in his Theories of Performance: Organizational and Service Improvement in the Public Domain (Talbot 2010), In addition, starting in the 1990s, the science of public administration introduced a new paradigm which is often called the New Public Management (NPM). Although it is also called by other names such as Post-bureaucratic Paradigm by Barzeley, but in general it will be called NPM again because it departs from Christopher Hood's idea as the beginning of an alternative paradigm (Akbar 2015).

Based on the developments of some of these thinkers, it is shown that along with the increasing role of the private

sector and society in the administration of the economy and participation in making public policies, it demands a flexible, dynamic, effective-efficient and accountable public sector management for the performance of the outputs produced in the implementation of management. public sector. With the dynamics of implementing regional autonomy in Indonesia as it is currently being implemented, the central government to local governments are currently preparing for the preparation of a better government accounting standard as well as intensive discussions on the role of public accountants in auditing state and regional finances. However, it appears that government accountability in Indonesia is still focused on the management of state or regional finances. After the reform of the government system in 1998, it is well known that Indonesia is entering a period of recovery due to the prolonged economic crisis. All parties including the government are trying to overcome this by carrying out reforms in all fields. One of the efforts to restore economic, social and political conditions is to restore people's trust in the government, by trying to create a clean and authoritative government or what is

known as good governance (Sadjiarto 2000). This effort is also supported by many parties, both the government itself as an executive agency, together with other control institutions, namely the House of Representatives of the Republic of Indonesia as a legislative body, the press as a medium of information and also by non-governmental organizations.

The paradigm shift is not a simple change, but this change is a change in the role of government in society and the relationship between the government and its people. In the new paradigm, the government is not the only provider of goods and services for the community. This perspective places the relationship between the government, the private sector and the community as partners to provide various public needs. Even in certain cases it can also be observed when the provision of public needs has been largely played by the public and the private sector, the role of the government is only placed as a regulator and jury or government as rule maker and umpire. This is in line with the phenomenon that occurs within the government, especially in the procurement of goods/services for public needs, which of course requires special and concrete procedures. The need for the role of the government is also due to a necessity that absolute freedom is impossible because in life we are always faced with imperfect men, men's freedoms can conflict (Friedman 2020). Openness, government accountability is also emphasized in this new paradigm, which is indicated by the adoption of various economic principles and private sector management into the government sector to improve the performance of the government sector. Modern governance includes not only efficiency and economic improvement, but also an accountability relationship between the state and citizens who have the right to obtain guarantees for basic needs and hold the government accountable for various policies carried out. According to Sirajuddin, et al., in Nuriyanto that at an ideal level, all state services are financed indirectly by the community through the insurance and taxation systems, with the main orientation being to support human investment. This concept includes the concept of a welfare state as the fruit of the application of an independent, productive and efficient economic system with individual incomes that allow people to save, after the basic needs in their lives have been fulfilled with free public services (free) organized by the government. Therefore, to achieve the ideals of the welfare state services must be held public with guaranteed quality (Nuriyanto 2014). Regarding the description above, there is a new paradigm shift after the reform of the government system in 1998, that the implementation of regional autonomy in Indonesia as in 2001 gave rise to a new type of accountability, in accordance with the mandate of Law Number 22 of 1999 concerning Regional Government and Law Number 25 of 1999. 1999 concerning Financial Balance between Central and Regional Governments. In this case, there are 3 types of

regional financial accountability, namely accountability for financing the implementation of deconcentrating, accountability for financing the implementation of assistance, and accountability for regional revenue and expenditure budgets (hereinafter abbreviated as APBD). Meanwhile at the central government level, financial accountability remains in the form of accountability for the state revenue and expenditure budget (hereinafter abbreviated as APBN) (Sadjiarto 2000).

Thus, the implementation of professional and quality public services is the main instrument for realizing the welfare of the people as aspired by the Indonesian nation in the constitution of the Unitary State of the Republic of Indonesia (hereinafter referred to as the 1945 Constitution).

However, the provisions of Law Number 22 of 1999 concerning Regional Government and Law Number 25 of 1999 concerning Financial Balance between the Central and Regional Governments in practice cannot answer the need for government management so that the government and the community through their representatives in the House of Representatives of the Republic of Indonesia make changes arrangements as regulated in Law Number 9 of 2015 concerning the Second Amendment to Law Number 23 of 2014 concerning Regional Government. Furthermore, the provisions of Law Number 25 of 1999 concerning Financial Balance between the Central and Regional Governments are amended through Law Number 1 of 2022 concerning Financial Relations between the Central Government and Regional Governments.

Furthermore, with the phenomenon of these changes, especially in the procurement of goods/services for public needs in a specific and concrete manner, the regulations related to the procurement of goods/services for public needs are regulated through several changes and the last one is confirmed in the provisions of Presidential Regulation No. 2021 regarding changes to Presidential Regulation Number 16 of 2018 concerning Government Procurement of Goods/Services (hereinafter referred to as the Presidential Regulation on the Procurement of Goods and Services). As the preamble considering the letter b that "to realize the Government's Procurement of Goods/Services as referred to in letter a, it is necessary to regulate the Procurement of Goods/Services that provides the fulfillment of the maximum benefit value (value for money) and contribution in increasing the use of domestic products, increasing the role of Micro, Small and Medium Enterprises and sustainable development".

As one of the key indicators of change in order to create an agenda for the transformation process to realize justice in order to build a more clean and authoritative government order (good governance and clean government), and the transformation process is an appropriate change effort with better governance, cleaner and more authoritative, and free from various personal, group and class interests. According to the results of a

study from the World Bank and the Asian Development Bank contained in the country Procurement Assessment Report, it is stated that there is a percentage of 10 to 15 percent leakage of the government's goods/services procurement budget due to poor public service conditions, power arbitrariness, weak regulation, lack of oversight institutions and no commitment. In addition, a lack of transparency and accountability has the potential for corruption (Listiyanto 2012). The desire to create a clean and accountable procurement of goods and services is an action that must be sought by the government to realize good governance. Based on this, it is interesting to analyze for research with the title "Accountability Concepts from Broad Concepts of Accountability to Narrow Concepts of Accountability in Public Sector Expenditures. (Measuring Government Accountability proportionally and progressively)".

Research Purposes

Restrictions are needed so that a study has a clear and directed direction, so the purpose of this study is to analyze the efforts made by the government in increasing the capacity of the bureaucracy, especially in public sector spending.

Methodology

The research method is used to find truth in legal research. The writing of this article uses a research method in the form of normative legal research, where the focus is on examining and analyzing positive law (Dwikayanti and Purwanti 2021). It can also be said that the normative legal research method can be interpreted as a method aimed at the object of study in the form of legislation, literature, journals, and other library materials (Prabandari and Purwanto 2021). This research uses a statute approach and conceptual approach. A definition statute approach is an approach to a problem that is studied based on laws and regulations that are related to the problem being discussed. While conceptual approach his trying to find truth by using opinions or doctrines or legal theories put forward by legal experts in Indonesia and internationally, in order to assist the research, so that the truth can be reached (Jasmine 2021).

Results and Discussion

Development of the Public Service Paradigm from Broad Concept of Accountability The Narrow

Concept of Accountability in Public Sector Expenditure

According to Arie Soelendro, the main elements of this effort to realize good governance are transparency, fairness, responsibility and accountability (Soelendro 2000). Meanwhile, Hadori Yunus stated that the elements of good governance are the demands of openness (transparency), increased efficiency in all fields (efficiency), clearer responsibilities (responsibility) and fairness (Yunus 2000). On the basis of this concept, which actually emerged as a result of the development of the democratization process in various fields and the progress of professionalism. Thus, the government as the main actor in implementing good governance is required to provide more transparent and more accurate accountability. This is increasingly important to do in this reform era by empowering the role of control institutions as a counterweight to government power.

In the context of the system to realize harmony in the system, process, procedure, function, structure, organization and ethics, as in its implementation, it begins with bureaucratic reform which aims to ensure that the government bureaucracy is clean from political intervention, namely in the provisions of Law Number 43 Year 1999 concerning Amendments to Law Number 8 of 1974 concerning the Principles of Employment. In the context of bureaucratic reform that involves many interests, according to Koenig Archibugi explains that "...within governance systems, problem solving is not the preserve of central authority able to impose solutions on subordinate agencies and individuals, but the result of the interaction of a plurality of actors, who often have different interests, values, cognitive orientations and power resources" (Osborne 2010).

In connection with this, it can be understood that the governance can create a problem-solving mechanism by interacting between various actors who have different interests, values, and resources, so as not to force the use of certain solutions from the authorities. Based on the description above, it briefly implies that the notions of government and governance have fundamental differences. The difference between the words government and governance can be observed in the description given by Sadu Wasistiono in the form of a table with 6 (six) comparative elements, as follows:

Table 1. Comparison of the Terms of Government and Governance (Sadu 2003)

No	Comparative Elements	The word Government	The word Governance
1	Understanding	Can mean bodies or institutions or functions that are carried out by a highest organ in a hierarchical state	Can mean way, use or implementation.
2	nature of the relationship between	in the sense that those who govern are at the top, while citizens who are governed are at the bottom	heterarchy, in the sense that there is equality in position and only differs in function.
3	the components involved	subject, namely government institutions.	There are three components involved, namely: Public Sector Private Sector Community
4	Dominant Role Holders	Government Sector	All play a role according to their respective functions.
5	Expected effect	Citizen compliance	Citizen participation
6	Expected end result	Achievement of state goals through citizen compliance	Achievement of state and community goals through participation as citizens.

Source: Sadu Wisistiono, 2003

Based on the table, it can be understood that the position of governance in the perspective of public policy science, in fact has an influence on the concept of governance also provides a paradigm jump in the science.elements (actors)complex in policy strategies in the public sector.

In addition to this, the position of governance is also related to Networks as a model perspective which is an alternative approach to achieving governance. According to Sadu Wasistiono that “The networks approach considers public policy making and governance to take place in networks consisting of various actors (individuals, coalitions, bureau, and organizations) none of which possesses the power to determine the strategies of the other actors. The government is no longer seen as occupying a superior position to other parties, but as being on equal footing with them” (Sadu 2003).

In relation to the development of the public service paradigm from a broad concept of accountability to a narrow concept of accountability in public sector spending, it can be seen that procurement using providers of goods and services, both as business entities and individuals, is basically done through the selection of providers of goods and services. The rapid flow of development must of course be balanced with the role of the government in providing various forms of goods, services and infrastructure development.

In practice, as mandated by the constitution, namely Article 23C of the 1945 Constitution, the implementation of government is given the authority to use the budget as a supporter of governance in every government organ. Regarding the use of the budget, as stipulated in Law Number 17 of 2003 concerning State Finance, there is a separation of powers between 2 (two) institutions so as to create a check and balance. The separation of powers is a good principle according to the

theory of state administrative law. The power in question is the power to set policies and the power to implement policies. The power to set policies is exercised by the legislature, specifically in the policy of setting the state budget, known as budget rights. Meanwhile, the executive power in the field of state finances is known as the general power of state financial management.

Furthermore, with respect to the general power of state financial management based on the provisions of Government Regulation Number 45 of 2013 concerning procedures for implementing the State Budget, that the Minister/Head of Institutions as Budget/Goods User has the task of, among others, compiling and submitting financial reports of the Work Units of the organs that are under their auspices. The parties involved are often seen as the party responsible if there is a deviation from the process of procuring goods and services. In fact, these parties are directly processed by being subject to administrative sanctions, being sued for compensation / being sued in a civil manner; and reported for criminal proceedings on the basis that the parties who are proven to have violated the procedures for the procurement of goods and services as stipulated in the Presidential Regulation on the Procurement of Goods and Services (Pane 2017).

If analyzed in the provisions of the Presidential Regulation on the Procurement of Goods and Services, it is stated that 1 (one) objective of the government's procurement of goods and services is to increase the participation of micro, small and cooperative enterprises. Procurement of government goods and services is one of the drivers of the economy that makes it easy for MSMEs to participate in the procurement of government goods and services. In this presidential regulation, it is hoped

that the implementation of government procurement of goods and services can be carried out quickly and precisely without leaving the principles of procurement of course.

Based on this understanding, it can be understood that the procurement of government goods and services has an important role in the success of national development in order to improve public services, both at the center and in the regions. The implementation of government procurement of goods and services plays an important role in achieving the performance targets of Ministries/Agencies. In addition, the procurement of government goods and services is able to provide employment and open opportunities for the small and medium-sized business community but must be carried out by fully understanding the capacity of legal provisions and being able to simulate the process of procuring government goods and services starting from the planning, preparation, to implementation according to

applicable laws and regulations so as to realize clean and accountable procurement as part of good state financial management.

In the context of the welfare state, where The state is faced with guarantees to provide for the basic needs of the community, so that the government may not always be able to apply the principles of effectiveness and efficiency, but the fulfillment of these basic needs guarantees does not mean that the government is freed from being responsible for it. Every expenditure for public needs through the procurement of goods/services must be accountable as a form of implementing the principle of accountability. Accountability is not only the domain of the government sector as a buyer, but also the domain of the private sector as a provider. In addition to the new paradigm being promoted in order to improve government performance, the principle of accountability itself continues to develop, as shown in the following table:

Table 3. Development of the Principle of Accountability

Development Steps	Reasons for Developing Accountability Principles.
First: accounting to accountability	The transformation from the traditional bookkeeping function in public administration to a broader form of public accountability (not only financial audits but also performance audits).
Second: compliance to performance	The shift from traditional financial oversight to “value for money auditing” (focusing less on the legality and procedural accuracy of public spending, but more on its efficiency and effectiveness.
Third: shift from internal to external accountability.	As a reaction to the perceived lack of trust in the government.
Fourth: shift from reporting solely on financial objectives and matters to reporting on a wide range of public concerns.	This shift is very real in the private sector. Reporting is not only related to finance, but also includes reports on corporate social responsibility (CSR).
Fifth: vertical to horizontal accountability	This shift is less related to the content of accountability, but is more related to changes in the character of relations between organizations (reflecting broader developments.

Source: Convert from G.H. Addink, Good Governance and Public Management, (2012)

In the context of a democratic state, there is the principle of *geen macht zonder verantwoordelijkheid* (no power without accountability). This principle can use reverse logic, namely if there is no accountability mechanism in a power, it means that the government is an authoritarian or dictatorial regime (Muntoha 2009). Although it is recognized that accountability in a government system only exists in a democratic order, in practice it may be found in a dictatorial or authoritarian political order. However, what is not found in a dictatorship or authoritarian is the freedom to judge the responsibility or the consequences that can arise from that responsibility (Juanda 2008).

The term accountability is often juxtaposed with the accountability approach. Etymologically, the preposition

of responsibility comes from the basic form of the compound word responsibility. Responsibility as an abstract noun which is a compound form, comes from 2 (two) syllables, namely responsibility and "responsibility". The Big Indonesian Dictionary gives the meaning of responsibility is a state of being obliged to bear everything (if anything happens it can be prosecuted, blamed, sued, etc.), while accountability is an act of responsibility, something that is accountable. Responsibility in English terms is known as liability, responsibility, and accountability. According to Pinto, liability and responsibility contain different meanings that "the term responsibility is intended for the existence of a determining indicator of the birth of a responsibility, namely a standard that has been determined in advance in an obligation that must be obeyed, and at the birth of that

responsibility, while liability is more refers to the consequences arising from the failure to meet these standards, the form of responsibility is manifested in the form of compensation for losses and recovery as a result of the occurrence of damage or loss (Hakim 2010).

Meanwhile responsibility in Kohler's Dictionary for Accountants is defined as "the acceptance of assigned authority and the obligation prudently to exercise assigned or imputed authority attaching to the role of an individual or group participating in organizational activities or decision (Cooper and Ijiri 1984).

In the history of its development, the concept of accountability is closely related to economics, especially accounting, so it is necessary to explore the notion of accountability in several economic dictionaries. Kohler's in the Dictionary of Accountant (Cooper and Ijiri 1984), confirming Accountability is as follows:

1. The obligation of an employee, agent, or other person to supply a satisfactory report, often periodic, of action or of failure to act following delegated authority;
2. Hence (governmental accounting) the designation of account or amount of a disbursing officer's liability;
3. The measure of responsibility or liability to another, expressed in term of money, units of property, or other predetermined basis;
4. The obligation of evidencing good management, control, or other performance imposed by law, regulation, agreement, or custom.

Furthermore, in the economic dictionary (Sumadji 2006) Accountability defined as individual or departmental responsibility for the performance of a particular function. The difficulty in providing an agreed limit on liability is caused by: "...meaning of responsibility undoubtedly is and at the bottom of some of the controversies about its various aspects". Furthermore, there are several aspects in the accountability space, causing Spiro to try to make a definition of responsibility by placing several prerequisites for the emergence of accountability including Responsibility as accountability (responsibility as accountability) Responsibility as cause (responsibility as a cause) and Responsibility as obligation (responsibility). as an obligation). Furthermore, Spiro divides each into 2 (two) directions of accountability, including explicit accountability, which refers to external accountability through providing reports for all actions and consequences. Implicit accountability tends to lack knowledge of the consequences for others for actions or decisions made. Responsibility as accountability on the other hand tends to be understood as accountability based on certain benchmarks to assess government actions (Dewansyah and Zulfikar 2016).

Likewise, responsibility as cause is an responsibility because of a cause for the actions taken. Explicit cause Responsibility determines several different criteria for a responsibility as a cause, including resources, knowledge, choice and purpose. Resources relate to the resources and capabilities of a person to be responsible as a cause for the emergence of a situation that must be accounted for. Knowledge is related to one's knowledge of the consequences of the decisions taken (Spiro 1969). The choice to make the best decision with minimal risk is an option as a cause of accountability. One of the basic considerations of responsibility as an explicit cause related to the purpose (intention or intention) of a decision taken.

Based on the criteria of responsibility as cause, implicit cause responsibility is a form of responsibility where the subject of responsibility knows all the consequences that will arise on the lives of others caused by the decisions taken. Responsibility as obligation according to Spiro with the existence of "...is a value judgment". Bonds (liabilities) are defined as the relationship between causal responsibility and accountability. According to Spiro, 1 (one) thing to remember is that the theory of responsibility is an elaboration of thoughts on the responsibility of the government in carrying out public tasks (Spiro 1969).

Accountability is a very fundamental legal concept. Accountability works downstream, namely *ex post*. legal principles/rules *priori* and *aposteriori*, by providing legal qualifications for the *aposteriori* (whether in accordance with the law or not in accordance with the law), and at the same time determining the legal consequences (imposition of sanctions or not). With this understanding, the existence of the principle/rules of accountability is very vital for the law, namely so that the principles/rules of legal behavior are meaningful as law in its function as a means of control. The principle of accountability is a system. It contains various subsystem principles/rules, such as justifications and excuses as principles/rules of exclusion from liability.

Furthermore, exploring how accountability is conceptualized, this question can refer to 2 (two) accountability concepts, namely the broad concept of accountability and the narrow concept of accountability as summarized by GH Addink in his writings. First, the broad concept of accountability, Richard Mulgen and RD Behn in Addink explain that "In contemporary political and scholarly discourse 'accountability' often serves as a conceptual umbrella that covers various other distinct concepts, such as transparency, equity, democracy, efficiency, responsiveness, responsibility

and integrity (According to Richard Mulgen and RD Behn, it can be understood that in contemporary political and academic discourse, accountability often functions as a conceptual umbrella that includes various other diverse concepts, such as transparency, equality, democracy, efficiency, responsiveness, responsibility). and integrity) (Addink 2015).

These very broad concepts of accountability make it very difficult to determine empirically, whether an official, or agency and organization is the subject of accountability in question, because each of its various elements requires extensive operationalization in itself, and cannot be measured by use the same size (Addink 2015). Likewise, the procurement of goods/services is based on administrative, civil and criminal legal aspects which makes it difficult at a practical level to implement these functions simultaneously, both in terms of business principles with an emphasis on economic values in the face of regulations. public sector that has dimensions of the public in determining the achievements of the public sector. Accountability in a very broad sense is basically an evaluative concept, not an analytical one. Basically, this concept invites debate, because there is no general consensus on the standards for accountable behavior, and this concept differs from one role to another, from time to time, even differs in the regulatory domain that governs it.

The second is in the narrow concept of accountability. From various literatures discussing the concept of accountability, according to MAP Bovens, which emphasizes that accountability in a much narrower and sociological sense, refers to concrete practices to be accountable. It was explained that "...The most concise description of accountability would be: 'the obligation to explain and justify conduct'. This implies a relationship between an actor, the account or and a forum, the account holder or accountee." Accountability is described as an obligation to explain and justify behavior, implying a relationship between an actor, i.e., one who is responsible and a forum, i.e. one who accepts responsibility. According to Bovens, the notion of accountability can be divided into broad and narrow terms. Accountability in the broad sense of accountability is more nuanced in an evaluative concept, not an analytic concept. Accountability is also closely related to aspects of responsiveness and sense of responsibility, the desire to behave or act in a transparent, fair, and reasonable manner. According to Bovens, this accountability is called active responsibility or responsibility as a virtue, because it provides a standard for being more proactive in taking responsibility for the behavior of actors. However, accountability in this sense is essentially a concept that is still being contested. In

other words, Bovens adheres to the etymological and historical roots of the concept of accountability and defines it as a specific social relationship (Bovens 2006). Principles governance. Focusing on public accountability, it can be explained that "Accountability is a relationship between an actor and a forum, in which the actor has an obligation to explain and to justify his or her conduct, the forum can ask questions and pass judgment, and the actor may face consequences. We will use this description of accountability as an analytical instrument and also as a part of the normative framework of the principles of good governance"(Addink 2015).

According to Miriam Budiardjo accountability in the context of political science is the responsibility of those who are given the mandate to govern, to those who give the mandate. In this case, it is the people who give power to other parties to govern and the government is responsible to the people, this is called popular sovereignty. Furthermore, accountability can be interpreted broadly, namely as political accountability. In a parliamentary Accountability can result in the downfall of the executive as a sanction if it is deemed that those given the mandate have not carried out their obligations to implement the policies that have been determined. In a presidential system the government cannot be imposed, but sanctions can be imposed in the next election when the president is not re-elected. However, in the 2 (two) cases, accountability is an absolute requirement as the embodiment of the concept of popular sovereignty (Amiq 2021).

Based on an understanding of the concept of accountability, it can be understood that the concept of governance which emphasizes the mechanism in carrying out functions by actors involved in certain sectors has not shown a certain mechanism, as well as the principle of accountability which is an element of governance which is still a concept of accountability which has an evaluative general character (umbrella concept). The very broad, general and evaluative, is very difficult to define practically and empirically, because there are no operational standards for accountable behavior.

For this reason, in order to provide a narrower and more concrete concept and understanding, the concept of accountability (general, evaluative) must refer to and base on relevant substantive elements (as analytical instruments) for certain events and relationships (practices). concrete practices) are then formulated into a normative framework, resulting in normative standards for accountable behavior (both in the public and private sectors). In its development, accountability has been widely adopted in other sciences such as political

science and state administrative law, even accountability has become a symbol of good governance, not only in the private sector (good corporate governance) but also in the public sector (good governance), although Substantive accountability will always be different in the private sector and the public sector. In the private sector, the priority of accountability lies in maximizing profits and economic values, while accountability in the public sector is most important in fulfilling and advancing the public interest, but it is possible that certain functional (entrepreneur) goals of economic values are also achieved. So that indicators are needed in testing, the process of applying these indicators is conceptually called the concept of accountability.

The application of the concept of accountability is growing along with the increasingly complex role of the State (Government), especially when the State is faced as a provider. It is a necessity that the government cannot alone take a role in providing public services, so it requires the participation stakeholders (providers) to assist the role as a provider. Accountability that only emphasizes the compliance aspect causes the flexibility of the government in implementing services to be rigid and unresponsive to community development, so it is necessary to apply a new accountability concept to support the implementation of the government's role, from compliance to performance, so that the emphasis on performance can accommodate dynamic public needs, thus providing non-procedural benefits. Or in other words, a shift from traditional financial supervision to value for money auditing (focusing less on the legality and procedural accuracy of public spending, but more on its efficiency and effectiveness).

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Conclusion

Based on the regulatory provisions and the implementation of the concept of governance which emphasizes the mechanism in carrying out functions by actors involved in certain sectors, it has not shown a certain mechanism, as well as the principle of accountability which is an element of governance which is still an accountability concept with a general evaluative character. concept umbrella). In addition, in relation to the preparation of a good development plan, of course, it must also be followed by a good policy or formulation, which is supported by accurate, valid administration and is guided by the applicable laws and regulations, so that the policies formulated can actually be implemented effectively. good and right, especially from the aspect of the program, management and utilization of sources of funds/budget. One of them is the effort to make transparency of information to the public regarding the APBN and APBD so as to make it easier for the public to participate in creating policies and in the process of supervising the management of the power of budget users. Therefore, it can continue to be a reference for managerial accountability from the public sector so that it will be better and more credible in the future. Against a very broad, general and evaluative, it is very difficult to define it practically and empirically, because there are no operational standards for accountable behavior. On this basis, the concept of accountability (general, evaluative) is needed so that it must refer to and base on relevant substantive elements (as analytical instruments) for certain events and relationships (concrete practices) and then formulated into a normative framework. , resulting in normative standards for accountable behavior (both in the public and private sectors).

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RESEARCH ARTICLE

The effect of physical fitness training on the performance of youth volleyball project players: the case of ana Lemo woreda, Hadiya zone, Ethiopia

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Abstract

The main objective of the study was to examine the effect of physical fitness training on the performance of youth volleyball project players: the case of ana lemo woreda, Hadiya zone. census sampling technique was used to select 24 players aged 15 to 16 years from ana Lemo woreda volleyball project players. The article focused on selected physical fitness variables. Those subjects under this study took part in experimental design pre and post-test on both tests from March 01/03/2021 to May 01/05/2021, 2 days per week for 3 months and 40 minutes precession. The physical fitness variables selected for the study were: cardiorespiratory endurance (1.6km run in min test), muscular endurance (sit-ups reps/60seconds), muscular strength (modified push-ups reps/30 seconds), power (standing long jump in meter), and agility (4x10 m shuttle run in seconds). Data were analyzed by using SPSS paired-samples t-test with a pairwise comparison of means at a 95% confidence interval. The results indicated that there were significant improvements in performance on selected physical fitness variables due to the effect of physical fitness training with active rest ($p < 0.05$). This study confirmed that physical fitness training with active rest was significant to improve the physical fitness variables. The main finding of the study was trainee project players have discovered positive outcomes towards physical fitness variables. The study also illustrates that the health and fitness level of participants can be improved as a result of the physical fitness training program.

Keywords: Performance; Cardiorespiratory endurance; Muscular strength, Muscular endurance, power, and agility

Introduction

The sport of volleyball of the project level comprises mainly of athletes of uncharacteristic size cardiovascular endurance, speed, agility, power, strength endurance level of fitness helped many athletes become strong and faster. Athletes spend tons of their time and energy trying to enhance their physical performance. strength and conditioning coaches have helped these athletes to achieve a high level of performance through resistance training. this training is used to help on improving the athlete's strength, power, flexibility, and speed. the improvement of all or one of these factors may help in enhancing the athlete's performance on his or her respective playing court. (Bangsbo, 2007) To cope with the physical requirements and to maintain technical standards throughout a match, the players must have a high level of fitness. playing suits frequently allows to hold the health degree of the player, however extra health It is

necessary to obtain education. Volleyball instruction must be tailored to the sport, with a focus on executing the workout with a ball and separate physical education without the ball. The use of the ball during training ensures that the muscles used in volleyball are specifically trained, and it all checks the players' motivation. 2007 (Bangsbo) The observing athlete may also provide statistics on the players' physical characteristics to the educators. These figures can be used to forecast whether or not an athlete gamble. These figures could provide information to the coach about the players' physical condition. The data can then be analyzed to aid in making an accurate appraisal of the players. Volleyball players' physical qualities are assessed using a battery of different tests meant to examine an athlete's ability to accomplish a specific skill or fitness. These exams are frequently used by coaches to assess not only athletic ability but also predictors of probable ailments. during the season. coaches need some types of testing protocol to help in the evaluation process of their athletes This testing method should involve all aspects of training, as this will

reveal the player's strengths and limitations. To guarantee an accurate evaluation, testing must be done securely and properly (Ebben, 1999). Volleyball performance tests can be created to include the technical, tactical, physiological, and physical aspects of the sport (Bangsbo,2004) Clean targets must be described before choosing a check because testing must be conducted with a purpose. There are several good reasons for testing players, including evaluating whether a player is ready to play a competitive match, studying the effects of the training program, motivating players to train hard, giving players objective feedback, making players more aware of the goal of training, and planning short-long term training programs. To fulfill these purposes, it is important that the test used is relevant to volleyball and resembles the condition during ma. (Bangsbo,2004). Fitness testing should take place near the end of the offseason, right before the start of your preseason training. This is so you can organize your preseason training and see how much progress you've made over the preseason. Your second round of testing should happen right before the start of the season. The fitness tests you take after that have two goals. First, you can compare and see how much your fitness has improved, giving you confidence coming into the season, and second, you can assess where you are and how you might want to change your training to work on any areas that need improvement. It's also a good idea to undertake some testing in the middle of the season to ensure that you're maintaining your pre-season gains and to make any required adjustments to your training depending on the results. Coaches require some form of testing program to assist them in the evaluation of their players. This testing method should involve all aspects of training, as this will reveal the players' strengths and limitations. Checking out must be done with a goal in mind, so clear objectives must be defined before selecting a check. There are several good reasons for testing players, including evaluating whether a player is ready to play a competitive match, studying the effects of the training program, motivating players to train hard, providing objective feedback, making players more aware of the goal of training, and planning short- and long-term training programs. As a result, the researcher began volleyball performance testing, and to what extent fitness training can be applied in ana lemo wordes Club for young volleyball players. The purpose of this study was to evaluate the impact of a fitness training program by comparing the player's fitness level to the norms. Physical fitness improves as a result of the hard training provided for the tournament. Any athlete's overall performance levels are expected by fitness aspects. There are a number of conditions that must be met in order to achieve peak overall performance. Physiological, environmental, mental, and sociological factors are among them. As a result, this book is written with the help of the

investigator to provide them with an understanding of the bodily health education software for the development of a certain bodily health (cardiorespiratory health, muscular endurance, muscular strength, power, and agility).

Objectives of the study

To investigate the effect of physical fitness training on the performance of youth volleyball project players in the case of Ana lemo wordes, Hadiya zone, Ethiopia.

Identify the significance of physical fitness training program on participants in enhancing cardiorespiratory, muscular strength, muscular Endurance, power, speed, and agility fitness variables?

Materials and methods

This study attempted to explore the effects of a physical fitness training program on selected physical fitness variables of project players. The Census sampling technique was used to select 24 players aged 15 to 16 years from ana lemo wordes volleyball project players. The main objective of the study was to investigate the effect of physical fitness training on the performance of youth volleyball project players: the case of ana lemo wordes, Hadiya zone. The articles focused on selected Physical Fitness variables that are cardiovascular endurance, speed, agility, and power. The subjects under this article took part in experimental design pre and post-test on both tests from March 01/03/2021 to May 01/05/2021, 2 days per week for 3 months and 40 minutes precession collected the data. The physical fitness variables selected for the study were: cardiorespiratory endurance (1.6km run in minutes), muscular endurance (sit-ups reps/60seconds), muscular strength (modified push-ups reps/30 seconds), power (standing long jump in meter), and agility (4x10 m shuttle run in seconds). Data were analyzed by using SPSS (version 20) paired-samples t-test with a pair-wise comparison of means at a 95% confidence interval. The results indicated that there were significant improvements in performance on selected physical fitness variables due to the effect of physical fitness training with active rest ($p < 0.05$). This study confirmed that physical fitness training with active rest was significant to improve the physical fitness variables. The main finding of the study was trainee project players have discovered positive outcomes towards physical fitness variables. The study also illustrates that the health and fitness level of participants can be improved as a result of the physical fitness training program.

Results

Trainee Physical Fitness Pre-Test and post-test Results (health-related)

Table 1 below shows the pre-test result of the Comparison group on health-related physical fitness variables such as cardiorespiratory endurance(m),muscular strength(rep/30second), and muscular endurance (re/60second).

Table 1. Health-Related Physical Fitness Pre-Test and post-Test Result.

Pre-test				
Dependent Variables	Mean	SD	t-value	Sig
CVE	9.52	0.89	2.54	0.014
M S	7.17	2.42	3.65	0.001
M E	25.16	5.14	2.71	0.009

Note: CRE=cardio respiratory endurance, MS=muscular strength, ME=muscular endurance, $p < .05^*$ = Significant and the data in the form of Mean \pm SD

The data Table 1 showed that there was a significant improvement in performance on cardiorespiratory endurance, muscular strength, and endurance of the project trainee. The rationale behind the improvement in performance was due to the physical fitness training program which was conducted for 12 weeks. The pre-test means value for cardiorespiratory endurance was (9.52).

Post-test				
Dependent Variables	Mean	SD	t-value	sig
Agility	12.86	0.406	1.80	0.000
Power	1.54	0.12	3.39	0.001

This showed that the project trainee was at a hazardous health level according to the standard for their age category. Therefore, they must work hard to improve their performance capacity immediately; if not, they may suffer an injury and long-term damage. The post-test mean value of cardiorespiratory endurance was (8.93) indicating that they were at a cautious health level. But there was a progressive improvement of cardiorespiratory endurance

throughout the training due to the physical fitness training program.

The pre-test means value for muscular strength was (7.17) showed that those project trainees were at a cautious health level. Therefore, they must work hard to improve this performance capacity immediately; if not, they go to hazardous health level and they may suffer an injury and long-term damage might already be underway: Whereas, post-test mean values for muscular strength are (9.71) indicated that they were at an enhanced health level. This shows they go in the right direction. Due to this, they should do some exercises to improve this performance capacity. But there was progressive improvement in muscular strength performance which was indicated by the mean difference between pre and post-test. The findings on muscular strength revealed that there was a significant mean difference between the tests. The mean difference in muscular strength was due to the physical fitness training exercises in which they were engaged for 12 weeks.

The pre-test means the value of muscular endurance was (25.16). Showed that those project trainees were at a

Post-test				
Dependent Variables	Mean	SD	t-value	Sig
CVE	8.93	0.68	2.54	0.014
M S	9.71	2.38	3.65	0.001
M E	28.64	3.60	2.71	0.009

cautious health level. Therefore, they must work hard to improve this capacity for performance However, the participants' performance improved significantly once the post-test mean values were calculated. The post-test mean values were (28.64). This demonstrated that the physical fitness training program improved their muscle endurance performance capacity. This mean difference between tests indicated that muscle endurance performance improved over time during the 12-week training period.

In the bellow table 2 the results of the paired t-test analyses related to the interpretation of the total skill-related fitness scores for the students toward their circuit training is listed within mean and standard deviation for each of the variables by using rating scales after (post) training. So, the high mean score indicates the highest degrees of fitness improvement in power. But in agility, the low mean value shows improvement. The results are presented as follow:

Table 2. Trainee pre-test and post-test results on skill-related physical fitness

Note $< .05, ^*$ = Significant and the data in the form of Mean \pm SD

The results of Agility and Power represent skill-related physical fitness, as shown in table 2. From pre- to post-tests, there was a considerable improvement in project trainee agility and power, as seen in table 2. Conversion's pre- and post-training test mean values in agility were (12.86). Showed that at the start of the training program, those project trainees were in good health. As a result, individuals must strive promptly to improve/enhance their performance ability; else, they risk deteriorating their health. And this demonstrates the danger to their health. The post-test mean values, on the other hand, were (12.14), indicating that they were in better health. These average numbers suggested that they were on the correct track in terms of health. There was a considerable performance improvement in agility, according to the data. The increase in agility Their excellent performance level was aided by the twelve-week physical fitness training program in which they were engaged. The greater the influence of training on speed, direction change, and acceleration, the less time spent covering distance is spent, indicating an increase in agility. The above table demonstrates the increase in agility over the course of 12 weeks of training due to a decrease in time. The post-mean test's value was (1.65). revealed that their health was better than it had been previously. As a result, folks should get some exercise to increase their performance capacity. However, throughout the period of 12 weeks of training, the mean difference between pre- and post-tests demonstrated a progressive improvement in power performance. The 12-week physical fitness training program was the primary cause behind their improved power performance. The standing long jump was used to gauge the individuals' strength. In the data on power, the paired samples t-test demonstrated statistical significance. The significant mean difference in power was due to the 12 weeks of physical fitness training exercises in the regular training. The larger the distance covered during a standing long jump, the greater the influence of training on power.

Table 3. Health-related physical fitness pre and post-test in one place.

Note- CRE=cardio respiratory endurance, MS=muscular strength, ME=muscular endurance, $p < .05^*$ = Significant and the data in the form of Mean \pm SD

Table 3 shows that the project trainee's performance in cardiorespiratory endurance, muscular strength, and endurance all improved significantly. The physical fitness training program, which lasted for 12 weeks, was the reason for the improvement in performance. The mean value for cardiorespiratory endurance before the test was (9.52). This showed that the project trainee was at a hazardous health level according to the standard for their age category.

Therefore, they must work hard to improve their performance They must rapidly return to full capability; else, they risk harm and long-term damage. The post-test mean rate of cardiorespiratory staying was (8.93), showing that they were in good physical condition. However, due to the physical fitness training program, there was a steady improvement in cardiorespiratory endurance throughout the training. This conclusion was backed up by research (Newport and Laliberte, 2001).They concluded that appropriate physical activity could build cardiovascular fitness in all types of people. Adaption to exercise include increased heart rate, deep respiration, improved ventilation ratios in the lungs; an increase in heart size and rate which lead to covering the given distance In minimal time. These elements mixed with metabolic muscular adjustments enhance the effectiveness of responses to exercising which in flip will increase overall performance (ACSM, 1995). Inlet al. (2001) concluded of their look at that cardio-respiration persistence relies upon at the cap potential of the lungs to supply oxygen from the surroundings to the bloodstream; the hearts capability to pump blood; the cap potential of the frightened gadget and blood vessels to alter blood flow; the muscle mass capability to generate energy and functionality of the frame's chemical structures to apply oxygen and manner fuels for exercising. The pre-test means value for muscular strength was (7.17) showed that those project trainees were at a cautious health level . Therefore, they must work hard to improve this performance capacity immediately; if not, they go to hazardous health level and they may suffer an injury and long-term damage might already be underway: Whereas, post-test mean values for muscular strength are (9.71) indicated that they were at an enhanced health level. This shows they go in the right direction. Due to this, they should do some exercises to improve this performance capacity. But there was progressive improvement in muscular strength performance which was indicated by the mean difference between pre and post-test. The findings on muscular strength revealed that there was a significant mean difference between the tests. The mean difference in muscular strength was due to the

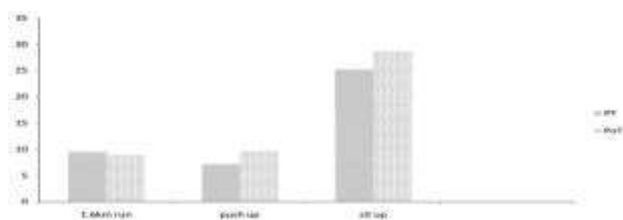
Dependent variables	Pre-test		Post-test			
	Mean	SD	Mean	SD	T-value	Sig
CAVE	9.52	0.89	8.93	0.68	2.54	0.014
MS	7.17	2.42	9.71	2.38	3.65	0.001
ME	25.16	5.14	28.64	3.60	2.71	0.009

physical fitness training exercises in which they were engaged for 12 weeks. The finding of this study was in

agreement with the findings of Ga (1979) who conducted the study on comparing the effects of circuit strength training and jogging program. The look at found out that each package have been powerful in generating huge development in treadmill instances and V02max. However, circuit energy schooling produced huge upgrades in VO2max and resting coronary heart rate. Gebbttman additionally determined huge discounts in frame fats percentage, fats weight, the sum of six skinfolds, and waist girth due to circuit energy-schooling, in addition to huge will increase in lean frame weight, biceps girth, isotonic and isometric energy measures. (Hoeger,2002) has condemned the concept that energy is a fundamental aspect of health and health that is important for regular bodily sports and amusement for a happier life. Strength refers back to the most anxiety or pressure muscle mass expand in a single contraction against a given resistance. It is crucial for optimal performance in daily activities such as sitting, walking, running, lifting, carrying objects and doing household work, or even enjoying recreational activities. Alike, other variables muscular endurance also showed improvement in performance from pre-test to post-test. The pre-test means the value of muscular endurance was (25.16). Showed that those project trainees were at a cautious health level. Therefore, they must work hard to improve this performance capacity. However, post-test mean values there was a significant improvement in the performance of the participants. The mean values for post-tests were (28.64). This showed that their performance capacity of muscular endurance was enhanced due to the physical fitness training program. This mean difference among tests showed that there was progressive improvement in the performance of muscular endurance during 12 weeks training periods.

Table 4. Skill-related physical fitness pre-test and post-test in one place.

Note, $p < .05$, * = Significant and the data in the form of Mean \pm SD



Note that cv = cardio respiratory endurance, pu = push - ups, su = sit - ups
 PT = pre-test POT = post test

Figure 1: Pre and post-Mean values of health-related physical fitness

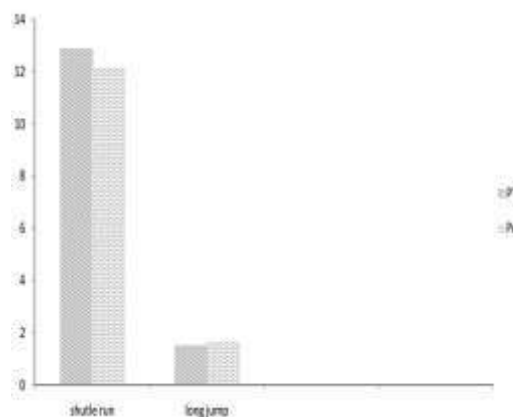
As already stated, This figure 1 depicts the mean difference between the pre-test and post-test on health-related physical fitness. The improvement can be seen. Figure 1 shows that the participants' cardiorespiratory endurance, muscular strength, and muscular endurance improved significantly after 3 months of physical fitness training, which enabled the subjects to perform better in the 1.6 km run, pushups, and sit-ups than before. As a result, persons who desire to improve their cardiorespiratory endurance, muscular strength, and muscular endurance should engage in physical fitness training. The findings of this study were in line with those of (Kaikkonen et al, 2000), who looked at the effects of 12 weeks of low resistance training on cardiorespiratory endurance and muscular fitness in ninety healthy sedentary adults and discovered that the training group improved cardiorespiratory endurance significantly. (Lin et al, 2006) looked at the impact of aerobic exercise on worksite health-related physical fitness and found that the training group improved abdominal muscle strength and endurance much more than the control group.

As indicated in table 4, there was a significant improvement in performance on agility and power of project trainee from pre to post-tests. In agility, the pre- to post-training test mean value for Conversion were (12.86). Showed that those project trainees were at a cautious health level at the beginning of the training program. Therefore, they must work to improve/enhance their performance capacity immediately; if not, they may go to hazardous health levels. And this shows the risk for their health level. Whereas, the post-test mean values were (12.14) which indicated that they were at an enhanced health level. These mean values indicated that they were heading in the right direction of health level. The findings on agility revealed that there was

Pre-test	Post-test					
	Mean	SD	Mean	SD	T-value	Sig
Dependent variables						
Agility	12.86	0.406	12.14	0.53	1.80	0.00
Power	1.54	0.12	1.65	0.09	3.39	0.01

a significant performance improvement. The improvement in agility performance level was due to the physical fitness training program in which they were engaged for twelve weeks. The lower time spent covering distance, the greater effects of training on speed, path change, and acceleration had been indicating development of agility. The above desk illustrates the development of agility due to the fact there

has been a decline in time for the duration of 12 weeks of schooling. The locating of this observes turned into in settlement with (Sharmila, 2013) who stated that seven weeks of modern schooling of bodily health application has big development on all of the bodily health additives withinside the case of boys. The exercise of a modern schooling application stepped forward the speed, explosive electricity, persistence electricity, and forearm muscle mass of ladies. There turned into no big distinction in agility and electricity of belly muscle, a aspect of bodily health in ladies. Alike agility there has been a big development withinside the electricity of participants. pre-take a look at implies values had been (1.54) this illustrated that pre-take a look at turned into at a careful fitness level. Therefore, they should do schooling to enhance their overall performance potential and fitness level. Whereas, the post-take a look at imply cost turned into (1.65). confirmed that they had been at an superior fitness level. As a end result, they need to do a little physical games to enhance their overall performance potential. But, the imply distinction among pre and post-exams indicated the modern development in overall performance on electricity all through 12 weeks duration of schooling. The reason in the back of their development withinside the overall performance of electricity turned into the bodily health schooling application held for 12 weeks. The status lengthy leap turned into used to degree the electricity of the subjects. The findings on electricity, as observed through the paired samples t-take a look at, confirmed statistical significance. The big imply distinction in electricity turned into because of the 12 weeks bodily health schooling physical games of the everyday schooling. The longer distance included all through status lengthy leap famous the extra outcomes of schooling on electricity. The above desk additionally illustrates that development of electricity imply increment withinside the distance they jumped. The effects of this observe had been in settlement with the end result of (Adeniji,2007) who performed a observe to have a look at the comparative outcomes of a circuit schooling application at the Speed and Power of Pre- and Post-Menarcheal ladies. Pre- to post-take a look at manipulate institution experimental layout turned into used to perform the observe. A general of 80 secondary faculty ladies from St. Peter's College, Olomore, Abeokuta, withinside the Ogun State of Nigeria, a while 10-17 years took component withinside the observe. The findings of indicated that the circuit training on speed and power was significantly better for the experimental group



Note, $p < .05$, * = Significant and the data in the form of Mean \pm SD
Figure 2. pre-test and post-test Mean values for skill-related physical fitness

As demonstrated in Figure 2, the mean difference in skill-related physical fitness from pre- to post-test was deferred from pre to post. The improvement in fitness performance can be seen in this difference. Figure 2 depicted the shuttle runs and standing long jump performances of the participants. The development of agility and power was noted due to physical fitness training that was carried out two days per week for three months, allowing the individuals to perform better from pre- to post-test. Therefore, physical fitness training was recommended for those who want to develop their agility and power. The result of this study is supported by the study of Shaikh and Mallick (2012) that conducted the study on the effects of ply metrics training among University male students and found that ply metric training was effective in improving explosive power, agility, and muscular endurance. The finding of this study is supported by the study of Manohar and Sarvesh, (2011) who carried out their study on selected physical fitness training exercises that contribute positively towards the improvement in the performance of cardiovascular endurance, vertical jumping ability, agility, muscular endurance and skill ability of football players as tested by shuttle run test, bent knee sit-ups test, 30m running with the ball test and kicking accuracy test. Associated physical fitness variables of football players were also improved significantly as a result of selected physical fitness training exercises

Table 5. The mean difference value and significance level of each test results

Note: PT= Pre-Test, Test, PoT=Post Test, MD- mean difference

Table 5 summarized the results of each test. The mean, the mean difference between tests, and the significance of post-tests in relation to the pre-test are all included. Cardiorespiratory endurance, muscular strength, muscular endurance, agility and power physical fitness variables all showed progressive substantial improvements in performance changes; that is, health-related and skill-related physical fitness in two days per week for 12 weeks. weeks improvement was shown. But their degree is varying from one variable to the other. When we compare the post result of cardiorespiratory endurance was 0.59, muscular strength was 2.54, muscular endurance was 3.48, agility was 0.72 and power was 0.11. From this result, we conclude that health-related show more improvement than skill-related physical fitness. Generally, the result of this study revealed that a fitness training program is useful to improve the performance of physical fitness variables among project trainee participants.

Discussion

This study was to investigate the effect of physical fitness training on the performance of youth volleyball project players: in the case of ana lemo worda, Hadiya zone. When we assess this training on all variables of health-related and skill-related fitness variables so many materials were limited. Such as a balanced diet and modern materials in that rural area shortage of human power, a lack of financial payment for assistance, and the like. The study should that all coaching staff are similar sex, majority of the coaching staff educational level found between diploma and degree, the age of the coaching staff are 31-45 coaching staff are founded in the adult age.

In terms of the coaching plan, every coach has a training plan that incorporates the four components of physical, technical, tactical, and psychological preparation. In terms of training session duration, each training session lasts 90 minutes, during which time the coach might devote 40 minutes to fitness training. Only one court should be used for the session training.

Regarding warm-up training player was always doing warm-up and cool down before and after training should take 10-15 minutes and then the cooldown program spend 5-10 minutes. Regarding the types of tests, the project coaching staff responded to all types of tests such as power test, speed, speed endurance, agility, strength endurance, and flexibility test be conducted 3 to 4 times per year.

The major findings that depend on the research questions for this investigation were the increment or the improvement of

Dependent Variables	Test(J)Mean	Test (I)	Mean Value for(I)	MD P(J-I) Respectively	P
Cardio-Respiratory Endurance(CRE)	PoT (J)9.52	PT (I)	8.93	-0.59	0.014
Muscular Strength (MS)	PoT (J) 9.71	PT (I)	7.17	2.54	0.001
Muscular Endurance (ME)	PoT (J) 28.64	PT (I)	25.16	3.48	0.009
Agility	PoT (J)12.14	PT (I)	12.86	-0.72	0.000
Power	PoT (J) 1.65	PT (I)	1.54	0.11	0.001

selected physical fitness variables such as cardiorespiratory endurance, muscular strength, muscular endurance, agility, and power. There are a lot of exercises that develop the physical fitness of participants. For this study 1.6 km run was used to measure cardiorespiratory endurance; several modified push-ups per 30 seconds was used to measure muscular strength; several sit-ups per 60 seconds was used to measure muscular endurance; 4x10 m shuttle run was used to measure agility while standing long jump was used to measure the power of pre-test and post-test. The analysis of data was done through an independent t-test to see the difference if any. The level of significance was set at 0.05. As the tests result indicated that there was progressive improvement in performance from pre-test to post-test due to a physical fitness training program in 12 weeks. The tests results showed that statistically, significance enhancement was observed in the participants' fitness level. physical fitness training provides strenuous work entirely suited to an individual's specific needs, existing capacity, and rate of adjustment to progressive vigorous exercises. This study's findings were consistent with those of Kaikkonen et al. (2000), who investigated the effects of 12 weeks of low resistance training on cardiorespiratory endurance and muscular fitness in ninety healthy sedentary adults and discovered that the training group significantly improved cardiorespiratory endurance. Lin et al. (2006)

looked examined the impact of aerobic exercise on worksite health-related physical fitness and found that the exercise group improved abdominal muscle strength and endurance much more than the control group.

During the pre-test phase, the project players' performance deteriorated or remained unchanged. The lack of physical fitness training, which lasted 12 weeks from March to May, was the reason for the deference. The findings of this study agreed with Sharmila (2013), who stated that in the case of boys, seven weeks of progressive physical fitness training results in considerable improvements in all physical fitness components. Girls' speed, explosive power, endurance strength, and forearm muscles improved as a result of a progressive training program. There were no significant differences in abdominal muscular agility or strength, which is a component of physical fitness in athletes.

Conclusion

This study found that there was progressive improvement in the selected physical fitness variables during training periods in post-test, while not in the pre-test. Regular participation in physical fitness training improves the physical fitness of the volleyball project trainee. Physical fitness training was found better in improving the cardiorespiratory fitness, muscular endurance, and muscular

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RESEARCH ARTICLE

Relationship between Cognitive Styles and Emotional Status of Primary four Pupils with Aphasia in Sokoto State, Nigeria

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Abstract

This paper examined relationship between cognitive styles and emotional status of primary four pupils with aphasia in Sokoto State. The population targeted for this study consists of all primary four pupils in Sokoto state which is 9,369. Multi-stage sampling techniques was used to arrive at the sample. Four stages of sampling techniques were employed to arrive at the sample of 69 pupils using purposive sampling and screening using Language Screening Test. The instruments used for data collection were adopted version of Language Screening Test (LAST), adopted version of Group Embedded Figure Test and adopted version of Junior Eysenck Personality Questionnaire (short version). The reliabilities of the standardized were re-established using test re-test method of establishing reliabilities in two schools in Sokoto metropolis and the reliabilities index realized were Language Screening Test (0.71), Group Embedded Figure Test (0.80) and Junior Eysenck Personality Questionnaire (0.89). The data was analyzed using Pearson Product Moment Correlation. The result revealed that: there was weak, positive and no significant relationship between field dependent cognitive styles and emotional stability among others. Finally, it was recommended among others that; Pupils with aphasia should be encouraged to have holistic and global perception towards problems and develop their extrinsic motivation to enable them stabilized their emotion and catch up with their peers.

Keywords: Cognitive styles; Emotional status; Aphasia

Introduction

Aphasia is a disorder that results from damage to portions of the brain that is responsible for language and it usually occurred suddenly following stroke, head injury, brain tumor or neurological disease (National Institute on Deafness and other Communication Disorder, 2015). Aphasia mostly affects people in relation to auditory perception, expression, comprehension, reading, speaking, and verbal expression. Aphasic children have problem with connecting sounds with words, recalling the right word, understanding and producing speech and language, using sign language, jokes and substituting wrong words with the right words Ahleen (2006) stated that, symptoms of aphasia could be deficit at all linguistic level; it includes deficits in phonological, morphological and syntactical, lexical, pragmatic, literal paraphasia, neologism, preservation, agrammatism, omission, or substitution of syntax and grammatical morphemes. Cognitive styles are the habitual individual defense in ways of experiencing situations, developing perceptions, organizing, retrieving and processing information

(Messick, in Farooq, 2014). Cognitive style of learner influences and affects his ability to reason, memorize and analyze information and when it is matched with teaching approach and styles; it improves academic performance of the learner. Different cognitive styles have been identified by psychologist based on their own perception and understanding of the concept, for the purpose of this paper, field dependent and field independent cognitive styles were used to explain how learners perceive, process, analyze, and retrieve information effectively and efficiently.

Mehrabian (1980) defined emotional state as transition condition of the organism – condition that can vary substantially, and even rapidly, over the course of a day. Emotional state cover different kinds of emotions which can either be positive or negative, in includes; happiness, unhappiness, ecstasy, exaltation, gratification, satisfaction, felicitation, embarrassment etc. Positive mood facilitate complex cognitive materials such as memory, categorical, creative problem solving, decision making and learning (Febrilia, Warokka & Abdullahi, 2011). Keogh and Donlon in, Restagar (2016),

Investigated that, perceptual difficulties underlie the emotional instability, distractibility and impulsiveness of learning disabled child, since measure of field dependence, namely the RFT and EFT, involved visual perception. Chao (2000) conducted a study titled; field dependence versus field independence of students with learning disabilities. Group embedded figure test was administered on 60 school students (30 with learning disability and 30 without learning disability) to measure their cognitive styles. The analyses showed that students with learning disabilities score more field dependent than those without learning disabilities.

Statement of the problem

Primary school pupils with aphasia have difficulty using language which leads to inability to understand expressive and comprehensive language, they were found to be using made up words, wrong insertion of words in sentence, changing of sounds of words as well as cannot adjust adequately to themselves. Aphasic learners suffered greatly in inclusive educational settings where the classes are congested, teachers use fast spoken languages and, were assessed and taught using method, techniques and approach of the normal individuals. The researcher surveyed some primary schools in Sokoto metropolis in an attempt to find out the possible causes and problems facing children with aphasia. Language screening test (LAST) was used to screen the pupils. It was found that, teachers always use teaching styles that did not address the disabilities of aphasic learners. Aphasic learners were found to have emotional outburst, emotional deregulation, depressive mood, poor cognitive functioning, and emotional instabilities. These called for conducting this study in order to find out how aphasic learners perceive and analyze information effectively and efficiently, identify their cognitive styles, and their emotional state. The pupils with aphasia mostly displayed symptoms which make them unable to compete with their peers academically if special consideration is not given to them. Aphasic learners were found to be unable to blend words, arrange and serialized information, remembers sequence, repeat words and phrase verbatim. They were found to use incomplete sentence and labored speech, have poor memory for letters and words, but have impulsive, iconic and use holistic / global approach when solving educational problems.

The researcher was motivated to choose this topic for this study base on the confusion and questions asked by parents and teachers as to whether, there is a peculiar cognitive style for aphasic children? Whether there are relationships between cognitive styles of aphasic learners and their emotional status as well as how the characteristic of aphasic learners interferes with their learning in an inclusive classroom setting. The objective of the study is to find out the relationship between cognitive styles and emotional status of primary four

pupils with aphasia in Sokoto state. However, the specific objectives of the study are to find out:

The relationship between field dependent cognitive styles and emotional stability of primary four pupils with aphasia in Sokoto State.

The relationship between field dependent cognitive styles and emotional instability of primary four pupils with aphasia in Sokoto state.

The relationship between field independent cognitive styles and emotional stability of primary four pupils with aphasia in Sokoto state

The relationship between field independent cognitive styles and emotional instability of primary four pupils with aphasia in Sokoto state.

Research questions

The following research questions were stated to guide the study;

1.What is the relationship between field dependent cognitive styles and emotional stability of primary four pupils with aphasia in Sokoto State?

2.What is the relationship between field dependent cognitive styles and emotional instability of primary four pupils with aphasia in Sokoto state?

3.Is there relationship between field independent cognitive styles and emotional stability of primary four pupils with aphasia in Sokoto state?

4.Is there relationship between field independent cognitive styles and emotional instability of primary four pupils with aphasia in Sokoto state

Hypotheses

The following null hypothesis was formulated to direct the study:

1.There is no significant relationship between field dependent cognitive styles and emotional stability of primary four pupils with aphasia in Sokoto state.

2.There is no significant relationship between field dependent cognitive styles and emotional instability of primary four pupils with aphasia in Sokoto state

3.There is no significant relationship between field independent cognitive styles and emotional stability of primary four pupils with aphasia in Sokoto State.

4.There is no significant relationship between field independent cognitive styles and emotional instability of primary four pupils with aphasia in Sokoto state.

Theoretical framework

The theoretical framework for this paper was anchored on three theories, one theory on aphasia (dual stream theoretical model of vision processing), one theory on cognitive styles (Witkins field dependent – independent theory of cognitive styles) and one theory on emotional status (Eysenk theory of personality).

1. Dual stream theoretical model of vision processing, (aphasia)

Dual stream theory was proposed by Hickok to explain cortical organization of language. This theory asserted that vision processing is divided into two streams; A ventral stream and dorsal stream (Hickok & Poeppel, 2007). Ventral stream is found in the inferior temporal lobes of the brain that controls object identity, speech signals for comprehension, understanding, parallel processing of information, and mapping of sound into meaning (Donna, John & Argye, 2014). Dorsal stream-controlled integration of visual input and motor response which facilitates reaching and grasping in visual space and it is found in the parietal area of the brain which helps in processing object location in the environment.

2. Witkin’s field dependence – independence theory of cognitive styles (cognitive styles)

Witkins (1974) proposed field dependence/ independence theory to explain cognitive styles . Persons whose mode of perception is strongly dominated by the surrounding field is said to be learning toward a field dependent cognitive styles, while those that go beyond the surrounding environment by looking at other sources of information are termed as field independent learners.

Field dependent learners are guided and directed by their teachers to solve problems, they are socially oriented, perceived information in holistic and global approach, relay on external cues or frame of reference, and they are extrinsically motivated and respond to clearly defined performance goals. Field independent learners have defined learning strategies, and self-directed goals and are intrinsically motivated. Field independence learners have sequential abilities, abilities to think critically, break up organized perceptual field and prefer individualistic method of teaching. They are better at leaning abstract concepts, can articulate their experiences and are independent as well as autonomous in restructuring of memory and understanding. Field independent learners are intrinsically motivated

3. Eysenk’s theory of personality (Emotional Status)

Eysenk is a German born, British psychologist who proposed a personality theory that tried to explain individual’s behavior in relation to human traits. He grouped personality traits into personality type and identified three cluster or group traits;

- Introversion – extroversion
- Neurotism/Emotional status (emotionally unstable – emotional stable)
- Psychotism

The second cluster of traits, which is neurotism explained human traits related to emotional status (stability/instability). Emotionally unstable individuals have the following signs and symptoms; they are touchy, restless, impulsive, moody, pessimistic, unsociable and aggressive and sober while emotionally stable individuals are optimistic, claim, quite, organize, sociable, active and well mannered.

Methodology

Correlation research design was used for the study. The Population targeted for this paper consists of all primary four pupils in Sokoto state whose number is 9,369 (Sokoto State Universal Basic Education Board, 2019).

Multi-stage sampling techniques were employed before arriving at the sample for the study. The state was divided in to three senatorial/educational zones using stratified sampling techniques, three local education authorities were selected from each zones, making a total of nine (9) local education authorities, then simple random sampling technique was used to select seven (7) schools from each local education authority, purposive sampling technique was used to select primary four pupils with symptoms of aphasia and finally, these pupils were subjected to screening using Language Screening Test (LAST).

Table 1: Selected Local Education Authorities for the Study and Primary School Pupils selected for the Study

S/N	ZONES	LGEA’S	PUPILS		TOTAL
			MALE	FEMALE	
1	Sokoto North	Wurno	5	1	6
	Senatorial	Gwadabawa	5	2	7
	District	Goronyo	5	3	8
2	Sokoto East	Sokoto North	5	3	8
	Senatorial	Sokoto South	7	1	8
	District	Kware	4	4	8
3	Sokoto South	Bodinga	7	2	9
	Senatorial	Tureta	4	4	8
	District	Dange Shuni	5	2	7
Total			47	22	69

Source: SUBEB , 2019

The following instruments were used for data collection in this study;

1. Language Screening Test (LAST) to screen and identify aphasic pupils (Adapted version of the instrument).

2. Group Embedded Figures Test to identify field dependence/independence cognitive styles (Adapted version of the instrument).

3. Junior Eysenck Personality Questionnaire to measure Emotional status -stability-Instability (Adapted version of the instrument).

The instruments used for the study were found to be reliable using Test-retest methods of testing reliability by the researcher. The original reliabilities of the standardized instruments were found by the developers of the instruments. The instruments were administered on pupils at Gagi Model primary school Sokoto and Tafida Aminu primary school Maberu. The instruments were re-administered after an interval of three weeks to re-establish their reliabilities. The sample for the pilot study was drawn from two primary schools in Sokoto Metropolis. The researcher used a sample of primary, 3 pupils from Gagi Primary school and 4 pupils from Tafida Aminu Primary School that have characteristics of aphasia. These pupils were handpicked by the teachers taking into cognizance the characteristics of aphasia.

Language Screening Test (Aphasia)

Language screening test was developed by Flamand - Roze., Falissard., Roze, Maintigneux, Beziz, Chacon, Join - Lambert, Adams, and Denier in the year 2011 to screen individuals with learning disabilities especially aphasic individuals. This is a bedside screening test used in emergency situations and it is fast and simple. The test is being adapted for this test to screen Aphasic children. The test consists of 15 items subtest for screening comprehension and expression, twenty seconds are given to patients to answer each question and the answer is scored as either 1 (correct answer) or 0 (imperfect answer), including errors and failures to answer. (Roze, Flissad, Roze, Maintigneux, Beziz, Join - Lambat, Adams, Denier, 2011). Any mark less than > 10 indicate the presence of Aphasia Language Screening Test (LAST) was validated by comparing (LAST A and LAST B) equivalent versions of the instrument to measure Internal validity of the two versions of the tests, while external validity of the test was measured by comparing it with Boston Diagnostic Aphasia examination scale and inter - rater reliabilities were examined. Fifty-four (54) "chronic" aphasic patients showed that, the two versions were strictly equivalent with an ICC of 0.96, 300 "acute" patients showed no floor or ceiling effect. There was no restriction between item shown by Pearson correlation co-efficient <0.8, parallel analysis revealed a 1- dimensional studies and internal consistency of the 15 items was good with a Cronbach of 0.88 (Flamand - Roze., Falissard., Roze, Maintigneux, Beziz, Chacon, Join - Lambert, Adams, and Denier, 2011).

Last in comparison to Boston diagnostic aphasic examination, taking (BDAE) only one patient identified as "aphasic" with BDAE obtained a score of 15 out of 15 in LAST, where all patients with a last score of <15 were diagnosed as "aphasic" with the BDAE. The validity was established using a cut off of <15 in the sample of 102" chronic patients. Language screening test was cross examined by experts was found to measure expression and reception index. Finally, it was adjudged that it has content validity.

The reliability of Language Screening Test (LAST) was found by comparing Last A and B on a sample of 54 "chronic aphasia patient" and it showed that, the two versions of the test were pooled for analysis and similar result was obtained and it showed no floor or ceiling effect. There was no reduction between items shown by Pearson correlation coefficient <0.8, parallel analysis revealed a 1.0 decimal structure and the internal consistency of the 15 items was cronbach alpha of 0.88 (Salehi, Jahan, Mousari, Hashemilar, Razaghi, et al, 2016).

The researcher re-established the reliabilities of Language Screening Test. Language screening test (LAST) was administered on the pupils and re-administered after an interval of two weeks to ascertain the level of its reliability. The two administrations yielded spearman correlation coefficient index of 0.71 was realized which is high enough for the instrument to be reliable.

Group Embedded Figures Test of Cognitive styles

Group embedded figures test is a perceptual test that measures field dependence/independence of the test takers. It is developed by Witkins, Raskin, Oltman and Karp in the year 1971 (Rostampour & Niroomand, 2014). This test is being adapted for this study. The test consists of three section, section one contains two complex figures for practice, while section two and three contain nine (9) complex figures each, making a total of eighteen complex (18) figures. Students are given GEFT booklet requiring on the front page, information such as name, age and sex of the respondents, response in the test are graded right (1 mark) or wrong (0 mark).

Classification of students depends on their scores. The scores on GEFT may range from 0 (the most Field dependent) to 18 (the most Field Independent), therefore, those who score above 12 out of 18 are labeled as F1 and those with a score of 11 and less are branded as FD cognitive styles (Khatib, 2011). According to Onyekuru (2015), the validity of group embedded figure test was found in River's state, Nigeria, its correlation co-efficient measured over a three year period using Pearson product moment correlation techniques was 0.89.

The reliability of the Group Embedded Figure Test is 0.82, when parallel form of the test was administered within the same time limit (Varun, Shobana & Thamil,

2016). The instrument was pilot tested using test-retest method of establishing reliability in two schools of the study area, a correlation coefficient of 0.77 was realized which is high enough for the instrument to be reliable.

Junior Eysenck Personality Questionnaire Short Version (JEPQR-S) (measure of emotional status)

Junior Eysenck personality questionnaire was developed by Corolla in the year 1990 to measure extroversion, neurotism/emotional status (emotional stability-instability), psychoticism and lie scale (Corolla, 1990). This instrument is being adapted for the study, some modifications were made to the instrument to make it agree with the age, culture and religion of the pupils. Junior Eysenck personality questionnaire measure personality in children aged 7-17 years in the three areas of neutralism (high “N” score indicates emotional instability and stability), psychoticism (high “P” score indicates psychotic disorder, cruelty, aggression, and intolerance), while extroversion (high “E” scores indicates extroversion, being sociable, talkative, outgoing, impulsive, and uninhibited). The highest score is 12 points for each scale, while the lowest score is 0. The questionnaire consists of 48 items.

The items of the instrument are arranged in this order, Neurotism/Emotional status- (Emotional stability/instability)(4,8,11,12,16,21,22,29,32,

34,47,48). The instrument is scored in the following order, Neurotism /Emotional status (Emotional instability 6 marks > - Emotional stability < 5 marks). The Italian version of the instrument was administered on 541 students aged between 13 and 17 (310 females; means age 15-56), after four week interval a subsample of 270 subjects completed the questionnaire a second time. Explanatory factor analyses using Mplus 7 and WLSMV as estimator (Muthen & Muthem, 2012). A four factor model was used to correlate the items. It showed that $\chi^2(164) = 3015.51, p \leq 0.01; CFI = 0.96; TLI = 0.95; RMSE = 0.38 (0.031, 0.044), CFI = 0.9991; SRMR = 0.047$. The higher correlation was between P and L factors. This showed its factorial validity.

Data presentation and Analyses

The data for this study was analyzed using inferential statistics, the following hypotheses were analyzed using Pearson Product Moment Correlation taken into consideration the research questions and hypotheses

H0:1: There is no significant relationship between Field Dependent cognitive styles (FD) and emotionally stable primary school children with Aphasia in Sokoto State . This hypothesis was tested by subjecting the scores for FD and emotionally stable scores to Pearson’s correlation analysis as shown in table 2.

Table 2. Relationship between FD and Emotional Stability

Variables	N	Mean	Std. Deviation	r-Correlation	P-Value	Decision
Field Dependent	64	4.95	1.713	.04	.891	Accepted
Emotionally Stable	14	4.64	1.336	0		

From the result of table 2, Field Dependent and emotional stability have weak and positive relationship but it was not significant, Pearson’s $r = .040$ at 0.05 level of significant with a, p value of 0.891 indicates no significant relationship between Field Dependent and emotional stability because the p -value is more than the .05 level of significance. Therefore, $H_{02:1}$ which states that there is no significant relationship between Field Dependent and emotionally stable was accepted.

H0:2: There is no significant relationship between Field Dependent cognitive styles and emotionally unstable primary school children with Aphasia in Sokoto state. The above hypothesis was tested by subjecting the scores for Field Dependent cognitive styles and emotionally unstable children’s scores to Pearson’s correlation analysis as shown in table 3.

Table 3: Relationship between FD and Emotional instability

Variables	N	Mean	Std. Deviation	r-Cal	P-Value	Decision
Field Dependent	64	4.95	1.713	.08	.518	Accepted
Emotionally Unstable	55	7.98	.952	9		

Data on table 3 showed that, FD and emotional Instability were positively related but the relationship was not significant, Pearson’s $r = .089$ at 0.05 level of significance with a p value of .518 indicates positive and weak relationship which is not significant between FD and emotional instability, because the p -value is more than the .05 level of significance. Therefore, H_{02} : which states that there is no significant relationship between Field Dependent cognitive styles and emotionally

unstable primary school children with Aphasia in Sokoto state was accepted.

H0:3: There is no significant relationship between Field Independent cognitive styles and emotionally stable primary school children with Aphasia in Sokoto state.

This hypothesis was tested by subjecting the scores for FID and emotionally stable scores to Pearson correlation analysis as shown in table 4.

Table 4. Relationship between FID and Emotional stability

Variables	N	Mean	Std. Deviation	r-cal	p-Value	Decision
Field Independent (FID)	5	12.40	0.548	0.39	.008	Rejected
Emotionally Stable	14	4.64	1.336			

The result of table 4 indicated that, FID and emotional stability were positively related. There is moderate, positive and significant relationship, Pearson $r = .54$ at 0.05 level of significant with a p value of .008 indicates moderate, positive and significant relationship between FID and emotional stability because the p -value is less than the .05 level of significance. Therefore, $H_{02.3}$ which states that there is no significant relationship between Field dependent cognitive styles and emotionally stable

primary school children with Aphasia in Sokoto state was rejected.

H0:4: There is no significant relationship between Field Independent cognitive styles and emotionally unstable primary school children with Aphasia in Sokoto state.

This hypothesis was tested by subjecting the scores for Field Independent cognitive styles and emotionally unstable scores to Pearson’s correlation analysis as shown in table 5.

Table 5. Relationship between FID and Emotional Instability

Variables	N	Mean	Std. Deviation	r-Cal	p-Value	Decision
FID	5	12.40	.548	.218	.047	Rejected
Emotionally Unstable	55	7.98	.952			

The result of table 5 showed that, Field Independent cognitive styles and emotional instability have weak, positive and significant relationship, Pearson’s $r (.218)$ at 0.05 level of significant with a p value of .047 indicates positive, weak and significant relationship between FID and emotionally unstable because the p -value is less than the .05 level of significance. Therefore, $H_{0:4}$ which states that there is no significant relationship between FID and emotionally unstable was rejected.

4.Weak, Positive and no significant relationship between field independent cognitive styles and emotional instability.

Discussion on Findings

Aphasia is an impairment of comprehension or production of language in written or spoken forms due to acquired lesion of the dominant cerebral hemisphere (Kavangh, Lynam, Duerk, Casey & Eustace, 2010). The preferred mode of perceiving, analyzing and processing information of aphasic learners is directly related to the emotional state. Depression, anxiety, unfriendliness, feeling of emptiness, inability to verbalize feeling, suspicious nature, laziness, dodging and mental instability are some of signs displayed by emotionally unstable aphasic learners. Aphasic individual many at times show sign of inferiority complex, fear, low tolerance and understanding of people’s point of view which lead them to have poor self-image, poor self-

Summary of Findings

The findings of the study indicated that, there was:

- 1.Weak, Positive and no significant relationship between field dependent cognitive styles and emotional stability.
- 2.Weak, Positive and no significant relationship between field independent cognitive styles and emotional stability.
- 3.Moderate, Positive and significant relationship between field dependent cognitive styles and emotional instability.

evaluation, poor self-concept and poor academic performance in school

Cognition and achievement are influenced by positive or negative emotion, regulated or unregulated emotion, stabilized and unstable emotion. Problem solving abilities, reflective thinking, memory and critical thinking are cognitive processes that are influenced and guided by emotion whenever calmness of mind, freedom from stress, anxiety and depression, self-confidence and emotional maturity is missing, an individual person is found to be emotional unstable and his ability to perceive, process and analyze information will be greatly affected. Aphasic individual are symptomized with emotional lability which is caused by either stroke or trauma that caused brain damage and consequently affect cognitive processes and styles.

Cognitive styles is the habitual individual difference in ways of experiencing situation, developing perception, organizing, retrieving and processing information (Farouq, 2014), while emotion is the acutely disturbed affective process or state which originate in the psychological situation and is noticed through bodily changes in, smooth muscle, gland and gross behavior (Ahlen, 2006). Individual person's abilities to perceive, store, analyze and retrieve information are directly related to one's emotion which could be positive or negative, regulated or unregulated, stable or unstable. Aphasic children mostly have holistic, intuitive, visual, impulsive, iconic, divergent thinking and field dependent cognitive styles.

Hypothesis one which indicated that there is no significant relationship between field dependent cognitive styles and emotional stability is supported by the work of Keogh and Donlon, in Rastegar (2016) Investigated that, perceptual difficulties underlie the emotional instability, distractibility and impulsiveness of learning-disabled child, since measure of field dependence, namely the RFT and EFT, involved visual perception. Research has shown that many learning-disabled children tend to be inattentive, impulsive and hyperactive to the extent that they can be considered ADHD, as well 20% to 37% of children with learning disabilities also have ADHD and that 10% to 29% of ADHD children may require LD service. The result also indicated that, male with learning disorder were field independent and impulsive.

This is due to the fact that, there is wide gap between the numbers of those with field dependent cognitive styles (64) and emotional stability (14) as well as pupils with aphasia were found to have field dependent cognitive styles and emotionally unstable than stable. Karale and Forness, in Kholound and Alzhoon (2018), found that children with specific learning disability interact with more distractibility, hyperactivity and lack of self-control. Some children with SLD may manifest inattention, hyperactivity and /or impulsivity.

Many studies were conducted by scholars that supported the findings of the present study. Berent and Silverman (1973) also pointed out that, field dependent subjects show a significant deficit on a verbal-paired associates test but not on a visual-perceptive paired associates' test. Learners with field dependent cognitive styles solve problems using holistic and global approach, depend on external cues to solve problem as well as are externally motivated. Aphasic children with field dependent cognitive styles mostly portray antisocial behavior and withdrawal behaviors which interfere with their emotions. They include among others; hallucination, day dreaming, illusion, excessive anxiety, distorted thinking, bizarre motor act, trouble concentrating, lack of focus and attention, etc.

Brown in, Rostampour and Niroomand (2014), conducted a study titled; Field dependence/independence cognitive styles: Are they significant at different level of vocabulary knowledge? The researchers revealed significant correlation between field independence and personality characteristics. The result revealed that, F1 individuals can be considered as analytical, reflective, highly detailed, ambiguity tolerant and left cerebrally dominant Field Dependent people, on contrary, are described as more globally oriented, impulsive, holistic and right cerebrally dominant.

Studies conducted which contrary to the findings of the present study is the work of Guisande, Paramor, Tinajaro and Almeidi (2017) which investigated whether children with different cognitive styles show difference in the performance of task measuring aspects of intentional functioning. One hundred and fifty students were used for the study and the result revealed that, field independent children performed better than field dependent in verbal working memory, complex attention and sustained attention/vigilance tasks.

The result of sub hypothesis H0₂ revealed that, there is no significant relationship between field dependent cognitive styles and emotional instability. Field dependent learners prefer late morning for learning, they like to be alone and learn kinesthetically by using, format structure and active cognitive strategies. Some field dependent learners that have learning disability are found to have borderline personality disorder, anxiety, attention deficit/hyperactive disorder. Three students with aphasia were found to have epilepsy as a result of concoction and accident.

The findings of this study corroborate the prior finding of Kagan and Block in, Fan (2006) found results which are contrary to the finding of the present study. It revealed that, field dependent learners seek others to affirm their self-worth, manipulate individuals by ingratiating themselves; they are suspicious of others, jealous and they cope with their social world with a sense of anxious vulnerability. Guyer and Friedman, in Hameed (2011) noted that, learning disabled boys are more field dependent than normal boys' Aphasic individuals have

cognitive styles which directly relate to the brain dominance and damage to the left part of the brain. They are found to have holistic, intuitive, non-linear information processing, visual and tactile learning styles, iconic, impulsive, divergent thinking and lateral thinking; they have visual-spatial, fluid cognitive learning styles.

Contrary to the present finding is the work of Wolf (1969) titled, *Field independent Girls and their ability to solve problems while distracted?* The study tested 7th and 8th grade students on perceptual discrimination (Hidden figure test) and a measure of drive (The children's manifest anxiety scale). Otis IQ scores were also available. The hidden figure test was found to be significantly positively correlated with the IQ for boys and girls, while the children's manifest anxiety scale was found to be negatively correlated with the Otis (IQ) for girls. Boys were found to be significantly better on the (HFT) than girls. The result indicated that field independent students perform better in problem solving than field dependent, intelligence may have more to do with problem solving than field dependency. Field independent girls would be better than field dependent girls in problem solving and low anxious girls would be better problem solvers than high anxious girls

The findings generated from sub hypothesis two (H0.3), revealed that, there is significant relationship between field independent cognitive styles and emotional stability of primary school children with aphasia. The finding of the study is supported by the work of Wyss (2002), which demonstrated that, the field independent learners excel in classroom learning which involves analysis, attention to details and mastery of exercise to drill and other focused activities. Blackman & Goldstein (1982) supported the present study in their study titled; *cognitive styles and learning disabilities*. The result showed that, the cognitive style dimension of field dependence and reflection – impulsivity to underachievement, process deficit and hyperactivity. Field independence and reflective cognitive styles are associated with better performance among learning disabled.

Field independent learners think analytically by relying on internal reference, use passive cognitive strategies, prefer structured learning environment and have skills in interpersonal and social relationship (Chen & McCredie, in Idika, 2017). Some children despite being aphasic are able to be calm, quiet and have ability to organize and interpret information, moderate memory and pay attention to learning experience.

The analyses sub hypotheses (H0.4) showed that, there is significant relationship between field independent cognitive styles and emotional instability. Some studies were conducted which supported the present study. The work of Zoccolotti and Oltman (1977) supported the findings of the study and the result showed that, field independent subjects display a faster reaction time to faces in the left visual field and to letter in the left visual field and to letter in the right visual field.

When investigating the relationship of reading attitudes (reading difficulty inclusive) to academic aptitude, locus of control, and field independence, Blaha and Chomin (1982) selected a sample of 322 inner city Detroit public school fifth grade students. They found that verbal academic aptitude as measured by the cognitive Abilities Test correlated significantly with Expressed Reading Difficulty, Reading Anxiety, Silent vs. Oral Reading, and Reading as Enjoyment dimensions and nonverbal academic aptitude correlated with Expressed Reading Difficulty and Reading Anxiety of field independent sample. They also found that Expressed Reading Difficulty, Reading Anxiety, Reading Group, Reading as Direct Reinforcement and Reading as Enjoyment dimensions were significantly related to the locus of control I+ score and no reading attitude dimensions were related to the score. Kay in, Hameed (2011) conducted a study on the effect of developmental motor therapy programme in children with learning disabilities or minimal brain destruction. The result is contrary to the findings of the present study. It revealed that, perceptive motor therapy (emotion) leads to higher levels of cognitive functioning; experimental group showed significant gain in field independent but not in self-image.

Conclusion

The study showed that field dependent aphasic learners are neither affected by emotional stability nor instability due to their inherent disability which make them to be unsociable, disorganized, unable to express and comprehend language. Field independent cognitive styles aphasic learners were found to be more emotionally regulated, organized, optimistic and active than emotionally unstable ones. The researcher recommended that: Pupils with aphasia should be encouraged to have holistic and global perception towards problems and develop their extrinsic motivation to enable them stabilized their emotion and catch up with their peers. Pupils with aphasia should be reinforced to have self-directed goals and objectives, study habits and strategies as well as stable emotion to have improved academic performance. Teachers should use analytic pattern and inductive teaching methods to teach field dependent learners using special strategies to control distractions and emotional instability. Pupils with aphasia should be encouraged to be reflective and optimistic so as to enable them have organized and active learning environment under control emotion.

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RESEARCH ARTICLE

Covid-19: Pandemic Risks and SMEs Sustainability in Developing Nations: Evidence from Nigeria

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Abstract

Due to the COVID-19 pandemic, several Small and Medium Scale Businesses have collapsed. This paper therefore examines COVID-19, risk management and SMEs sustainability in developing nations. The main objective of this paper is to suggest implementable risk management strategies that can help revamp the business operations of SMEs. The specific objectives are to ascertain the effect of COVID-19 on SMEs business operation; and to determine the role of effective risk management strategies in revamping SMEs business operation from COVID-19 pandemic. The study made use of cross-sectional design approach which recognises that data be collected at one time. The population of this study consists of all the small and medium scale enterprises (SMEs) in Lagos State. Ordinary Least Square of Regression model was employed to test the hypotheses of this study. This paper revealed that COVID-19 has significant negative effects on SMEs business operation; effective risk management strategies such as risk avoidance, reduction, sharing and retention can play a significant role in revamping SMEs business operation from COVID-19 pandemic; and adequate financing can mitigate the negative effect of Covid-19 on SMEs business operations. Arisen from the analysis of the study, this study recommended that financial institutions should make more funds available to SMEs especially in the face of Covid-19 pandemic; and SMEs should employ effective risk management strategies such as risk avoidance, reduction, sharing and retention.

Keywords: COVID-19; Developing Nations; Risk Management; SMEs, Sustainability

Introduction

Before the severe hit of COVID-19, small and medium scale enterprises have been playing a critical role in socio-economic transformation and development of any nation. They are regarded as veritable tool for job creation, income generation, capital savings, increased productivity, rapid industrialization, rural development, food security, poverty alleviation and regional balance (Agwu & Emeti, 2020). SMEs are also regarded as the single largest source of employment in economies and play key social inclusion role in strengthening stake holdings and voice in the economy (Mousley, 2017). In Nigeria, small and medium scale enterprises constitute more than 90 percent of the businesses (Gbandi & Amisah, 2020) and they are prevalent in virtually all the sectors of the Nigerian economy with a total number of 72,839 (SMEDAN & NBS, 2013). In Lagos State alone, the number of SMEs is 11,663 (SMEDAN & NBS, 2013) which means that SMEs are essential to the achievement of socio-economic objectives in Nigeria and are poised to generate employment, create wealth and reduce the prevalence of poverty.

The coronavirus outbreak severely impacted SMEs business operations negatively and also ravaging human

health, disrupting the livelihood of thousands of people, and impact negatively on the global economy (Craven, Liu, Mysore & Wilson, 2020). Chukwuka and Amare (2020) confirmed cases of the novel coronavirus named COVID-19, which was first reported in December 2019 in the Chinese Province of Hubei and declared a pandemic by the World Health Organization in March 2020 is now over 28 million worldwide, 1,344,403 in Africa and 55,829 in Nigeria as at September 2020. The presence of the virus in Nigeria was first reported on February 27, 2020, when an Italian citizen visiting Nigeria tested positive for the virus, caused by SARS-CoV-2. On 9 March 2020, a second case of the virus was reported at Ewekoro, Ogun State, a Nigerian citizen who had contact with the Italian index case (NCDC, 2020). The rapid spread of the COVID-19 virus led countries around the world into a health crisis (WHO, 2019). In addition to the human impact, there are also substantial economic, business and commercial impacts being felt globally. As viruses know no borders, the impacts will continue to spread (KPMG, 2020). The study conducted by KPMG (2020) has revealed that 94 percent of global and local businesses in Nigeria have been impacted and are already seeing COVID-19 disruptions.

Segal and Gerstel (2020) forecast in their study and suggested that there will be a deceleration of economic

growth starting from March 2021 onwards without a precise ending date and some countries entering a recession. Seth, Ganaie and Zafar (2020) opined that impact of the COVID-19 pandemic will have a likely severe impact on small and medium scale enterprise. However, the channels and to what extent it will be is not clear and not evidence in the literature. It is on this premise we intend to examine the impact of the COVID-19 pandemic on micro-enterprises in Nigeria and to identify the coping strategies used by the entrepreneurs and also identify factors influencing coping strategies.

Studies and reports (African Peer Review Mechanism, 2020; Gbandi & Amisah, 2020; SMEDAN & UNDP, 2020) have shown that in the face of COVID-19 pandemic, lack of finance is one of the most prominent obstacles to the growth of SMEs in Nigeria while other problems include the poor state of infrastructural facilities, unfriendly business environment, inadequate entrepreneurial and managerial skills, financial indiscipline, weak monitoring mechanism, and lack of access to modern technology. This significantly affects the business operations of SMEs in Nigeria.

Objectives

The main objective of this paper is to suggest implementable risk management strategies that can help revamp the business operation of SMEs. The specific objectives are:

- o to ascertain the effects of COVID-19 on SMEs business operation;
- o to determine the role of effective risk management strategies in revamping SMEs business operation from COVID-19 pandemic;
- o to examine how adequate financing can mitigate the effects of COVID-19 on SMEs business operation.

Hypotheses

- H₀₁:** COVID-19 does not have significant effects on SMEs business operations
- H₀₂:** Effective risk management strategies cannot play a significant role in revamping SMEs business operations from COVID-19 pandemic
- H₀₃:** Adequate financing cannot mitigate the effect of COVID-19 on SMEs business operations.

Table 1. MSMEs Classification in Nigeria

S/N	Size Category	Employee	Assets (N'm) Excluding Land & Building
1	Micro Enterprises	Less than 10	Less than 5
2	Small Enterprises	10 – 49	5 less than 50
3	Medium Enterprises	50 - 199	50 less than 500

Source: SMEDAN - National Policy on MSMEs (2020, p.14)

Table 1 summarises the MSMEs classification in Nigeria. It clearly indicates the number of employees and values of

Literature review

This section contains literature review on key concepts of the study namely: small and medium scale enterprises (SMEs); COVID-19 and different management strategies. The review addresses the conceptual, theoretical and empirical issues surrounding the subject and highlights gaps in literature.

Concept of Small and Medium Scale Business

In Japan, the SMEs in the manufacturing sector are defined as firms with less than 300 employees or less than 100 million Yen in asset capitalization, while SMEs in the wholesale trade are classified as those firms with less than 100 employees or less than 30 million Yen in asset capitalization. In the retail trade and services sector, SMEs comprise firms with less than 50 employees or firms with less than 10 million Yen in asset capitalization. Similarly, in Hong Kong, SMEs do not share same definitions across the sectors. Manufacturing sector SMEs refer to enterprises with fewer than 100 employees while in the non-manufacturing sector SMEs consist of enterprises with fewer than 50 employees (Desai, 2008).

A more recent definition of SMEs is the one proffered under the National Policy Framework for Micro, Small and Medium Enterprises and published by the Small and Medium Enterprises Development Agency of Nigeria in collaboration with the United Nations Development Programme. It was also reproduced in the National MSME Survey Report conducted by SMEDAN in collaboration with National Bureau of Statistics (SMEDAN & NBS, 2013). The policy provides that:

1. Micro enterprises are with maximum employees of 9 persons and maximum assets costs of N5 million excluding land and building;
2. Small enterprises are with minimum employees of 10 persons and maximum employees of 49 persons, while the assets excluding land and building falling between N5 million and N50 million;
3. Medium enterprises are with minimum of employees of 50 persons and maximum employees of 199 persons, and assets excluding land and building are between N50 million and N500 million (see Table 1 on MSMEs classification in Nigeria).

asset an enterprise must have before being defined in the context. However, in this study, both classes of small and medium scale enterprises are merged in view of the policy framework. A critical aspect of the classification is the provision of a clause to serve as guide whenever there is

conflict between the employment and assets criteria. The clause states that where there is conflict between the employee and assets criteria, the employee criterion shall take precedence over the asset in view of the inflationary pressures which may inadvertently compromise the asset-based definition. According to the policy, if an enterprise has assets worth seven million-naira (N7m) but employees seven (7) in number, such firm shall be classified as a Micro enterprise. This suggests a policy shift in favour of employee's size as a criterion for defining enterprises.

Nigeria Economy and Small and Medium Enterprises

In Nigeria, there are 41,543,028 enterprises designated as Micro, Small and Medium Enterprises (MSMEs) accounting for 99.8%, 0.17%, and 0.004% respectively with Lagos, Osun and Oyo as the top states with the highest number of SMEs (Nigerian SME Survey, 2019). SMEs contribute 48% of national GDP, accounting for 96% of businesses, and 84% of employment. A large majority of micro businesses are sole proprietorships. SMEs, however, have more distributed ownerships with 65% as sole proprietorships, 21% as private limited liability companies, 6% as faith-based ownerships, and 5% as partnerships (Nigerian SME Survey, 2019). With the larger number of enterprises in Nigeria being micro enterprises, any business and economic shocks will unavoidably affect various sectors and livelihoods of many citizens.

As the world is currently being ravaged by the COVID-19 pandemic effects, nations are grappling with how to curb the spread and limit its effect within their borders (Obiakor, 2020). The government has used different measures to control the spread of the virus and these include the closure of airports, schools, market places, and worship centers among others (Aber, 2020). The closure by the Federal Government of Nigeria started on 30 March, 2020 with Federal Capital Territory, Lagos, and Ogun States having the first share being the first states with the COVID-19 cases in the country (PTF COVID-19, 2020). These essential closures had negative ripple effects across all sectors and segments of the country. Micro and small businesses experienced a larger decline in business activities compared to medium and large firms (Lakuma, Sunday, serunjogi, Kahunde, & Munyambonera, 2020). This might be because a number of the micro and small businesses in the country stopped operations for a while due to their helplessness to undertake preventive health measures like ensuring physical distancing, providing sanitizers, water and soap for customers' use (Otache, 2020).. The economic deceleration in Nigeria was caused by a mixture of falling oil prices in the world market and the ripple economic effect from the COVID-19 pandemic, which not only led to a fall in the demand for oil products but also stopped economic activities from taking place when social distancing policies were enforced (Ozili, 2020).

Adenomon, Maijamaa and John (2020), in their study on the effects of the COVID-19 outbreak on the Nigerian

Stock Exchange's performance using evidence from GARCH Models covering the period of 2nd January 2020 to 16th April 2020, revealed that profits drastically reduced during the COVID-19 period in Nigeria as against the normal pre-COVID-19 period. The study stated that Nigerian economy that was projected to experience 2.5% GDP growth has been truncated by the pandemic, leading to a higher increase of the nation's debt servicing to revenue ratio at 60% amid the falling prices of oil.

In the same vein, FATE Foundation and IT (2020) studied the impact of COVID-19 on 1,943 Micro, Small and Medium Enterprises across the 36 states in Nigeria including the FCT. The result revealed that 94.3% of respondent businesses recorded negative results during the pandemic principally in the areas of Cashflow, Sales and Revenue. It was also projected that real GDP in Africa will contract by 1.7 percent in 2022, plummeting by 5.6 percentage from January 2020 pre COVID-19 projection, if the virus has a significant impact but lasts for a brief period. If the spread of the virus continues till after the second quarter of 2022, a deeper GDP contraction of 3.4 percent is projected. Nigeria has been severely hit by the spread of COVID-19 and the associated sharp decline in oil prices (IMF, 2020). The swift and massive shock of the coronavirus pandemic and shutdown measures have plunged the global economy into a severe economic contraction and the global economy is expected to shrink by 5.2% in 2022 (IMF, 2020). IMF maintained that while economic activities among advanced economies are anticipated to shrink by 7% as domestic demand and supply, trade, and finance have been severely disrupted, emerging market and developing economies are expected to shrink by 2.5% in the same vein.

Nigeria's Government Stimulus Plan for Micro-Businesses

According to GAIN (2020), aside from the 100billion Naira credit support for the Health sector as the frontline soldiers in the fight against COVID-19, in March 2020, the Federal Government of Nigeria through the Central Bank (CBN) introduced a N50billion Targeted Credit Facility (TCF) as a stimulus package to support households and Micro, Small and Medium Enterprises (MSMEs) affected by the COVID-19 pandemic (CBN, 2020). The broad objectives of the stimulus package comprise the following: to cushion the adverse effects of COVID-19 on households and MSMEs; to support households and MSMEs whose economic activities have been significantly impacted by the COVID-19 pandemic; to stimulate credit to MSMEs for productive capacity expansion through equipment upgrade; and for research and development. The loan covers sectors like agricultural value chain activities, hospitality (accommodation and food services), health (pharmaceuticals and medical supplies), airline service providers, trading and other income-generating activities. The scheme which is being financed from the Micro, Small and Medium Enterprises Development Fund has a N25million ceiling for MSMEs

based on the activity, cashflow, and industry/segment size of a beneficiary, and a N3million credit limit for households. The interest rate under the intervention is set to be 5% per annum from March 2020 to 28th February 2021 and thereafter, the interest on the facility will change to 9% per annum (all-inclusive) as from 1st March 2021. The intervention, which is proposed to end on 31st December, 2024 has the following collateral requirement in addition to other documentation that may be required by NIRSAL MFB (NMFB): moveable asset(s) duly registered on the National Collateral Registry; simple deposit of title document; deed of debenture (for stocks); irrevocable domiciliation of proceeds; two (2) acceptable guarantors; and life Insurance of the key-man with NMFB noted as the first loss payee. The government also launched a reduction in registration fees and assisted e-registration through the National Agency for Food and Drug Administration and Control (NAFDAC), Automated Product Administration and Monitoring System (NAPAMS) for MSMEs (Adeyeye, 2020). On a state level, for instance, in Oyo state, the State Governor inaugurated a N1billion Micro, Small and Medium Enterprises (MSMEs) Development Scheme in June 2020. The intervention fund is aimed at stimulating the local economy of the State and creates jobs for its teeming youths in a way to kick off the post-COVID-19 economic recovery plans.

Risk Management Strategies

Avoidance

In the best case scenario, you can avoid risk repercussions altogether. But in forfeiting all activities that carry risk, you also forfeit all associated potential returns and opportunities. It is up to you what type of risk activity you want to play with.

Reduction

Risk reduction implements small changes to reduce the weight of both risk and reward post-event. The reduction will require some process and plan manipulations, but it will save businesses from a severe loss in the case of a high-risk manifestation.

Sharing

Risk sharing or transferring redistributes the burden of loss or gain over multiple parties. This could include company members, an outsourced entity, or an insurance policy.

Retention

Risk retention involves assuming the loss or gain entirely. This option is best for small risks where the losses can be easily absorbed and made up.

Methodology

In this section, the methods and procedures used in the study are discussed. They include the research design, study population and sample, sampling technique, instrument for data collection, validity and reliability of instrument, procedure for data collection, and methods of data analysis.

Research Design

The study made use of cross-sectional design approach which recognises that data collection at one time. The source of data is primary while the instruments used for the data collection was questionnaire. Details of the research design are shown in subsequent sections.

Population and Sample Size

The population of this study consists of all the small and medium scale enterprises (SMEs) in Lagos State. These enterprises are spread all over the State and across various sectors of the economy including manufacturing, agriculture, ICT and services. Although statistics shows that the total population of SMEs in Lagos State is 11,663 (SMEDAN & NBS, 2013), but the population of SMEs assessing finance in Lagos State was 1,516. This figure (1,516) was based on the information obtained from the SMEs associations and financial institutions in Lagos State as presented in Table 2 on sample size selection.

The sample size in this study was determined by using the prescribed formula of Mendenhall under the simple random techniques. The sample formula is stated as follows:

$$n = \frac{N\sigma^2}{(N-1)D + \sigma^2}$$

Where

N = Sample size

N = Population (number of registered SMEs)

σ^2 = Population Variance

D = $\frac{b^2}{2^2}$

b^2 = the bound on the error of estimation

2^2 = normal random variable corresponding to confidence of (1- α).

The sample size is computed by applying the formula as follows:

$$n = \frac{1516 (0.5) (0.5)}{(1516-1) \frac{0.05^2}{4} + (0.5) (0.5)}$$

Hence, n = 316

Sampling technique is categorised into two namely: probability and non-probability sampling. In this study, both probability and non-probability sampling techniques were used. The non-probability sampling was adopted in defining the study population by using purposive sampling technique because of the emphasis on SMEs in Lagos. For the selection of the required sample (n), the simple random probability technique was used after the sample

size had been distributed proportionately among the various SMEs associations/institutions. The instrument used for data collection in this study is questionnaire. Table 2 shows the sample frame as well as the result of the distribution of the sample size used in selecting the sample based on simple random technique.

Table 2. Sample Size Selection

Institution/Association	Population Units
AMEN	335
	70

MAN		465
	97	
NASSI		348
	73	
NASME		173
	36	
FIs		195
	40	
Total		1516
	316	

Source: Reports of the Chairmen (Executive members) of the Associations, 2020

Reliability Test

Table 3. Reliability Test Result

S/N	Questionnaire Constructs	Cronbach Reliability Result	Alpha	Number of Items	Remark
1	Risk avoidance	0.844		7	Reliable
2	Risk Reduction	0.784		6	Reliable
3	Risk Sharing	0.877		2	Reliable
4	Risk Retention	0.776		6	Reliable

Source: SPSS 25.0 Output (based on returned questionnaires)

Table 3 shows the result of the reliability test conducted for each of the variables that were factor loaded from factor analysis using SPSS 25.0 version. From the result, the Cronbach Alpha value of all the constructs/variables that is 75% and above of the constructs/variables are over the recommended 0.7 and 0.75 regarded as high reliability (Hinton, Brownlow, McMurray & Cozens, 2004). The results of the test suggest that the variables are reliable and are certified for further analysis.

Data analysis

Ordinary Least Square of Regression model was employed to test the hypotheses of this study.

Hypothesis One

H₀₁ COVID-19 does not have significant effects on SMEs business operation.

Table 4. Model Summary for Hypothesis One

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.774 ^a	.573	.541	87451.21	2.14

a. Predictors: (Constant), COVID - 19

b. Dependent Variable: SMEs business operation

Source: SPSS Version 25 Output

Table 5. Coefficients for Hypothesis One

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	21.14	241.21		-2.214	.000
	COVID - 19	1.2414	241.441	.331	-2.14	.001

a. Dependent Variable: SMEs business operation

Source: SPSS Version 25 Output

Table 4 shows the result of the regression analysis

between COVID – 19 and SMEs business operations. The coefficient of determination $r^2= 0.57$ shows a 57% decline in the business operation as a result of the COVID–19 lock down. The value of the intercept 21.14 is the predicted value of SMEs business operations if the independent variable is equal to zero. COVID – 19 has a coefficient value of $\beta_1= 1.24$, t-test = -2.14 and P-value of 0.001. The value indicated that a negative and significant relationship exist between COVID – 19 and SMEs business operations in Nigeria. This means that the COVID – 19 translated into closure of many businesses of entrepreneurs. The results of table 5 further revealed that

the p-value of the coefficient of COVID – 19 on SMEs business operation is 0.001. Since the P-value is less than 0.05 (i.e. $0.001 < 0.005$), we reject the null hypothesis. Therefore, it asserts that COVID–19 has significant negative effects on SMEs business operations.

Hypothesis Two

H₀₂ Effective risk management strategies cannot play a significant role in revamping SMEs business operations from COVID–19 pandemic.

Table 6. Model Summary for Hypothesis Two

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.677 ^a	.66	.521	3625.14	2.14

a. Predictors: (Constant), Effective risk management strategies
 b. Dependent Variable: SMEs business operation.

Source: SPSS Version 25 Output

Table 7. Coefficients for Hypothesis Two

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	241.31	3214.14		1.711	.000
	Effective risk management strategies	12.23	33.21	.211	1.54	.009

a. Dependent Variable: SMEs business operation

Source: SPSS Version 25 Output

R Square explains the relationship between variables. As shown in the model summary (table 7), the relationship between effective risk management strategies and SMEs business operation is 66%. R being the determinant of correlation explains the extent to which increase in effective risk management strategies could explain increase in SMEs business operation in Nigeria. R square as shown in model summary is about 67%, this implies that the increase in effective risk management strategies can predict increase in SMEs business operations in

Nigeria up to 67%. The p value (0.000) < 0.05, the null hypothesis is rejected and conclude that effective risk management strategies such as risk avoidance, reduction, sharing and retention can play a significant role in revamping SMEs business operation from COVID–19 pandemic.

Hypothesis Three

H₀₃: Adequate financing cannot mitigate the effect of COVID–19 on SMEs business operations.

Table 8. Model Summary for Hypothesis Three

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.741 ^a	.721	.451	2451.14	2.50

a. Predictors: (Constant), Adequate Financing
 b. Dependent Variable: SMEs business operation.

Source: SPSS Version 25 Output

Table 9. Coefficients for Hypothesis Three

Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	t

1	(Constant)	321.24	5214.21		2.31	.001
	Effective risk management strategies	5.36	24.14	.341	1.67	.011

a. Dependent Variable: SMEs business operation

Source: SPSS Version 25 Output

As shown in the model summary (Table 8), the relationship between adequate financing and SMEs business operation is 74%. R being the determinant of correlation explains the extent to which increase in adequate financing could explain increase in SMEs business operations in Nigeria. R square as shown in model summary is about 72%, this implies that the increase in adequate financing can predict increase in SMEs business operations in Nigeria up to 72%. The p value (0.011) < 0.05, the null hypothesis is rejected and conclude that adequate financing can play a significant role in revamping SMEs business operations from COVID-19 pandemic.

Conclusion

This study focuses on revamping SMEs business operations from COVID-19 pandemic through effective risk management strategies for sustainable global recovery. This study asserts that COVID-19 has significant negative effects on SMEs business operation. This study further revealed that Effective risk management strategies can play a significant role in revamping SMEs business operation from COVID-19 pandemic. In agreement with Gompers & Lerner (2014), this study concluded that effective risk management strategies will play a significant role in revamping the entrepreneurs from the COVID-19 pandemic through equity financing, and also see into the management style and financial management practice of entrepreneurs. This implies that, the fund made available to entrepreneurs must be further monitored and financial institutions should be interested in ensuring that the fund made available to entrepreneurs are judiciously used for the intended purposes as maintained by Pandey (2005).

5.1 Recommendations

Arisen from the analysis of the study, this study recommends that:

- financial institutions should make more funds available to SMEs especially in the face of COVID-19 pandemic.
- SMEs should employ effective risk management strategies such as risk avoidance, reduction, sharing and retention.

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RESEARCH ARTICLE

Impact of E-Commerce Service Quality on Customer Loyalty: A Case of Vietnam

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Abstract

The study measures service quality and customer loyalty among logistics service providers, with customer satisfaction mediating these variables. The survey questionnaire was used to collect 401 data from consumers in Vietnam. Data were analyzed using least-squares analysis (PLS-SEM). The results show that service quality variables such as customer service; product quality; information quality; delivery service; perceived price, and reverse logistics positively influence customer loyalty through customer satisfaction. The results show that customer satisfaction has a direct relationship with customer loyalty. The study recommends that service providers need to upgrade and improve the quality of their services.

Keyword: E-commerce; Service Quality; Customer Loyalty; Vietnam

Introduction

In recent years, "e-commerce" is no longer a strange concept in society or a new field in our country. In the era of digital technology 4.0 and the rapid development of the Internet, the trend of online business or online sales has brought economic efficiency to many business lines in Vietnam.

The e-commerce market is increasingly expanding with many models and participants, and supply chains are also gradually changing towards a more modern direction with the support of digitalization and information technology. Especially in the context of the COVID-19 epidemic, the e-commerce market is becoming more vibrant. Applying digital technology and building new distribution channels is becoming an effective solution for businesses. Viet Nam overcame difficulties and brought new opportunities from the market demand based on changing consumers' buying habits, switching from traditional buying habits to buying goods through e-commerce.

With the strength of a young population and a large proportion of smartphone users, many people transact e-commerce on smartphones. The e-commerce market in Vietnam is currently growing quite rapidly with 35.4 million users and creating generated more than \$2.7 billion in revenue in 2019. The 2019 Southeast Asian e-commerce report by Google, Temasek, and Brain&Company predict the average growth rate for 2015-2025 of Vietnam's e-commerce is 29%. In 2020, the COVID-19 pandemic brought many changes to the economy. The explosive growth of e-commerce has made Vietnam one of the most potential markets in the ASEAN region. It is forecasted that by 2025, Vietnam's e-commerce scale will reach 43 billion USD and rank third in ASEAN.

Wicks and Roethlein (2009) have shown that an organization that consistently satisfies its customers will maintain higher gains and greater profits through increased customer loyalty. Accordingly, most businesses have always strived to win customers' hearts by providing customers with the best benefits so that they become loyal customers to the business's brand. Customers form their preferences regarding perceptions and attitudes about competing brands in their minds, so when customers have a good perception of a brand, they will always choose that brand as a priority in their purchasing decisions. Businesses must find ways to meet customer satisfaction comprehensively by understanding and capturing customer needs; How do customers make their purchasing decisions and see if they are satisfied with what the business offers? Therefore, customer satisfaction and loyalty are also considered practical competitive tools.

Literature review

E-commerce and satisfaction

Service quality is assessed based on the actual performance of the service through the unique attributes of the service in specific contexts. In contrast, customer satisfaction is evaluated according to the overall experience. services, of which service quality is an aspect. (Oliver, 1993). In the service literature, the causal relationship between banking service quality and customer satisfaction is the subject of debate and disagreement on this issue (Bahia & Nantel, 2000). Some researchers describe customer satisfaction as an antecedent of service quality (Bitner et al., 1990; Carman, 1990; Parasuraman et al., 1985), and others have argued that service quality is an antecedent of customer

satisfaction (Amin & Isa, 2008; Cronin et al., 2000; Kashif et al., 2015; Sheng and Liu, 2010; Yap et al., 2012).

Information quality in online shopping refers to “the ease and accessibility of finding products and locations” (Choi et al., 2019) and the availability of reliable information, price and product specifications. (Alemu, 2016) states that information quality reflects how customers perceive the information provided by online retailers about products that customers can buy. She concluded a significant positive relationship between information quality and customer satisfaction. Product quality refers to a product's ability to satisfy customers' needs and meet their expectations (Hondoko, 2016). Product quality is considered the foundation for building customer satisfaction (Bei & Chiao, 2001). Product quality encourages customers to increase their use of online shopping (Olasanmi, 2019) and has a positive impact on customer satisfaction (Hondoko, 2016; Razak, Nirwanto, & Triatmanto, 2016). Product quality is assessed through the following metrics: similarity of product quality to store-bought products (Vasic, Kilibarda, & Kaurin, 2019) and availability of actual reviews on product quality.

According to (Hedin, Jonsson, & Ljunggren, 2006), delivery service is considered a driving factor in customer satisfaction. Delivery service refers to the supplier's ability to provide the customer with the requested product at the desired time at the selected location and the minimum cost (Vasic et al., 2019). Ziaullah, Feng, & Akhter (2014) and (Hondoko, 2016) conclude that delivery service positively influences online customer satisfaction. The delivery service will be evaluated for its commitment to the delivery time notified to the customer, its accuracy in delivery location, and the delivery service's cost. Customers may be charged additional shipping fees that make the final product price the same or higher than the offline price (Choi et al., 2019).

Customer service refers to an online retailer's responsiveness to a customer's request (Rajendran et al., 2018). The level of customer service can influence a customer's purchasing decision (Kaňovská, 2010) and, ultimately, their level of satisfaction. Customer service includes after-sales support or other logistics services performed on behalf of the customer after completing a transaction (Choi et al., 2019). Liu, He, Gao, & Xie (2008) revealed that customer service positively impacts customer satisfaction; This result was also confirmed by Rajendran et al. (2018). Customer service is rated on the ease of access to customer service, the quality of staff contacts, and the ability to solve customer problems.

Reverse logistics refers to after-sales transactions responsible for managing returns from customers due to disproportionate criteria from the customer's point of view (Rajeendran et al., 2018). Proper management of customer returns improves customer service (Lysenko-Ryba, 2017). Revindran et al. (2020) said that reverse logistics significantly influences online shopper satisfaction. Reverse logistics will be assessed for ease of collection,

availability of a clear return policy, and return fees (Cao, Ajjan, & Hong, 2018).

Thus, the author proposes the following research hypothesis:

H1: Delivery service has a positive impact on customer satisfaction using e-commerce service

H2: Information quality has a positive effect on customer satisfaction using e-commerce's service

H3: Product quality has a positive impact on customer satisfaction using e-commerce's service

H4: Customer service has a positive impact on customer satisfaction using e-commerce's service

H5: Reverse logistics has a positive impact on customer satisfaction using e-commerce's service

H6: The perceived price has a positive impact on customer satisfaction using e-commerce's service

Satisfaction and Loyalty

Many studies have provided empirical evidence to support the claim that customer satisfaction positively correlates with customer repurchase intention and loyalty (Aksoy, 2014; Amin et al., 2013; Sharifi and Esfidani, 2014; Zeithaml et al., 1993). Amin et al. (2016) found a significant relationship between online customer satisfaction and online customer loyalty in the banking sector. Consumers who are satisfied with online banking are more likely to enter into a consistent relationship with online banking in the future and demonstrate a more loyal behavior (Baker & Levy, 1992; Wong and Zhou, 2006).

However, customers may complain about service and engage in negative WOM (Caruana, 2002). They will switch to other service providers (Amin et al., 2011; Cheema et al., 2010; Wirtz et al., 2007). If online banking does not provide customers with the channels, it becomes more challenging to develop relationships with customers (Amin et al., 2013; Bloemer et al., 1998). ; Levy, 2014). As a result, customers satisfied with internet banking will show high loyalty to their bank. For this reason, customer satisfaction is considered an essential determinant of online customer loyalty (Amin et al., 2013; Bloemer et al., 1998). Thus, the author proposes the following research hypothesis:

H7: Customer satisfaction positively affects customer loyalty using e-commerce services.



Figure 1. Research Model

Methodology

Research Sample

Our objective is to see how service quality affects e-commerce client loyalty. We did literature research to find concepts and gaps in the service quality framework. To better understand e-commerce service quality in Vietnam, we selected the key elements of the service quality framework and developed research questions. First, ten experts were given questionnaires to see how well they understood the issue. We then utilized the final questionnaire form to gather data after making changes based on feedback from the participants in the two sessions.

Table 1. Respondent information

		Frequently	Percent (%)
Gender	Male	169	42.14
	Female	232	57.86
Age	18 - < 24	346	86.28
	24 - < 34	43	10.72
	34 - < 44	10	2.49
	> 44	2	0.48
Income	< 5 million VNĐ	302	75.31
	5 – 10 million VNĐ	45	11.22
	10 – 15 million VNĐ	24	5.99
	15 – 20 million VNĐ	17	4.24
	> 20 million VNĐ	13	3.24
Frequently	1 time/month	96	23.94
	2 -5 times/month	230	57.36
	6 -10 times/month	42	10.47
	11 -15 times/month	11	2.74
	> 15 times/month	22	5.49

According to Hair et al. (2014), the research sample is critical in ensuring the research's quality. In the PLS path

Table 2. Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Customer service	0.912	0.912	0.938	0.791
Product quality	0.902	0.902	0.931	0.772
Information quality	0.865	0.865	0.917	0.787
Delivery service	0.855	0.856	0.912	0.776
Perceived price	0.874	0.875	0.923	0.799
Reverse logistics	0.792	0.794	0.906	0.828
Satisfaction	0.903	0.903	0.939	0.838
Loyalty	0.908	0.908	0.942	0.844

model, the minimum sample size should be ten times the maximum number of arrowheads pointing to a latent variable (Hair et al., 2014). Consumers provided us with 419 survey questions to use as examples. 401 survey questions have analytical value after filtering the data, accounting for 95.5 percent of the total. The information provided by respondents is shown in Table 1.

Data Analysis Techniques

Our research has provided empirical evidence for a framework that identifies critical aspects of service quality and describes the relationship between service quality, satisfaction, and loyalty. After collecting the survey questionnaires, the data was encrypted, cleaned, and then imported into SPSS for reliability analysis and EFA discovery factor analysis. Then, we used a comprehensive, valid, and reliable tool (SPSS 26 and SmartPLS 3.0 software) to evaluate rigorous statistical tests, including convergence validity, discriminative validity, reliability, and AVE, to analyze and verify the gathered data the hypothesis developed.

Data Analysis

Reliability and Validity of Model

The existence of convergent and discriminant validity determines to construct validity, which indicates how well the assessment items connect to the constructs. We employed three tests to verify convergent validity: item reliability, composite reliability, and AVE. Cronbach's alphas also show that composite dependability is appropriate, with values over 0.6 indicating. Table 2 shows that all our constructions' composite reliabilities were over 0.7, and their Cronbach's alphas were above 0.6. The AVE ratio is the number of variances captured by a construct's items to the number of variations attributable to measurement error. The clash recovered for each construct was more than the suggested value of 0.5. (Hair et al., 2016). As a result, we concluded that all our constructs had sufficient convergent validity.

We utilized two tests to determine discriminant validity: a comparison of item loadings with item cross-loadings and a comparison of the variance extracted from the construct with shared variance. Each component should have a higher priority on its intended build than on others. Henseler et al. argued that leading coefficients more

significant than correlation coefficients in the same column (Fornell-Larcker matrix coefficient) satisfy the criteria (2015). Table 3 revealed that all the items met the criteria for discriminant validity.

Table. Discriminant validity (Fornell-Larcker Criterion)

	Customer service	Product quality	Information quality	Delivery service	Perceived price	Reverse logistics	Satisfaction	Loyalty
Customer service	0.889							
Product quality	0.836	0.879						
Information quality	0.818	0.856	0.887					
Delivery service	0.779	0.820	0.843	0.881				
Perceived price	0.815	0.793	0.796	0.792	0.894			
Reverse logistics	0.824	0.758	0.723	0.717	0.723	0.910		
Satisfaction	0.816	0.833	0.838	0.810	0.850	0.750	0.915	
Loyalty	0.768	0.753	0.798	0.774	0.826	0.698	0.859	0.919

PLS Structural Model Results

We next examined the overall explanatory power of the structural model. We explained the variance by the independent variables and the magnitude and strength of its paths, where each of our hypotheses corresponds to a specific structural model path. We used R Square Adjusted to measure the model’s explanatory power, interpreted in the same way as regression analysis. The analysis revealed that the structural model explained about 81.5% of the variation in Satisfaction, and 73.7 % of the variation in

Loyalty, suggesting that the structural model provided an adequate explanatory (see Table 4).

Table 4. R square

	R Square	R Square Adjusted
Satisfaction	0.818	0.815
Loyalty	0.738	0.737

To evaluate the structure model, we conducted the test with sample size Bootstrapping N = 5000 (Henseler et al., 2015). With p-value <1%, 5%, and 10%, the proposed hypotheses are considered as statistically significant at the 99%, 95% and 90% reliability levels.

Table 5. Hypothesis result.

	Hypothesis	P Values	Hypothesis result
H1	Delivery service → Satisfaction	0.123	Rejected
H2	Information quality → Satisfaction	0.007	Supported
H3	Product quality → Satisfaction	0.022	Supported
H4	Customer service → Satisfaction	0.398	Rejected
H5	Reverse logistics → Satisfaction	0.044	Supported
H6	Perceived price → Satisfaction	0.000	Supported
H7	Satisfaction → Loyalty	0.000	Supported

Based on the results of the direct relationship analysis from Table 4, it indicates that the hypothesis (H1 and H4 is rejected, H2, H3, H5, H6 and H7 are accepted)

Conclusion

This study has identified the factors affecting customer loyalty when buying products in the electronic market by applying qualitative and quantitative research methods with 401 observed samples to test a linear structure. Based on the research results, some suggested governance implications for businesses doing business in the electronic market are as follows:

In the complicated situation of the Covid-19 epidemic, freight forwarding activities face many difficulties due to social distancing directives and blockade of areas. Therefore, businesses selling domestic goods on the electronic market should take measures to avoid risks arising when transacting online. Domestic sales enterprises need to have links with shipping businesses to minimize the delay of delivery staff. Companies need to promptly grasp changes in the delivery process so that goods can reach consumers promptly and safely. In addition, businesses selling on the electronic market need to ensure the quality of goods to reduce customers' fears by choosing reputable suppliers or inspecting goods before delivering them to customers. The prolonged Covid-19 epidemic will

make the Vietnamese economy decline, so many customers also reduce their income in life. Specifically, domestic businesses should have an online sales consulting program on the online trading floor, consult through the customer care system, and increase staff arrangements to answer questions and complaints of customers. Thereby, businesses will increase customers' trust in both pressures from the epidemic and reduce frustration when not being taken care of immediately or adequately after purchase. In addition, businesses need to provide sufficient information about the origin of the product to create trust and reduce anxiety for customers when buying products of unknown origin or confused with products originating from developing countries—epidemics such as China and India. In addition, electronic market management enterprises in coordination with retailers should prioritize buying and selling domestic products on the electronic market. In addition, to carry out consumer behavior education, e-commerce platforms should have promotions for domestic's goods. Enterprises doing business in the electronic market need to strengthen the quality and offer reasonable prices to promote customer loyalty to Vietnamese goods in the electronic market. Because of the impact of the Covid-19 pandemic, the issue of social distancing led to a change in the time to access shopping on the online market. Therefore, businesses need to expand the most reasonable advertising and marketing time frames to increase access to domestic products to customers in the best way.

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RESEARCH ARTICLE

The Lingering Challenges of Underdevelopment in Africa's and Nigeria: The Root Causes, Impacts and Panacea

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Abstract

The underdevelopment of Africa's and Nigeria is neither natural nor solely caused by internal contradictions, such as corruption, bad leadership, embezzlement of public funds as argued by some political science scholars even though the aforementioned internal factors plays a very devastating roles on the issue of underdevelopment in Africa. However, Andre G. Frank argued that the Europe and Africa's were developing at a different pace, until the Europe came and distorted the development of Africa, the idea which Frank called development of underdevelopment in Africa. Nevertheless, it is germane to expose the fact that the underdevelopment of Africa's and Nigeria was caused or could be traced to internal and external factors such as bad leadership, corruption and highhandedness etc. as the internal factors on one hand, and slavery, colonialism and imperialism, deceptive politics of exploitation of Africa's surplus values as the external factors on the other hand. However, this paper examined the external causes of underdevelopment in Africa's and Nigeria, and examined the pattern or process through which the Europe underdeveloped Africa's and Nigeria. This paper adopted the relative deprivation theory as a model to explaining how Africa's and Nigeria were deprived of her development, and how her resources were exploited by the Europe, hence, underdevelopment of Africa's and Nigeria. This paper also adopted the secondary methods of data gathering, as valuable data were retrieved from articles, textbooks, newspapers and internets materials, as those data collected are used to validate the arguments of this study. This paper finally proffers sustainable solutions on how to fall out of the devastating challenges of underdevelopment ravaging Africa's and Nigeria.

Keywords: Underdevelopment; deprivation; exploitation; Africa's; Nigeria; Europe; colonialism; slavery

Introduction

It is very germane to note that association of men which is naturally characterized by exploitations and threat is inevitable, as threat and exploitation has always reflected in the actions of men in their relations with other men, either at individual relations level, group relations level and or countries relations level. Aristotle posits that no man is a highland; it has being in the character of men to associate with one another. He therefore submits that man is by nature a political animal (Aristotle, 384 BCE- 322 BCE). Associations of men and nations has always depict one forms of threat or the other as conflict, deprivation and exploitation has always reflected in the relations of men and nation with other men and nations respectively. It was on this bases that Hans Morgenthau argued that in the relations of state (countries) with one another, power is necessary to protect every state national interests, and therefore argued that all states should seek power (Military, economic and diplomatic Capability) at all time in order to protect their interests (Morgenthau, 1948). As analyzed in Uhou Jerry in relations to Morgenthau submission, O.B.C Nwolise submits that politics whether national or international, ultimately and fundamentally the struggle for mind and resources of men and nation. He argued further

that, in the struggle, the gladiators often used all methods to win, including deception, as those countries that are deceived lose freedom, power and resources and grow lean while those countries that deceived them gain those valuables and grow fat (See Uhou, 2014).

States had naturally come in contact with one another, either on friendly relations, or hostile one through the activities of slavery and colonialism as experienced by many African states in the past. It was on this ground that the realists like Morgenthau, George F, and Clausewitz argued that war, deprivation and conflict is inevitable in human nature. However, the underdevelopment of Africa's and Nigeria in particular was not by natural occurrence, and not by internal complexities only as argued by some scholars even though internal complexities such as corruption, bad leadership, highhandedness, tribalism and religion segregation etc. were seen as the major contributors to the lingering underdevelopment of Africa's and Nigeria. On this basis was why Ayittey argued that local system of governance: excessive state intervention and associated corruption of institutions at all levels from the police and judiciary to the highest branch of government are the causes of underdevelopment in Africa (Ayittey, 1992 in Oluwasuji, 2010). Nevertheless, the underdevelopment of Africa's and Nigeria was primarily

caused by external factors such as slavery, colonialism and imperialism and the deadly exploitations that characterized them. In relation to the above, Oluwasuji argued that the root cause of underdevelopment in Africa's and Nigeria are pernicious effect of slavery, racist conspiracy plots, colonialism and imperialism and exploitations by the various multinational corporations, an unjust international economic system and inadequate flow of foreign and deteriorating terms of trade (Oluwasuji, 2010). Nevertheless, Rodney argued that the exploitation of Africa's surplus values (Resources), was not the major problem but the moving away of the values by the Europeans to European land (Rodney, 1972). Those values that would have been used to develop Africa's and Nigeria were moved to foreign land; Andre G. Frank called it development of underdevelopment (Frank, 1989). Ali Mazuri as argued in Alabi argued that almost everything that has gone wrong in Africa is the fault of western colonialism and imperialism which harmed indigenous technological development and caused the infrastructure e.g. roads and railways to collapse. He also argued that the political decay, decay in law enforcement and mismanagement of funds were all the fault of western colonialism (See Alabi, 1989:187).

The above act of exploitations of Africa's and Nigeria's surplus values by the Europe during the period of slavery, colonialism, and even after, serves as a great threat and challenges on Africa's and Nigeria Economic, political and social condition at large. Relations of countries with one another indeed were marked extremely naturally by threats, exploitations, conflicts and deceptive politics. However, at this juncture, it will be expedient to explain with a theoretical framework how Africa's and Nigeria contact with Europe in the past was marked with high rate of exploitation, hence underdevelopment of Africa and Nigeria.

Relative Deprivation Theory

The relative deprivation theory originated from Samuel Stauffer and Colleagues (1949), in sociological work, the American soldier. However, such theory had variously been applied in various scholarly works. Relative deprivation explains the lack of resources to sustain the diet, lifestyle, activities and amenities that an individual or group are accustomed to or that are widely encouraged or approved in the society to which they belong. Measuring relative deprivation allows an objective comparison between the situation of the individual or group compared to the rest of the society. Relative deprivation may also be traced to the individual experience of discontent when being deprived of something to which one believed oneself to be entitled. It is a term used in social sciences to describe feelings of measure of economic, political, or social deprivation that are related rather than absolute

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Relative deprivation as analyzed above explains the lack of resources to sustain the diet, lifestyle, activities and amenities that an individual or group are accustomed to. However, Africa's and Nigeria in particular had been made to lose her resources needed to sustain her diet, lifestyle, activities and amenities that would have sustain Africa's and Nigeria, keep their country economy, politics and social activities moving, hence underdevelopment. Africa's situation when compared with other nations such as the Europe, America, Asian etc. Mostly in terms of economic and political development, one will realized the fact that Africa's are less developed. The African's and Nigeria's super structure and the sub-structure are experiencing backwardness. Africa's and Nigeria in particular suffers all of the above because of the deprivation leveled on Africa's years back during colonialism, slavery and imperialism. After Africa's and Nigeria have being deprived by the colonial masters of the opportunity to utilize their resources, as these resources were exploited by the colonial masters, and was moved out of Africa's land to the European land to developed European economy, while Africa's and Nigeria's economy suffers underdevelopment at large. The deprivation, as in exploitation of Africa's surplus value is not the problem, but moving away those values to foreign land was the major problem (Rodney, 1962). Africa's traditional political system was obstructed as the colonial masters super imposed their own English political system which allows the Europeans opportunity to govern, and also allows them unbridled access to Africa's resources. At the long run, after Africa's independents, Africa's and Nigeria economy was already dependent on European economy and was greatly influenced by the Europe, hence Africa's and Nigeria's underdevelopment.

Conceptual Clarification

Introduction

Countries' economies differ in terms of how standard they are. However, Guru posits that "all economies of the world are not equally developed. Some are more developed and advanced than others. Therefore, the economies of the world have been classified into developed economies and underdeveloped economies (Guru, 2019). He went further that, previously, the underdeveloped economies were called backward economies while the developed economies were known as advanced economies. However, the term backward and advanced are now considered unsatisfactory and misleading. Therefore, the terms developed and underdeveloped began to be used in place of advanced and backward" (Guru, 2019). What then is development or developed countries?

Development

Development is a universal concept, and has become very important in the last two hundred years; it has acquired greater importance since the end of the Second World War

(Agagu, 2004). Despite its indisputable importance, it has equally acquired various meanings, orientations and values (Oluwasuji, 2010). However, to give an all-inclusive definition of the concept development has been highly challenging, but nevertheless, the liberalism and the neo-liberalism school of thought equates development with economic growth. According to Mimiko (1997) in Oluwasuji (2010) "this school of thought perceives growth as being synonymous with development, while macro-economic indices are used to measure development. The increase in the Gross National Product (GNP), Gross Domestic Product (GDP), and Per-Capital Income (PCI) is therefore tantamount to economic development. Contrary to the above, Mimiko contends that mere increase in the macro-economic indices does not translate to development, but a concrete transformation in the socio-economic and political lives of the masses which will mean increase in the standard of living of the citizens" (Mimiko, 1997:1 in Oluwasuji, 2010). Rodney argued that, to give the definition of the concept development from the perceptions of increased in a country's Gross Domestic Product (GDP), her Gross National Income (GNI), Per-Capital Income (PCI) and Advancement in Industrialization only not make a country developed. Nevertheless, Rodney posits, to perceived development in a country, such country must have embarked on massive provision of social amenities and essential services, in such a way that the citizens have access to those amenities in a way that will enhance livelihood and guarantee high standard of living of the citizenry in the country. Rodney in consonance with his above argument posits that development is a many-sided involving individualism, social stratification/castes, and the society at large. This development is represented in the context of increased skill, greater freedom, creativity, self-discipline, and responsibility, and material well-being. This paper in relations to the contention of Rodney argued that development implies security of lives of citizens in all ramifications of lives, which includes the governmental provisions of the basic needs of lives including protection of lives and properties which will enhances livelihood, increase citizen's standard of living, and guaranteed the citizens of freedom from fear and freedom from want. Development should signify in the lives of citizens, as citizens should be first developed before the physical community.

Underdevelopment

Giving a concise definition of the word underdeveloped country will be so difficult. Nevertheless, let us consider the definitions of some scholars. As analyzed in Guru Supriya. He posits according to the United Nations experts "an underdeveloped country is one in which Per-Capital real income is low when compared with the Per-Capital real income of the United States of America, Canada, Australia and Western Europe (Cited in Guru, 2020). kwatiah, posits that Eugene Stanley argued that an

underdeveloped country is "a country that is characterized by mass poverty which is chronic and not the result of temporary misfortune, obsolete method of production and social organization, which means that the poverty is not due to poor natural resources and hence could presumably be lessened by methods already proved in other countries". As analyzed in Kwatiah, the planning commission of India argued that underdeveloped country is one "which is characterized by the co-existence in greater or lesser degree, of unutilized or under-utilized manpower on the one hand and of the unexploited natural resources on the other hand" Prof. Jacob Viner is of the position that an underdeveloped country is "a country which has good potential prospects for using more capital or more labour or more available natural resources or all of these, to support its present population on higher level of living or if its Per-Capital Income level is already fairly high, to support a large population on a not lower level of living". According to Bauer and Yamey, in Kwatiah, they argued "the term underdeveloped countries usually referred loosely to countries or regions with level of real Income and Capital per head of population which are low by standards of North America, Western Europe and Australia"(Cited in Kwatiah, 2019).

However, the positions of scholars above signify countries bedeviled by poverty, not as a result of lack of natural resources or human resources, but the inability to properly manage or utilizes the available resources to the advancement of the livelihoods of the citizenry on one hand and to the betterment of the State as a whole. Nevertheless underdevelopment can be define as the inability of any country to judiciously and properly manage the resources of the country, in midst of abundant natural and human resources, either due to colonialism and imperialism earlier experienced, or factors such as bad leadership, corruption, highhandedness, embezzlement of public funds, Religious segregation, ethnic bigotry and visionless leadership, which had starved the country of essential and social amenities, technological advancement and high rate of industrialization. The above definition is mostly applicable to the Africa's and Nigeria underdevelopment.

National Security

The concept national security and its definition depend on individual perceptions. However, Mbachu (2012) argued that it has to do with the security of the entire citizenry in all ramifications of lives. Nevertheless, Imobigbe (1987) argued that "security implies the freedom from or the absence of those tendencies which could undermine internal cohesion and the corporate existence of the nation and its ability to maintain it vital institution. He argued further that national security is reoffered as a conscious effort to achieve freedom from danger and national ability, values, legitimate interest and enhances the well-being of the people". Mbachu (2012), contends that national security has to do with the security of the entire citizenry in

all ramifications of life's that covers health, economy, education, good government, food technology, environment, political etc. As the police, immigration, customs, and civil defence organizations are charged with the responsibility of maintaining internal security". This paper posits that the argument of both scholars above are all encompassing, and have really signifies the meaning of national security in its broader sense. Nevertheless, National Security is the primary responsibility of every government, as clearly specify in section 14(2b) of the constitution of the federal republic of Nigeria. It has to do with the protection of lives and properties on one hand, and the guarantee of citizen's welfare through the provision of the basic needs of lives on the other hand. In other word, ensuring freedom from fear and freedom from want.

The Nexus between Development, Underdevelopment and National Security

The concept underdevelopment can be seen in the wider sense of it, as the decrease in a state or country's Gross National Income (GNI), her Gross National Product (GNP), her Per-Capital Income (PCI), with less advancement in her level of industrialization, also when her government is not able to give to her citizens the basic needs of lives, social amenities that will guaranteed and enhances high standard of living in a country. However, when viewed from the opposite, that is, when government or country is able to give the basic needs of lives to her citizens, and or experienced increase in her GNI, GNP, PCI and with high level of industrialization, then such country can be said to have developed, and in the real sense of it, any country that experiences increase in her GDP, GNI, PCI, and able to provide the basic needs of lives to her citizens on one hand, and social amenities on the other hand, then such country is certainly developed and secured. Mcnamara argued that security is not military capability only, even though it includes it, but should be seen from advancement in a nation economic condition and her citizen's welfare, and he ends up equating security with development (Mcnamara, 1968).

"How Europe Underdeveloped Africa's" and Nigeria.

In analyzing "how Europe underdeveloped Africa's" and Nigeria, one has to trail through history, as there is a danger in neglecting history. However, in assessing Africa's and Nigeria political economy of security, there is also a danger in neglecting history. As analyzed by Andre G Frank, he argued that Africa's and Europe were developing at a different pace, until the Europe came and distorted the development of Africa's through slavery, colonialism and imperialism and the exploitation that characterized it. He argued further that the underdevelopment of Africa's was neither natural, nor by internal contradictions, but was caused by the Europe. Frank called it the underdevelopment of development (Frank, 1989). As argued by Tedheke, he submits that after

the invading of the American Indians prior 1644, in which they were captured as twenty five million American Indians killed, their land was taken over by the American white on the claims that they were lazy. The American Indians were used as machines on the farm land and in the industries. They were called not slaves but indentured savant (Tedheke, 2016). When the Americans discovered that the indentured savants were not enough to work on their industries and farm land, and with the advancement in technology which led to the cyclical industrial revolution in Europe around 20s, 30s to 70s, and based on the fact that the then capitalist in Europe were ignorant of how to run an industries, with their idea of paying starvation wages to the proletariats (workers) who were in-turn not able to possess the demanding power (Effective Demand) to buy their goods which greatly led to the drop in profit (Tedheke, 2016).

In regards to the above, they have to look for market, raw materials and cheap labour elsewhere. That was what brought the Europeans to the coast of Africa's. It was reported that Vasco Dogama was the first to discover the coast of Africa (Tedheke, 2016). Nevertheless, the Portuguese in the 16th century were the first to engage in the Atlantic slave trade in 1526, before the British came, as slaves were sold to work on coffees, tobacco, cocoa, sugar and cotton plantation, gold and silver mines, rice field, the construction industries, cutting timber in ships as skilled labour and as domestic servant, while the first Africans kidnapped to the English colonies were classified as indentured servants (Mannix, 1962). Earlier before the start of the slavery, Europeans started studying Africans and realized that Africans were very strong, as they now concluded on enslaving Africans. As submitted, God-Martin argued that 500 million Africans were moved to Europe and America for slavery, while 400 million died (Cited in Tedheke, 2016). Weber also argued that about 12 million to 12.8 million Africans was shipped across the Atlantic over a span of 400 years (Weber, 2015). As at 19th century, about 30 percent of all slaves sent across Atlantic came from Nigeria. Over 3.5 million slaves were shipped from Nigeria to America (Error! Hyperlink reference not valid.). Equally, the transatlantic slave trade resulted in a vast and as yet still unknown loss of life for African captives both in and outside the Americas, approximately 1.2 to 2.4 million Africans died during the transportation to the new world (BBC News, 2007). More also died soon after their arrival (BBC News, 2007). Over the 400 year period of slavery, between 100 million and 200 million slaves died on the sea and was thrown overboard (Michel, 1994).

Those abled bodied Africans that would have contributed in developing African land were taken into slavery. A lot of resources such as cocoa, copper, gold, silver, tin, diamond, coal, iron, zinc, mercury, cobalt, magnesium, rubber, cotton etc. Were exploited from Africa's and Nigeria, and were moved to Europe and America during slavery and colonialism. Exploitation of the above values

is not the problem but the moving away of those resources or values to foreign land (Rodney, 1972). After the chattel slavery, the Europeans concluded on the idea of total colonization, invading the coast of Africa with the idea of partitioning Africa among Europe and America as signed in the treaty of Westphalia (1844). This period was marked with exploitations of Africa’s surplus values (Resources), dissolution of the traditional political systems of Africans that were in place before the emergence of colonialism. In Yoruba land the system was called the kinship system, in Igbo it was called the age grade system (Accepharlus), and in Hausa land, it was called the Emirate system (Conservative), while the colonial masters super imposed their foreign rule on Africans (Anyaele, 1994). The economy and political system of Africa’s and Nigeria was badly affected, hence Africa’s underdevelopment. Slaves during the chattel slavery period were distributed across the world in numbers as showed below.

Table 1.0 Table showing the distribution of slaves from 1519- 1867
Destination
percentage

Portuguese America	38.5 percent
British West Indies	18.4 percent
Spanish Europe	17.5 percent
French Americas	13.6 percent
British Atlantic Colonies/ United States	9.7 percent
Dutch West Indies	2.0 percent
Danish West Indies	0.3 percent

Source: Stephen (1999)

Note: The number of the African’s who arrived in each region is calculated from the total number of slaves imported, about 10,000.00 including British Guiana and British Honduras (Curting, 1972). Nevertheless the European abolitionist, most prominently Dr David Livingston argued that the fragile local economy and societies of Africa were being severely harmed by the trade (Curting, 1972). However, let us check the world population in millions and percentage as at that period and after, and see how slavery had affected Africa’s development till today.

World Population in Millions and its Major Area

Table 2.0
Year 1750 1800 1850
1900 1950 1999

World	791	978	1,262	1,650	2,521	5,978
Africa	106	107	111	133	221	767
Asia	502	635	809	947	1,402	3,634
Europe	163	203	276	408	547	729

Latin America and Caribbean	16	24	38	74	167	511
Northern America	2	7	26	82	172	307
Oceania	2	2	2	6	13	30

Source: (UN Population Division, 2016)

World population by percentage distribution **Table: 3.0**

Year	1750	1800	1850	1900	1950	1999
World	100	100	100	100	100	100
Africa	13.4	10.9	8.8	8.1	8.8	12.8
Asia	63.5	64.9	64.1	57.4	55.6	60.8
Europe	20.6	20.8	21.9	24.7	21.7	12.2
Latin America and The Caribbean	2.0	2.5	3.0	4.5	6.6	8.5
Northern America	0.3	0.7	2.1	5.0	6.8	5.1
Oceania	0.3	0.2	0.2	0.4	0.5	0.5

Source: (UN Population Division, 2016)

In consonance with the above statistics, Rodney argued that at the beginning of the slave trade in the 16th century, although there was a technological gap between Europe and Africa, it was not very substantial. He argued that both continents were using Iron Age technology. He went further that the major advantage the Europe had was on the ship building. Rodney argued, during the period of slavery, the population of the Europe and the Africa’s grew exponentially, while the population of Africans remained stagnant. Rodney argued that, the profits from slavery were used to fund economic growth and technological advancement in Europe and America (Rodney, 1972).

At the agitation for self-governance by Africa’s and Nigerian leaders, they were granted political independence at different time respectively, as Nigeria gain her independence on October 1st 1960, but without gaining economic independence. It is expedient to note that political independent was truly granted, but without independence in the sphere of economy as the Europeans and America had converted the economy of Africa’s and Nigeria to depend on or appears being subordinate to European economy through their deceptive game of systematically restructuring Africa’s economy by dividing the global system between the producer of primary product (producer of raw materials), and the producer of secondary product (producer of finished goods), and also determined the price for both exchange (Mimiko,1997). They buy the raw materials from Africa’s and Nigeria at a cheaper price (buyer’s market), shipped them to Europe. After transforming it to finished goods, they bring them back to African’s and Nigeria in particular and sell at exorbitant prices (seller’s market) (Oluwasuji, 2010). They were able

to determine both exchanges based on the fact that they are the designer of the global system, and they also determine the relations of states there in, being the most powerful nations of the globe. Buttressing the above, Prof OBC Nwoli argued thus:

“politics whether national or international, ultimately and fundamentally the struggle for mind and the resources of men and nations, in the struggle, the gladiators often uses all methods to win including deceptions, those nations that were deceived loose freedom, power and resources and grow lean, while those nations that deceived them gain those valuables and grow fat” (Cited in Ohou. 2014).

Alabi (1989:187) also submits that “Africa’s present crisis of development have their roots in colonialism. Despite the fact that Africa account for over 28% of the total value of world mineral production and 22%-95% in ten of the sixteen important non-metallic minerals including chime and uranium, the continent remains dependent and underdeveloped. The country inherited dependency and underdevelopment which turned the continent that had at periods in history housed the great civilization of Egypt, Ethiopia, Nigeria and Zimbabwe into a symbol of destitution, hopelessness and deprivation”. He went further that “colonialism not only ensures that Africa inherited underdevelopment but also ensure the perpetuation of this underdevelopment, having been incorporated into the capitalism network. Africa has continued to provide raw materials, market and labour to boost rapid industrialization in the west a situation where international trade has become the essential mechanism for the siphoning away African surplus value to develop the west (Alabi, 1989:187,188).

The activities of the multinational and the trans-national companies such as Shell Petroleum, Chevron, UAC, Leventis, leaver brothers etc. was also used to distort the economic development of Africa’s and Nigeria. When the European capitalist discovered that, shipping the finished product from Europe and America to Africa’s and Nigeria will cost them extra capital that will invariably affect their profit, and seeing Africa’s and Nigeria in particular as the best market for their goods, they now decided to ship the entire industries to Africa. Such idea in-turn led to more appropriation of capital and increase in profit (Mimiko, 1997). The activities of those European and American multinational industries were used to cripple the Africa’s and Nigeria’s infant industries.

We also cannot but lay emphasis on the implications of the international financial institutions owned, designed and established through the Britton wood treaty of 1944. It is factual to note that none of the African states was a signatory to the treaty that established the Bretton wood institutions as most of the African states were still under colonialism. This institutions were designed to cater for those western states that were just been relief of the hardship of World War 11. International monetary fund (IMF) was established to serve and relief those states in the areas of balance of payment deficit, while the international bank for reconstruction and development (IBRD), was

established to serve those states in the areas of reconstruction and rehabilitations e.g. Transportation, Agriculture, Technology, Communication, Industrialization etc. (Mimiko, 1997). Just since 1979, according to Onimode, the IMF and the World Bank had turned to Africans in rendering financial assistant to the trapped developing states, with their arming and deceptive conditionality’s (Onimode, 1992). The game is that the Europe convinced African states that the only way to get out of their backward economic challenges is to run to IMF and World Bank for assistance with their deceptive conditionality’s of e.g. di-subsidization, trade liberalizations, deregulations, reduction of civil servants and their salaries, spending less on social amenities etc. These actions has invariably impacted the economy of the African states as it has put them in long time debt trap, hence underdevelopment (Mimiko, 1997). The western industrialized states, especially the United States of America are more favored by the practice of weighed voting in the International Monetary Fund (IMF) Governing Board and World Bank: while the right to veto decisions is accorded to it five established members by the United Nations Organizations Security Council. Seen in this light, the two global financial organizations IMF and the World Bank are certainly for the perpetuation of political and economic dominance of the strong and rich against the poor and the weak states of the World (Umeonyirioha, 2020).

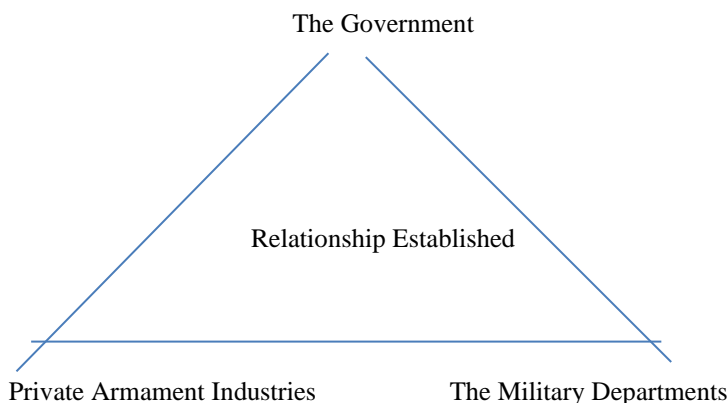
The African culture had also been made to depend on the European and American culture, as most of the developing states citizenry no longer buy and use product related to their culture, or produced in their own countries, as they prefer that of foreign. The fact that African citizens have emulated foreign ideologies in areas such as dress, videos, films, languages etc. was why Dr Bayo Fasunwon of the department of political science, AAUA argued that globalization is the coming of Anti-Christ. Over reliance on imported things is one of the major problems of Africans as argued by Patrick Lumumber Jr. Sincerely speaking, psychologically, technologically and security wise, slavery, colonialism and imperialism has negatively affected the African States and Nigeria in particular, thereby making them underdeveloped and hence insecure. It was the accumulation of capital realized by the European and American capitalist, and the fact that they could not spent all on the production industries that made the capitalist diverted part of their capitals to armament industries, after which they convinced African States to spend on defence instead of spending on economy so that the capitalist can make their money on armament businesses (Tedheke, 2016). The fact that the responsibility of every government is to protect the lives and properties of her citizenry as stipulated in the 1999 constitution of the federal republic of Nigeria, section 14 (2b), and the inability of African governments to live up to their constitutional expectations, as they have failed in giving the basic needs of lives to her citizenry, which has gave birth to so many criminal act by the citizens, as citizens

now saw criminalities as the only way to survive, haven being placed on frustration by their government, (Osewa, 2019). African government in other to tackle the menace of crime and insecurity in their various states now adopted the idea of spending more on security, while the economy is left in abeyance to suffer great underdevelopment, and this was what led to the preponderance of defence over economy in Africa, and pave way for the relationship between African government, their defence and the American and European armament industries, hence military industrial complex.

Military Industrial Complex

The United States of America and other countries of the world have all adopted the idea of military industrial complex, as the military could not be left alone on the issue of armaments, war and security. Due to the expansion in

war and security institutions, and as security challenges are becoming complex, there was the need for the involvement of private armament industries in the issue of war and security. The military industrial complex is a nation’s military establishment, as well as the industries involved in the production of armaments and other military materials (History.Com Editors, 2018). Military industrial complex can be seen as the relationship that occur between a government, its army or defence department and a private armaments industry on the production of military ammunitions and weaponry. It was such relationship that led to the establishment of weaponry Industries like The Defence Industries Corporation of Nigeria, in Kaduna (DICON), established by an act of parliament in 1964 (Error! Hyperlink reference not valid.).



Source: The author, (2020)

Weber argued,” it is the network of individuals and institutions involved in the production of weapons and military technologies. He went further that the military industrial complex in a country typically attempts to marshal political support for continued or increased military spending by the national government” (Weber, 2020). The diagram below shows the relationship and depicts what military industrial complex implies.

Brief History of Military Industrial Complex in America

“Dwight D. Eisenhower, a five star general and the commander of the Allied Forces 6. during the World War 11, who serves as two times president of United States coincided with an era of military expansion history. Rather than draw down its troops, as it had after world war 11, the US military kept a large standing army after the Korean War ended in 1953, and maintained a high level of military preparedness due to the ongoing Cold War between the United States and the Soviet Union. Private companies that after past wars had gone back to civilian production, kept manufacturing armaments, producing increasingly

sophisticated weapons in an arms race with the Soviets. Despite, or perhaps because of his own experience with wars, Eisenhower worried about the nation’s military growth, and the escalation of the Cold War, throughout his presidency. He tried to cut budgets for military services during his presidency, thereby, upsetting many in the Pentagon”(History.Com Editors, 2018). The expansion of the idea of military industrial complex in the world has become a world challenges, the threat of war among nations is becoming multiplied and had also enhances the preponderance of small arms and light weapons among citizens of all states, as social vices, and or armed crime among the people is becoming more enhanced, and calling for increase criminalities amongst the citizenry. However, let us go back to colonialism and the policies that characterized the period. During colonialism and imperialism in Nigeria, the British government adopted particular policies with which they govern Nigeria as at then.

The British Nigerian colonial economic policies in Nigeria

At the early period of colonialism in Nigeria was a period when the British and other European states had contact and control over the African states, and Nigeria in particular. For Britain” it means a redefinition of her imperial strategies (Ikime, 1972 and Aghalino, 1993 in Adeyeri and Adejuwon, 2012). It is a fact that the economy of Nigeria is suffering from the challenges of underdevelopment. Such challenges indeed could be traced to the era of slavery, colonialism and imperialism with the British policies, in which the adverse effect of such had being economic backwardness that have invariably, gave birth to the underdevelopment in Nigeria. It was analyzed in Adeyeri and Adejuwon, that “Okwudiba Nnoli, Inyang Efeng, Bade Onomode, CC Onyemelikura and Eskor Toyo, are by far the best and most educative authors that has address the issue of colonial Nigeria economic policies and underdevelopment”(Aghahowa and Ukpebo, 1999: 149 in Adeyeri and Adejuwon, 2012). The “incorporation of African peasant producers into the world market has typically been seen as one of the most successful colonial policies, removing millions of Africans from the comfort and stability of subsistent and exploitative world market. The perception has been sustained largely by the discourse of dependency, underdevelopment, and allied concepts, which denote the systematic subjugation of raw material producers to the force and vagaries of the world market (Adeyeri and Adejuwon, 2012).

In respect to the above, the depression experience in Africa represents a deepening of the incorporation of African producers into the world market (Up Cit). As submitted by Tamuno (1980:395), to secure central direction of policy and pool economic resources, the British government from 1898 adopted the policy gradually in its various administrative units in Nigeria. The government at the time did not seek the views of Nigerians to ascertain whether or not they favored such an amalgamation. The British officials involved in formulating and executing the policy of amalgamation were convinced that through it they would obtain a convenient and political means of securing firm administration. During the colonial period, British dominated the Nigerian market through their viral and pro-active policies. The policy of the colonial government in Nigeria was in favor of protectionism, as the process started during ww1 and reaches its apogee in ww11. In 1917, for example, the colonial government imposed a total ban on the export palm oil from Nigeria, except to the United Kingdom. Between 1919 and 1922, the colonial government also imposed highly discriminative duties on palm kernel from Nigeria, with the intention of emphasizing the 1917 ban (Adeyeri and Adejuwon, 2012). There were also policies made by the colonial government to create beneficial infrastructure, such as good roads, railways, power, etc. That was temporal, only to enhances the moving of natural resources to the part where they would be shipped down to Europe and to facilitate the European settlements in Nigeria.

According to Falola et al (2007), they posit that among the so called advantages was the promotion of inter-group social, economic and political relations through measures like road, rail and port development. It was also argued that the introduction of a new portable currency facilitated the trade among Nigerians, and that the colonial economic measures led to the expansion of urban centers and commerce in Nigeria. They concluded on colonialism in Nigeria as well, thereby broadening Nigeria economic relations with the rest of the world. However, some political science scholars argued that the above colonial policies, that was seen by some scholars as a catalyst that positively changes the economy of Nigeria, and also led to development of urban centers, have only left a temporary urbanization and development as all those achievement will and has now disappeared within the tinkle of an eye, hence a fleeting mirage.

Conclusion

The underdevelopment of Africa’s and Nigeria, as Frank and Rodney argued it was not only by internal complexities, such as bad leadership, corruption, embezzlement of public funds by public officials, as some political science scholars will argue, but was primarily given birth to by Africa’s and Nigeria deceptive contact with the Europe and America. Contact that was characterized by many years of exploitations, Slavery, Colonialism and Imperialism, which has severely affected the political- economy and the development of African States, hence underdevelopment of African States. This paper in its recommendation argued that despite the problems inherited from colonialism and slavery in the past, Africans had the opportunities to build up her political-economy to meet up with the developed countries of the world. The only way to achieve this is by rising against and allaying all acts of bad leadership, corruption, highhandedness, embezzlement of public funds, ethnicity and religion bigotry that are mostly seen as the major internal propellant of underdevelopment in Africa’s and Nigeria in particular as argued by Oluwasuji (2010) and Alabi (2020).

Recommended Solutions

After arguing that the root cause of Africa’s and Nigeria underdevelopment is the Africans experience under slavery, colonialism and imperialism, and the exploitations with which it was characterized. However, this paper recommends that the only workable way out of the underdevelopment ravaging Africa’s and Nigerian state in particular is to seek the unity of Nigerians irrespective of ethnic and religious affiliations, so as Nigerians can unanimously take the bull by the horn by rising against bad leadership, corruptions, highhandedness, religion and ethnic disunity and seek good governance that will invariably calls for development.

As observed by Alabi (2020) and Oluwasuji (2010), that the major propellant of underdevelopment in Africa's and Nigeria in particular, are bad leadership, corruption, highhandedness etc. and that the Europe and America, slavery, colonialism and imperialism should not be blamed for the failure of Africa's and her underdevelopment. The paper also recommends that Nigerian and African leaders should go back to the drawing board to ascertain a strategy with which Nigeria and Africa can be detached from the neo-colonialism ropes that bind them to the western world mostly in terms of influence on our super-structure and our sub-structure (politics and economy).

This paper also recommends that political positions and the politics of Africa's and Nigeria should be demonetized, that is reducing the volume of money inherent in Africa's, especially Nigerian politics, as this will disengage those politicians that seeks positions of power in order to enrich themselves and allay all forms of political godfathers. Constitutional approval of individual candidacy in which his or her integrity will be attested to by the citizens, and or the funding of all approved political parties through the tax payers money, and giving of political nomination forms to all candidates free of charge, and finally allowing only experts in the areas of governance and economy to rule the nation. Doing this will allow only citizens that love and can competently serve the people come to power, hence meritocracy in place of mediocrity.

The Africa's and Nigerian leadership must go back to the drawing board to design a workable strategy of detaching Nigeria from the global gain of neo-colonialism, which could be possible by investing and developing indigenous industries, summon Africa's and Nigerian scientists and engineers to be on their toes by tapping or espionageing technologies from the technologically advanced nations of the world, and applied it on Africa's and Nigerian indigenous industries. African government especially Nigeria should also encourage their indigenous up-coming scientist that possess creative ideas, especially the young ones that were showed on every social media platforms. Those ideas, expertise and technocrats possess by them should be exploited and utilized maximally for the development of Africans sciences, industries and the society at large. In other words, Africa's and Nigerian government need to do business by investing on industrialization.

Laws should be promulgated to prevent the Africans and Nigerians especially public office holders from investing, owing and establishing industries or any organization in America and Europe or in other advanced economy countries of the world without investing or owing companies in their ancestral land. At least 70percent of their investment most be in Africa's and in Nigeria. Through this, their indigenous currency will certainly rise in value drastically. This may be very difficult for African presently corruptible leaders to be adopted as it will certainly negatively impacted their (corrupt leaders) financial life, expose their corruption level, while developing the African society at large. Again the Africa's

and Nigerian social institutions such as the film and music industries need be assessed by the government as those institutions needs general overhauling especially to avert or reduce the level of corruption inherent in the mentioned institutions. Those institutions indeed have lost the trail in terms of promoting good ethical and societal values, especially in the areas of promoting Africans culture. They rather promote foreign cultures such as food, dress, languages and generally foreign way of lives that are inimical, strange and arming to Africans culture, hence tarnishing the image of Africans. Average Africans and Nigerians now prefer to walk half naked on the streets, this which is not in consonance with African culture, hence over reliance on foreign things and culture.

Law must be enacted to compel Africans and Nigerians to use their indigenously produced products and allay the spirit of over reliance on foreign product. All this will ensure the development of Africa's and Nigeria's infant industries and restrict Africa's and Nigeria's connections with the Europe and America. Experts and professionals in politics and economic should be made to constitutionally qualify to occupy political and economic positions, while ministerial positions should also be occupied by experts in various ministerial positions respectively. In other words round pegs should be put in round holes. The constitution should also be amended to support this in both the executive and legislative positions. All political positions should be constitutionally made to be voluntary position that must be occupied by volunteers without any immunity on them and with their salaries and other emoluments equal to that of the civil servants. This will surely deter all public treasury looters, and allow only citizens who wish and willing to truly serve the country come to power.

Conflicts of interest and indebtedness

Kindly note that this paper does not possesses any conflicts of interest, and was not conducted under any sponsors or sponsored by other party other than the author. The author therefore not indebted to anyone.

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RESEARCH ARTICLE

Assessment of Covid-19 Obsession Among Hospital Workers in Jos-South LGA Plateau State Nigeria

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Abstract

The research assess COVID-19 obsession among hospital workers in Jos-South local government area of Plateau State Nigeria. A total of 162 hospital workers (82, 50.6% males and 80, 49.4% females) with mean age of 34.01 participated in this survey research. Four hypotheses were tested utilizing Chi-square at $p = 0.05$ level of significance, result revealed that older hospital workers had higher prevalence of COVID-19 obsession compared to younger hospital worker, $\chi^2 = 6.139$, $df = 1$, $p = 0.013$ ($p < 0.05$). The prevalence of COVID-19 obsession did not differ among hospital workers in terms of gender, $\chi^2 = 0.009$, $df = 1$, $p = 0.924$ ($p > 0.05$). Furthermore, results revealed that hospital workers with tertiary education had higher prevalence of COVID-19 obsession compared to those with lower educational status, $\chi^2 = 7.168$, $df = 3$, $p = 0.028$ ($p < 0.05$). Finally, prevalence of COVID-19 obsession did not differ among hospital workers in terms of marital status, $\chi^2 = 6.996$, $df = 3$, $p = 0.072$ ($p > 0.05$). The authors concluded that more attention should be given to hospital workers in terms of policy formulation being that they are at the forefront in the fight against COVID-19. Also, there is need for setting up of psychological service centres across hospitals in Nigeria which would go a long way in not just evaluating the mental health status of hospital workers in relation to COVID-19 but it will be beneficial to the general public in assessing psychology services easily.

Keywords: Covid-19; Obsession; Hospital Workers; Prevalence

Introduction

Corona virus (COVID-19) is a pandemic that has affected the whole world, health workers are more exposed to the danger of being infected with the virus. Globally, health workers are working round the clock on finding a lasting solution to COVID-19. Due to the nature of the virus and adherence to COVID-19 protocol, people are becoming obsessed due to the virus. The virus, COVID-19 was reported in Wuhan, China, at the end of 2019 (Lu, Stratton, & Tang, 2020). The mental health status of individuals should be taken into consideration during and after the COVID-19 pandemic (Saleh, Arobo, Abel, Ibrahim, Damilep, Dakama & Terry, 2020). The manner at which an individual can be infected with COVID-19 is enough reason for people to be scared of the virus. The spread of COVID-19 has lead to frequent hand washing in line with COVID-19 safety protocol. Thus, the researchers in this study are interested in assessing COVID-19 obsession among health workers, with emphasis on understanding the prevalence of COVID-19 obsession among health workers in relation to age, gender, educational status and marital status. Benatti, Albert, Maina, Fiorillo, Celebre and Nicolaia (2020) reported obsessions and compulsions relating to COVID-19 to include frequent internet checking, avoidance behaviours, work difficulties and sleep

disturbances. Among health workers in a South-Eastern Nigerian state, Mbachu, Azubuike, Mbachu, Ndukwu, Ezeuko, Udigwe, Nnamani, Umeh, Ezeagwuna, Onah, Eze, Okereke, and Orji-Ifeanyi, (2020) reported that fear of death and lack of personal protective equipment had strong impact on healthcare workers attitude, with female healthcare workers having poor attitude to work than their male counterparts. According to Lu, et al (2020), the growing number of cases, deaths and fear in relation to COVID-19 have spread around the world as COVID-19 continues to dominate the world's attention. Coronavirus disease 2019 has significant morbidity and mortality (Alhousseini, Sajid, Altayeb, Alyousof, Alsheikh, Alqahtani & Alsomali, 2021). According to Jelinek, Moritz, Miegel and Voderholzer (2021) outbreak of COVID-19 have exposed large percentage of the world to multiple burdens, such as risk of social isolation, infection and economic insecurity.

Females were more likely to experience psychological distress among health workers (Felice, Tanna & Grossi, 2020). Similarly, Shaukat, Ali and Razzak (2020) reported that female health workers and nurses were disproportionately affected by COVID-19 obsession. Being female was significantly associated with having moderate/high stress (Saeed, Shabila & Aziz, 2020). Similarly, in a study among health service providers in Nepal, Kafle, Shrestha, Baniya, Lamichhane, Gurung,

Tandan, Ghimire and Budhathoki, (2021) reported that females and participants who were doctors experience more distress. Contrarily, Oginni, Oloniniyi, Ibigbami, Ugo, Amiola, Ogunbajo, Esan, Adelola, Daropale, Ebuka, and Mapayi, (2021) reported that COVID-19-related stressors are associated with higher anxiety and depressive symptoms, with these effects being larger in men than to women. Al-Shatanawi, Sakka, Kheirallah, Al-Mistarehi, Al-Tamimi, Alrabadi, Alsulaiman, Al Khader, Abdallah, Tawalbeh, Saleh, Hijazi, Alnsour, and Younes (2021) found that females were more prone of having COVID-19 obsession. Similarly, findings of a web-based study among Indian population showed that the prevalence of obsession due to COVID-19 was 12.47%. Furthermore, significant higher obsession score was found among females compared to males (Srivastava, Bala, Srivastava, Mishra, Shamim, & Sinha, 2020). In relation to age, findings of a cross-sectional study among students and employees of Lumbini Medical College Teaching Hospital Palpa, Nepal, significant association between COVID-19 fear and age was reported (Atreya, Nepal, Menezes, Shurjeel, Qazi, Ram, Usman, Ghimire, Marhatta, Islam, Sapkota, & Garbuja, 2022). Cuning and Hodes, (2021) reported that COVID-19 pandemic appears to be associated with obsessive-compulsive symptoms in younger people. Srivastava, et al (2020) reported that higher age group had significant COVID-19 obsession. Among adolescents, Octavius, Silviani, Angelina, and Juliansen, (2020) reported that COVID-19 has been found to be associated with mental health challenge. Al-Shatanawi, et al (2021) reported that students that attend COVID-19 lectures were more obsessed compared to those that didn't. Participants with higher knowledge of COVID-19 were more obsessed. Contrarily, obsession with COVID-19 based on educational level was not found (Srivastava, et al, 2020). However, findings by Nguyen, Dinle, Colebunders, Fodjo, Tran and Van vo, (2021) revealed that low knowledge increased stress during the COVID-19 outbreak. Similarly, Elbqry, Elmansy, Elsayed, Mansour, Tantawy, Eldin and Sayed (2021) reported that the level at which an individual is educated on COVID-19 can increase the rate of COVID-19 obsession of that individual. Nursing students had significant functional impairment due to COVID-19 compared to other medical professionals (Atreya, Nepal, Menezes, Shurjeel, Qazi, Ram, Usman, Ghimire, Marhatta, Islam, Sapkota, & Garbuja, 2022). Among secondary school students the prevalence of COVID-19 obsession and anxiety was 40.27% and 38.1% respectively (Tesema, Shitu, Adugna, & Handebo, 2021). Individuals that were married were more obsessed with COVID-19 compared to those that were singles (Srivastava, et al, 2020). In a study of obsession with COVID-19 among Health care providers, Jasem, and Al-Jubouri, (2020) did not find significant difference between marital status and COVID-19 obsession.

Statement of the Problem

Findings of an online cross-sectional survey showed that residents in North - Central Nigeria had good knowledge of

COVID-19, positive attitudes toward the adherence of government infection prevention control but it was perceived that Nigerian government is not doing enough to curtail COVID-19 in Nigeria (Reuben, Danladi, Saleh, & Ejembi, 2020). Government's inability to do much in the fight against COVID-19 as perceived by most Nigerians seems to make most people scared and obsessed of COVID-19. No wonder, Olaseni, Akinsola, Agberotimi, and Oguntayo, (2020) reported that Nigerians experienced psychological distress during COVID-19 pandemic. COVID-19 pandemic has come with many challenges, anxiety, and the stress of adhering to COVID-19 protocols. Health workers are the front line workers in the fight against the spread and management of COVID-19. The fear of COVID-19 has increased among the general public likewise, most health workers have reported obsession like symptoms in relation to COVID-19 most especially due to inadequate personal protective equipments in most Nigeria hospitals. Thus, this study seeks to assess COVID-19 obsession among health workers in Jos-South local government area of Plateau State Nigeria. Therefore it is hypothesized that;

1. Older hospital workers will have higher prevalence of COVID-19 obsession compared to younger hospital worker.
2. Prevalence of COVID-19 obsession will differ among hospital workers in terms of gender.
3. Hospital workers with tertiary education will have higher prevalence of COVID-19 obsession than those with lower educational status.
4. Prevalence of COVID-19 obsession among hospital workers will differ in terms of marital status.

Method

Design

The research design adopted for the study is cross-sectional survey design. Cross-sectional survey design was utilized in order to assess COVID-19 obsession among hospital workers in Jos-South local government area of Plateau State Nigeria.

Selection technique

Participants of interest in this study were selected across Jos-South local government area of Plateau State utilizing snowball sampling technique.

Inclusion/Exclusion Criteria

Those that work in the hospital irrespective of their profession were included in the study. While those that don't work in the hospital were excluded considering that the study aims at assessing COVID-19 obsession among hospital workers.

Participants

The total of 162 hospital workers (82, 50.6% males and 80, 49.4% females) with mean age of 34.01 participated in this

study, majority 82(50.6%) were older participants while 80(29.4%) were younger participants. In terms of educational status, majority 119(73.5%) had tertiary education, 26(16.0%) secondary school and 17(10.5%) primary school. Majority 72(44.4%) were married, 61(37.7%) singles, 18(11.1%) widows/widowers and 11(6.8%) were divorced. Majority 38(23.5%) identified their occupation as others, 32(19.0%) lab technicians, 23(14.2%) as nurses, 21(13.0%) as ward attendants, 17(10.5%) were pharmacists, 17(10.5%) were security men and 14(8.6%) were doctors.

Instruments of Data Collection Obsession with COVID-19 scale (OCS)

The instrument obsession with COVID-19 scale (OCS) developed by Lee (2020) was used for data collection in this study. It is a self-report mental health screener of persistent and disturbed thinking about COVID-19. The OCS was developed to help clinicians and researchers efficiently identify cases of individuals functionally impaired by their COVID-19 related thinking patterns, the scale consist of four (4) items (Lee, 2020).The Psychometric properties of OCS was developed on two large samples of adults (n = 775; n = 398) residing across the United States. The OCS is a reliable instrument ($\alpha > .83$), with solid factorial (single-factor) and construct (correlated with coronavirus anxiety, spiritual crisis, alcohol/drug coping, extreme hopelessness, and suicidal ideation) validity. The diagnostic properties of the OCS (81% to 93% sensitivity and 73% to 76% specificity) are

comparable to related screening instruments, such as the General Health Questionnaire (Lee, 2020).

Procedure

Data were collect among hospital workers within Jos-South Local government area of Plateau state Nigeria utilizing snowball sampling technique. Those that participated in the study consent to individually, those that decline were excluded from the study. Confidentiality was assured to each participant, respect of human participant was ensured during data collection and participation was voluntary, those that consent to participate signed the consent form. Hospital workers that were known to the participants were recruited to participate in the study after which those recruited, recruit other participants that subsequently participate in the study.

Data Analysis

Data collected in this study were analyzed utilizing Chi-Square. Statistical package for social science (SPSS) was used in analyzing all data. Chi-square was selected as the appropriate method of data analysis considering that the study only focus on discovering the prevalence of COVID-19 obsession among hospital workers.

Results

Hypothesis 1

Older hospital workers will have higher prevalence of COVID-19 obsession compared to younger hospital worker.

Table 1: Chi-square analysis of the prevalence of COVID-19 obsession across age

		Age		Total	Chi-square (χ^2)	Df	p-value
		Younger Hospital Workers	Older Hospital Workers				
	Normal	26	13	39			
Obsession with COVID-19	Dysfunctional thinking with COVID-19	54	69	123	6.139	1	0.013
Total		80	82	162			

Result of table 1 shows that older hospital workers had higher prevalence of COVID-19 obsession compared to younger hospital worker, $\chi^2 = 6.139$, $df = 1$, $p = 0.013$ ($p < 0.05$). The hypothesis that older hospital workers will have higher prevalence of COVID-19 obsession compared to younger hospital workers was supported.

Hypothesis 2

Prevalence of COVID-19 obsession will differ among hospital workers in terms of gender

Table 2: Chi-square analysis of prevalence of COVID-19 obsession across gender

		Gender		Total	Chi-square (χ^2)	Df	p-value
		Male	Female				
	Normal	20	19	39			

Obsession with COVID-19	Dysfunctional thinking with COVID-19	62	61	123	0.009	1	0.924
Total		82	80	162			

Result of table 2 shows that prevalence of COVID-19 obsession did not differ among hospital workers in terms of gender, $\chi^2 = 0.009$, $df = 1$, $p = 0.924$ ($p > 0.05$). The hypothesis that prevalence of COVID-19 obsession will differ in terms of gender among hospital workers was not supported.

Hypothesis 3

Hospital workers with tertiary education will have higher prevalence of COVID-19 obsession than those with lower educational status

Table 3: Chi-square analysis of prevalence of COVID-19 obsession across Educational Status

		Educational Status			Total	Chi-square (χ^2)	Df	p-value
		Primary	Secondary	Tertiary				
	Normal	1	3	35	39			
Obsession with COVID-19	Dysfunctional thinking with COVID-19	16	23	84	123	7.168	2	0.028
Total		17	26	119	162			

Result of table 3 reveals that hospital workers with tertiary education had higher prevalence of COVID-19 obsession than those with lower educational status, $\chi^2 = 7.168$, $df = 3$, $p = 0.028$ ($p < 0.05$). The hypothesis that hospital workers with tertiary education will have higher prevalence of

COVID-19 obsession than those with lower educational status was supported.

Hypothesis 4

Prevalence of COVID-19 obsession among hospital workers will differ in terms of marital status

Table 4: Chi-square analysis of prevalence of COVID-19 obsession across Marital Status

		Marital Status				Total	Chi-square (χ^2)	Df	p-value
		Single	Married	Divorced	Widow/widower				
	Normal	21	15	1	2	39			
Obsession with COVID-19	Dysfunctional thinking with COVID-19	40	57	10	16	123	6.996	3	0.072
Total		61	72	11	18	162			

Result of table 4 reveals that prevalence of COVID-19 obsession did not differ among hospital workers in terms of marital status, $\chi^2 = 6.996$, $df = 3$, $p = 0.072$ (> 0.050). The hypotheses that prevalence of COVID-19 obsession will differ among hospital workers in terms of marital status was not supported.

Discussion

This study assess COVID-19 obsession among hospital workers in Jos-south local government area of Plateau State, Nigeria. Four hypotheses were tested. The result of hypothesis one reveals that older hospital workers had higher prevalence of COVID-19 obsession compared to younger hospital worker. This implies that older individuals have higher likelihood of being obsess with

COVID-19 compared to their younger counterparts. Result of hypothesis one is significantly possible considering that more of the older hospital workers compared to the younger ones had dysfunctional thinking with COVID-19 (COVID-19 obsession). Result of this study reflected the findings of Atreya, et al, (2022), significant association between COVID-19 fear and age were found. Also, Srivastava, et al (2020) reported that higher age group had significant COVID-19 obsession.

Result of hypothesis two shows that prevalence of COVID-19 obsession did not differ among hospital workers in terms of gender. COVID-19 obsession between male and female hospital workers did not significantly differ in this study considering that both males and females had similar COVID-19 obsession. Sixty-two males and 61 females had COVID-19 obsession. Similarly, Oginni, et al (2021) found

that COVID-19-related stressors were more in men than women. Although most studies reported that female health workers experience more COVID-19 obsession compared to male health workers (Shaukat, et al, 2020; Saeed, et al, 2020; Kafle, et al, 2021).

Findings of hypothesis three revealed that hospital workers with tertiary education had higher prevalence of COVID-19 obsession than those with lower educational status. This implies that the more educated you are the higher the possibility of experiencing COVID-19 obsession. In this study hospital workers with tertiary education had higher prevalence of COVID-19 obsession possibly due to the fact that majority of the participants had tertiary education. Elbqry, et al (2021) found a significant correlation between COVID-19 psychological stress and satisfactory level of knowledge among medical participants. According to Al-Shatanawi, et al (2021) student with higher knowledge of COVID-19 were found to be more obsessed. The prevalence of COVID-19 anxiety among secondary school students was 40.27% (Teseman, et al 2021).

Finally, result of the fourth hypothesis reveals that prevalence of COVID-19 obsession did not differ among hospital workers in terms of marital status. Result of hypothesis four in this study is not significant possibly because there was no statistical significant difference between participants that were married and those that were singles, divorced, widow/widowers. Although those that were married had higher number of individual with COVID-19 obsession. Result of this study is in line with results of a study conducted by Jasem and Al-Jubouri (2020) the authors did not find significant difference between marital status and COVID-19 obsession. Contrarily, Srivastava, et al, (2020) reported that individuals that were married were more obsessed with COVID-19 compared to those that were singles.

Conclusion

Corona Virus (COVID-19) is a global pandemic that has affected the world. Globally, health workers are more exposed to the danger of being infected with the virus considering the vital role they play in the fight against COVID-19. Thus, the authors in this study conclude that,

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older hospital workers had higher prevalence of COVID-19 obsession compared to their younger counterparts. Prevalence of COVID-19 obsession did not differ in terms of gender. While, hospital workers with tertiary education had higher prevalence of COVID-19 obsession compared to those with lower educational status. Also, prevalence of COVID-19 obsession did not differ among hospital workers in terms of marital status. Thus, considering the virus COVID-19 as a pandemic that affect the world more attention should be given to hospital workers in terms of policy formulation being that they are at the forefront in the fight against COVID-19. Therefore, there is need for further psychological evaluation of hospital workers in other to ascertain their mental health status, also, there is need for setting up of psychological service centres across hospitals in Nigeria which would go a long way in not just evaluating the mental health status of hospital workers but it will be beneficial to the general public in assessing psychology services easily.

Limitations

The research is not without some few challenges and limitations encountered in the course of carrying out the study. Some of which are: This study fails to explore other health challenges associated with COVID-19 that hospital workers faces other than obsession. The voice of hospital workers is not heard aside the quantitative approach of data collection; qualitative approach would have been utilized in data collection. Also, the number of participants is limited which may affect generalization of findings

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Conflict of interest statement

There is no conflict of interest declared by the authors in this stud.

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