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THE JURISPRUDENTIAL ANALYSIS OF THE UNFAIR CONTRACT TERMS IN THE IRANIAN USURY-FREE BANKING SYSTEM

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ABSTRACT

The existence of unfair contract terms is one of the important challenges in the *Islāmic* banking system of Iran. Banks, which are all supposed to be *Islāmic* according to the Usury-Free Banking Act (UFBA) of 1983, are in a higher position in comparison with their customers and hence most of the banking contracts are written to ensure maximum benefit to the banks. In other words, the banks abuse the customers' needs and emergencies and conclude contracts with one-sided terms. Hence, this paper evaluates existence of unilateral and unfair terms in the Usury-Free Banking contracts of Iran based on *Islāmic* jurisprudence (*Fiqh*). It uses content analysis and *Ijtihād* or independent jurisprudential reasoning based on *Imamah Fiqh* (jurisprudence based on the Shi'a School of thought) to examine the issue of unfair terms in Iranian banking contracts¹. The results of the study show that in most of the Usury-Free Banking contracts in Iran, different kinds of unfair conditions exist, including ignoring objection rights of customers, calculating damages based on bank determination, and imposing all the contract costs on the customers. These go against *Islāmic* teachings and rules including the principle of no harm, the principle of justice and equity, the principle of urgency, and the rule of negation of hardship. This paper is one of the few that evaluate the issue of biased contract terms in the Usury-Free Banking system of Iran. The policy implication of this research highlights the need to ensure "customer rights" in Usury-Free Banking contracts.

JEL Classification: G21, G23

Keywords: Unfair contract terms, Usury-Free banking system, Iran, The principle of justice, *Islāmic* banking

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1. INTRODUCTION

Iran is one of the few countries that has conducted *Sharī'ah*-compliant banking nationwide with more than 24,000 *Islāmic* banking branches and no room for conventional banking. This system is designed based on *Islāmic* teachings regarding the “prohibition of Usury”. In fact, prohibition of usury is one of the few subjects on which numerous verses of the *Qur'ān* and *Hadīth* can be mentioned. For example, in verse 275 of *Sūrah Al-Baqarah*, God Almighty declares the ruling against usury with the most explicit expression and criticizes the argument of those who consider the existence of profit in the contract of sale as usury. This verse states: “Those who take usury do not get up (from graves) except as one who is disturbed by the devil. It is because they said: Trade is just like usury, while God has made trade lawful and usury forbidden. So whoever receives a sermon from his Lord, and stops from taking usury then he turns away from what is past, and his work is left to God, but those who return to usury are the people of the Fire, and they will abide therein.”²

Since the Usury-Free Banking Act (UFBA) was passed and enforced in 1983, however, the Iranian *Islāmic* banking system has experienced some significant challenges and shortcomings. One of which is the issue of putting unfair terms or conditions in the banking contracts (Nili, 2014; Whittaker, 2011).

Iranian banks usually include some terms in their contracts. The number of these terms or conditions in these contracts is such that they place many impositions on borrowers. The restrictive terms of the contract cause unilateral imposition to benefit the bank (Toutouchian, 2013).

Imposed and unfair terms in the contract are contrary to the principle of justice and equity, which is one of the principles of *Islāmic* law. This principle is general and involves all social relations and interactions, including economic and financial relations. The legal system of all the *Islāmic* schools of thought (specially *Imamah Fiqh*) has emphasized justice and fair treatment and has introduced justice as a principle beyond religion and a general criterion governing all transactions. In other words, justice is the soul of divine rules, and all transactions should be performed based on it (Noori Kermani, 2002).

Consideration of justice and equity in contract fulfillment is so high in *Islāmic* jurisprudence and especially in the works of many famous *Imamah* jurists (such as Sheikh Ansari) as if justice is the

fifth source of *Ijtihād* or independent jurisprudential reasoning (Skini, 1986; Jafari Langroudi, 1975).

The necessity of the justice principle comes from the idea that in *Islām*, contracting parties are obligated to behave based on fairness in creating and implementing a fair contract in order not to violate the rights of others. Some *Qur'ānic* evidence can be mentioned here. For example, verse 29 of *Sūrah An-Nisa* explicitly states: "O you who believe, do not consume each other's property unless it is a compromise between the parties and you do not kill yourself, for God is always merciful to you."³

Accordingly, the violation of justice and inclusion of unfair terms in the contract are also considered as cases of harm to people. The unfair or imposed terms are those terms imposed by one party on the other party by abuse of economic, social, or expertise status. Generally, these terms are unreasonably in favor of one of the contracting parties (AAOIFI, 2017).

The terms in contracts are unfair when there is a kind of inequality in the parties' situation at the stage of concluding and forming the contract, and this leads to an outrageous contract. Indeed, in these terms, there is an emphasis on criteria such as being unilateral. Some factors play an important role in forming an unfair contract, including bargaining power of the parties. It seems that these terms do not have validity based on the principle of justice and equity (Sardoeinasab and Kazempour, 2011, 19).

Considering this, the current paper tries to evaluate the issue of unfair contract terms in the Iranian Usury-Free Banking system based on *Islāmic* jurisprudence. The structure of the paper is as follows: after reviewing the related literature, the imposed and unfair conditions and their jurisprudential foundations are explained. Then, the paper reviews the unfair terms in the Iranian Usury-Free Banking contracts and comes up with some policy recommendations.

2. LITERATURE REVIEW

This section gives a brief review of existing studies on unfair contractual terms in *Islāmic* banking. One should note that some studies explicitly point to these issues and some others do so implicitly.

Ashraf and Alizadeh Giashi (2011) evaluate the progress and challenges of the Iranian *Islāmic* banking system. They show that it is currently facing a difficult time given the economic sanctions against Iran. Compounding this, *Islāmic* banks may face problems

since they do not have unanimous rules and regulations in *Islāmic* banking all over the world. One such problem entails banks putting unfair conditions in their contracts and seeking maximum profits without exposing themselves to risk, to the detriment of another party of the contracts upon which all risk is imposed.

Gudarzi Farahani and Sadr (2012) examine the short-run and long-run relationships between *Islāmic* banking development and economic growth in Iran and Indonesia. Besides, this paper addresses some of the issues and challenges faced by *Islāmic* banking in Iran. They show that although some challenges emerge in conducting *Islāmic* banking in practice (especially considering one-sided contractual terms), a significant relationship exists between *Islāmic* financial development and economic growth.

Nili (2014) evaluates the history and current practice of the Iranian money and capital market in conducting *Shari'ah*-compliant business. In this report, some of the challenges in the Iranian *Islāmic* banking system are discussed briefly and itemized based on the author's experience. Some of these challenges are sole reliance on jurisprudence, insufficient attention to low-income groups, fake activities, and making use of unjust contracts.

Parveen, Langarizadeh, and Muzakkir (2015) discuss the evolution of *Islāmic* banking in Iran with a special emphasis on its prospects and problems. They show that the government of Iran played a primary role in converting conventional banking into *Islāmic* banking after the 1979 revolution. Also, far from achieving the three-fold objectives of the Usury-Free Banking Act (1983), the sector is plagued by slow growth, a large portfolio of non-performing assets, unilateral contracts, and a narrow range of products and services.

Almasi, Parsa, and Rashidi (2016) evaluate the issue of unfair terms in bank contracts from the perspective of *Fiqh* and Iranian law. They indicate that unfair terms exist in bank loan contracts. Since the customers are cognizant of these terms, not only are they valid but also they do not cause voiding of the contract. Customers can declare their objection to the terms by referring to competent judicial authorities and by interpreting or modifying the disputed terms, the magistrate can resolve the dispute and force the bank and the customer to accept the explicit concept of the terms.

Bakar et al. (2019) assess the role of financial regulators in protecting *Islāmic* bank consumers from unfair contract terms in Malaysia. The findings of this research indicate that Bank Negara Malaysia (BNM) is committed to protecting banking consumers

from unfair contract terms in banking documentation. Their mission is to secure an appropriate degree of protection for banking consumers through regulatory mechanisms in redressing detrimental terms imposed by the banks.

As can be seen, although the idea of unfair contract terms in the Iranian *Islāmic* banking system is partially mentioned in some of the previous research, in this paper the issue is thoroughly evaluated considering *Islāmic* jurisprudence. Hence, the current paper enhances awareness about the challenges of *Islāmic* banking practice in Iran and therefore builds upon the existing body of literature.

3. DEFINITION AND CHARACTERISTICS OF IMPOSED TERMS

In today's economy, there are many contracts in which one of the parties (for example a bank) can impose its terms on the other side for different reasons. The initial reason for this is that one party is a powerful company or economic institution, and the other party is an individual. Therefore, there is no room for separate negotiations for every person. Hence, when customers deal with a contract having predetermined characteristics, they must accept it or refuse it and hence give up the contract. Since there is a multilateral monopoly power for these institutions, people do not have an alternative and therefore are obliged to accept the contract and all the imposed terms.

It seems that customers accept unfair contracts for at least three reasons which are: inequality of the contract situation and power of the parties, the necessity to obtain the subject of the contract for the contracting party, and unavailability of substitute ways to reach the contract subject (Allahian, 2013).

In the Iranian economy, unfair contracts can be recognized in different areas such as the contracts of banks, some governmental organizations, municipalities, insurance companies, and so on. These types of contracts occur when one party is in a superior position and the other party needs the contract.

Some define the imposed terms as follows: "Imposed terms are conditions in which one of the parties imposes them to another by abuse of his economic, social, or expertise status" (Sardoeinasab and Kazempour, 2011).

Evaluating the banking contracts in the Iranian usury-free banking system shows that the challenge of imposed terms is applicable in many banking terms because there is no balance

between the two contracting parties (The bank has a higher position than the borrowers). Also, the contract provisions are designed to maximize benefits of the bank as one of the contracting parties. Besides, the borrower has no bargaining power; so, he or she must accept or reject the contract with its terms. Finally, the borrower finds that it is inevitable to refer to the bank.

It should be noted that the Iranian civil code has not explicitly considered the imposed terms. Of course, it has paid implicit attention to this problem in cases related to the lesion. According to these Articles, the deal is not correct if one of the parties to the transaction provides the terms so that another one signs the contract without full consent or he/she sustains a loss. In civil law, Articles 190 to 195 are related to the intention of the parties and their consent. Also, Article 416 is about the option of the lesion as follows: "Each party to the transaction, who has a gross lesion in the transaction, can cancel the deal after knowledge of the lesion."

In general, in Iran, the laws do not support the weak side of the contract. In some legal articles, however, some attention to these issues can be seen; for example, Article 45 of the Law of the Fourth Five-Year Plan and the implementation of general policies of Article 44 of the Constitution state that: "the following actions which lead to disrupting in the competition shall be prohibited: Abuse of the dominant economic status; Imposing unfair contract terms..." (Allahian, 2013: 17).

4. JURISPRUDENTIAL FOUNDATIONS OF UNFAIR CONTRACTS

In the jurisprudential and legal system of *Islām*, concluding fair contracts and paying attention to the benefits of the contracting parties is a very important issue that has solid rationale. The rationales include:

4.1 PRINCIPLE OF NO HARM

The principle of no harm is one of the general rules of transactions in sacred *Islāmic* law. It means this principle governs all deals and transactions. The sacred *Islāmic* law confirms only that group of deals and transactions that the base of the transaction, the usage of it, or the terms of transaction do not cause any harm. There is much *Islāmic* evidence to justify the principle of no harm. For example, in a famous saying the Prophet (*ṣal-Allāhu 'alayhi wa sallam*) says:

“There should be neither harming (Darar) nor reciprocating harm (Dirar) is *Islām*” (Ameli, 1409AH). For this reason, it is necessary to emphasize the customers’ rights in writing contracts and to perform banking activities so to prevent any action leading to loss for customers (Zuhri, 2019).

4.2 PRINCIPLE OF JUSTICE AND EQUITY

The principle of justice and equity is one of the basic rules of *Sharia*. This principle is applied in various fields of jurisprudence. In fact, the legal system of *Islām* has paid attention to fair behavior and justice. Hence justice has been introduced as a principle beyond religion and a general criterion governing all transactions. In other words, justice is the soul of divine rules and all transactions and deals should be performed based on it. Some *Qur’ānic* evidence can be mentioned here. For example, verse 58 of *Sūrah An-Nisa* states: “Indeed, *Allāh* commands you to render trusts to whom they are due and when you judge between people to judge with justice. Excellent is that which *Allāh* instructs you. Indeed, *Allāh* is ever hearing and seeing.”⁴

Besides, wisdom judges the necessity of observing justice. It is clear that justice and equity is a subject that has inherent goodness as oppression is the most obvious subject that is condemned according to wisdom. In other words, justice is good intrinsically and wisdom judges its goodness. Thus *Islāmic* law necessitates it in all cases and the oppression is also evil and bad intrinsically and wisdom condemns it. As a result, *Sharī’ah* has also prohibited it in all cases (Mohamed Naim, 2011; Mohamed, 2006).

There is no difference between The *Islāmic* schools of thought in accepting justice. Hence, there are many cases in *Islāmic* jurisprudence in which the principle of justice and equity is considered in the case of contractual fulfillment (Jafari Langroudi, 1975).

Undoubtedly, the progressive principle of justice and equity is one of the most vital principles and rules of *Islām*; on the other hand, it shadows all religious teachings, including belief principles, legislation rules, and ethical categories.

Relationships between human beings, which are the most important part of the legislation, are affected by the principles of justice and equity. Hence, the laws, rights, and duties of human beings have been ordained by considering this principle. In contract law, wherever a transaction is diverted from the path of justice and

equity, it should be canceled. Throughout the history of *Fiqh*, many scholars have judged many cases by resorting to the principle of justice (Nazarpour and Molakarimi, 2018).

The necessity of this principle is that the contracting parties to the *Islāmic* deals are obligated to behave based on justice and equity in creating and implementing a fair contract and conclude a fair contract in order not to violate the rights of others. Accordingly, the violation of justice and inclusion of unfair terms in the contract are also considered as cases of harming people (Mohamed Naim, Yazid Isa, and Liki Hamid, 2013; Karimi, 1983).

4.3 PRINCIPLE OF NOT ABUSING URGENCY

In many cases, borrowers in the banking system are forced to accept unfair terms because of urgency. For example, people need a loan to provide housing or to meet their health needs. Or they are temporarily in difficult economic circumstances and immediately need short-term financing. In this situation, even though the bank does not directly or indirectly put any pressure on the persons to sign the contract, it abuses their urgent situation and sets the contract in a completely unilateral form to guarantee the bank's maximum benefit. Accordingly, this action can be named the "abuse of urgency" as imposing an unfair contract on a person who is in a dire situation; so that he or she accedes to the contract because of the emergency condition. Based on this criterion, a contract signed with abuse of urgency is interpreted as an unfair contract (Ansari, 2011).

Verse 185 of *Sūrah Al-Baqarah* can be mentioned here. This verse states: "And if someone is in hardship, then let there be postponement until a time of ease. But if you give from your right as charity, then it is better for you, if you only knew."⁵ In addition, most of the jurists (such as Sheikh Ansari) disagree with the abuse of urgency in contracts referring to the *Shari'ah* teachings. However, some jurists (such as Jafari Langroudi) believe the contract would be correct but the person who abuses the other's urgency is committing an immoral and inhuman action (in fact a sin). But, some other scholars believe that this contract is void (Nazarpour and Molakarimi, 2018).

4.4. PRINCIPLE OF HARDSHIP NEGATION

The principle of Hardship Negation denies rules that lead to any kind of hardship. The rationale for this is that hardship is against divine

justice and wisdom. The principle of hardship negation can be referenced to the principle of justice and equity. Therefore, whenever private contracts require hardship for one of the contracting parties for any reason, although he or she agreed, the legislator considers it unfair and it is not enforceable. In fact, the existence of hardship can be considered as a reason for the cancellation of unfair obligations in *Imamiah* jurisprudence. Some *Qur'ānic* evidence can be mentioned here. For example, verse 185 of *Sūrah Al-Baqarah* states: “*Allāh* intends for you ease and does not intend for you hardship and wants for you to complete the period and to glorify *Allāh* for that to which He has guided you and perhaps you will be grateful.”⁶

In the case of one-sided contracts, imposing unfair terms on the weak parties of the deal, causes them to suffer hardship and according to the rule of hardship negation, the contract would not be mandatory and it has serious drawbacks because of being unfair according to *Islāmic* law (Sardoeinasab and Kazempour, 2011).

5. UNFAIR TERMS IN THE REGULATIONS OF IRAN'S USURY-FREE BANKING ACT

In the regulations of Iran's Usury-free Banking Act, there are many cases in which banks are allowed to consider unfair terms in their contracts with customers. Ensuring facilities that benefit the banks is one example of this issue. In fact, the cost of insurance, especially in *Mushārah* contracts, should be shared between partners and it is unfair to impose it on just one of the parties (Hassani, 2010).

In other words, these regulations permit banks to consider just their interests and set banking contracts unilaterally. A review of banking contracts in the next section clearly shows that in many cases banks have imposed many terms on the customer and this is contrary to the principles of *Islāmic* banking and finance especially the principles of justice and equity.

6. CASES STUDIES: IMPOSED TERMS IN THE USURY-FREE BANKING CONTRACTS

Islāmic banking in Iran can be considered as a governmental initiative designed and developed in a top-down framework. Hence, unlike many other *Islāmic* banking systems prevailing in other countries (such as Malaysia), the Iranian banks use the same contract forms with their customers. These forms are designated by the

central bank (CBI, 2020: 2). In what follows, some of these contracts are evaluated based on the usage of unfair terms.

6.1 *MUSHĀRAKAH* CONTRACT

In Article 5 of the *Mushārahah* contract⁷, the bank's assessment is imposed unilaterally on the customer in the use of the *Mushārahah* capital for implementing the subject of the contract. In this article, considering the calendar and assessment of the bank as a base for all calculations conflicts with the principle of justice and equity.

Some of the other articles of the *Mushārahah* contract limit customer freedom. For example, the final line of Article 8 states: "Increasing the costs does not have any effect on the amount of the portion inserted in this contract by the bank." It is clear that such a term is a kind of compulsion and can be evaluated under the principle of justice and equity. According to this principle, the contract terms should not be in a way that neglects customer rights.

To remove this oppression, this article should be set up so that the customer is responsible if he or she acts without bank agreement and consent. But, if the cost of the *Mushārahah* increases through no fault of the customer, it cannot be imposed on him or her and should be accepted by the bank.

One should note that based on Imamiah *Fiqh*, although *Mushārahah Muhāddadah* is accepted, if too many conditions in the *Mushārahah* contract are considered so that the nature of it vanishes, then it would not be *Sharī'ah*-compliant. This is the case even when one condition contradicts the nature of *Mushārahah* (Nazarpour and Molakarimi, 2018).

In the second part of Article 12, the phrase "the price agreed upon by the bank" should be converted to "agreed upon by the parties", because if only the bank determines the price, it is a kind of domination on the customer.

In Article 13, the customer is required to purchase the Bank's share or to sell it to a third party (of course with the Bank's coordination and supervision) upon the Bank's request. Also, the customer is required to finally settle with the Bank following the Bank's computation which the Bank represents to him or her. It is clear that requiring the partner to accept such a term is a kind of coercion and contrary to the equity principle.

In Article 13, identification of the customer's fault and neglect is subject to the bank's recognition. This issue is a kind of imposition on the customer because the circumstances and reasons

should be considered for affirmation. In other words, based on Imamiah *Fiqh*, it should be evaluated whether the customer's neglect is due to financial problems or the change of economic conditions or not (Ansari, 2011).

6.2 MUḌĀRABAH CONTRACT

Article 9 of the *Muḏārabah* contract, indicates: "the right of the termination is created for the bank if the customer violates the contract conditions. However, the objection right for the customer is removed and the calculation of the damages is assigned to the bank's recognition". This condition can be considered unfair and a kind of imposition on the customer.

Given that these kinds of terms are imposed in different articles of the *Muḏārabah* contract (and paying attention to the fact that it is not always possible to refer to the courts to maintain customer rights) it is necessary to establish a kind of supervisory and judgment body for the recognition of damages in *Muḏārabah* contracts.

In Article 6, the agent undertakes to use the *Muḏārabah* capital for realization of the *Muḏārabah* and only for the purchase and payment of the goods, and the necessary expenses including the costs of insurance, warehousing, and other charges. Although this term is a necessity of the contract, in this article, other possible administrative costs are assigned to the customer. If these costs are significant, they should be considered as the costs of *Muḏārabah* considering the jurisprudential definition of *Muḏārabah* in Imamiah *Fiqh* (Ansari, 2011); so, the compulsion of the customer to be burdened by all these costs is a form of imposition.

Article 20 states: "Insuring purchased items is imposed on the customer for the benefit of the bank". Given that the insurance is one of the costs of the *Muḏārabah* contract, its imposition on the customer may be contrary to the nature of the *Muḏārabah* agreement.

Article 8 indicates: "If all or a part of the *Muḏārabah* goods could not be sold, the customer is required to personally buy them (with the bank's consent) at the price of the day or the price determined by the bank at the end of the contract or at the time of termination". If there is a buyer of the goods at the price of the day, this term is well, but if the price is only determined based on the bank's interest, it would be an unfair imposition on the customer

6.3 JOALAH CONTRACT

In Article 5 of the *Joalah* contract, the right of the customer to object to the bank's calculation is canceled and this can be considered as an imposition on the customer.

Article 8 indicates that the financial books and statements of the bank are unobjectionable. Also, the bank undertakes recognition of the contract violation and its degree. Similarly, the customer's right to protest and file action has been denied. All of these cases will put the contract in a unilateral status.

6.4 MURĀBAHAH CONTRACT

In this contract (in different articles) the bank demands the right of substitution but denies the same right (as well as the right to any protest and file an action) for the customer and guarantor/guarantors. These terms can be considered as an imposition on the customer. Also, identifying the violation of the buyer from the provisions of the contract is subject to the bank's opinion and recognition. Furthermore, the buyer's right to protest and file action has been denied. This issue, which is considered as the terms of the contract, is an imposition on the customer.

7. CONCLUSION AND POLICY RECOMMENDATION

This paper has tried to analyze the issue of "unfair contractual terms" as one of the very important challenges of the Iranian Usury-Free Banking system in its decades of experience. The main result of this research is that based on *Islāmic* jurisprudence, the transaction parties should conclude their contracts in a fair and just manner to prevent infringement of others' rights. For this reason, inserting the unfair terms in the contract and the violation of justice are examples of harm and oppression to people and troubling them which is not acceptable in *Islāmic* teachings regarding different rules such as the principle of no harm, the principle of justice, and equity, the principle of urgency and the principle of hardship negation.

However, review of some Usury-Free Banking contracts in Iran shows that in most of them, there are different kinds of unfair conditions which are not only contrary to *Islāmic* jurisprudence but also a kind of serious unfairness in observing the customer rights as one of the main stakeholders of the banking network. The terms such as denying the objection right of customers, calculation of damages

based on the bank's recognition and decision, and imposing some contractual costs to the customer (including the cost of property insurance), represent the bank's behavior in concluding unfair contracts. In other words, inserting these terms in the banking contract is in contrast with the initial nature and characteristic of the *Islāmic* contracts so that it removes the deals from the balance of obligations and authorities. So, these terms are considered unfair ones. The results also show that:

- The Iranian banks do not use *Islāmic* contracts as they are explained in the jurisprudence. In fact, they determine a set of terms and conditions that differ significantly from the rules of *Islāmic Fiqh* in economic contracts.
- The banking contracts in Iran can be considered an example of "superior order" in transactions because one party (the bank) has a superior position in its relationship with the customers.
- The Iranian bank's behavior in concluding contracts is also unfair in some other cases. For example, the customer is forced to fulfill the terms of the contract in a situation where the bank did not give him or her an appropriate opportunity to understand them before concluding the contract.

The policy recommendation of this paper emphasizes the necessity of paying more attention to conclude fair contracts, avoid unfair terms, and highlighting the customer rights in the Usury-Free Banking contracts in Iran. To be more precise, it is necessary for the Iranian Central Bank, as the authority responsible for conducting Usury-Free Banking in Iran, to review and revise the banking contracts from a fairness perspective.

In this paper, only one of the challenges of the *Islāmic* banking system in Iran (the issue of unfair contractual terms) is evaluated. However there are other challenges, such as the governmental view toward *Islāmic* banking, lack of competition, and lack of *Sharī'ah* supervision, that could be assessed in future studies. In addition, there is a need to evaluate the efforts of some *Islāmic* organizations that are trying to set some standards for *Islāmic* banking and finance such as AAOIFI, CIBAFI, IFSB, and IsDB, and to determine if some of their standards can be applied in the Iranian Banking system.

ENDNOTES

1. *Ijtihad* method can be considered a qualitative research approach in which an endeavor is made to deduce the rules of Sharia from the

sources of jurisprudence with the use of proper methods (Zuhri, 2019, 11).

2 «يَا أَيُّهَا الَّذِينَ آمَنُوا لَا تَأْكُلُوا أَمْوَالَكُم بَيْنَكُم بِالْبَاطِلِ إِلَّا أَنْ تَكُونَ تِجَارَةً عَنْ تَرَاضٍ مِنْكُمْ وَلَا تَقْتُلُوا أَنْفُسَكُمْ إِنَّ اللَّهَ كَانَ بِكُمْ رَحِيمًا».

3 «الَّذِينَ يَأْكُلُونَ الرِّبَا لَا يَقُومُونَ إِلَّا كَمَا يَقُومُ الَّذِي يَتَخَبَّطُهُ الشَّيْطَانُ مِنَ الْمَسِّ. ذَلِكَ بِأَنَّهُمْ قَالُوا إِنَّمَا الْبَيْعُ مِثْلَ الرِّبَا وَأَحَلَّ اللَّهُ الْبَيْعَ وَحَرَّمَ الرِّبَا. فَمَنْ جَاءَهُ مَوْعِظَةٌ مِنْ رَبِّهِ فَانْتَهَى فَلَهُ مَا سَلَفَ وَأَمْرُهُ إِلَى اللَّهِ وَمَنْ عَادَ فَأُولَئِكَ أَصْحَابُ النَّارِ هُمْ فِيهَا خَالِدُونَ».

4 «إِنَّ اللَّهَ بِأَمْرِكُمْ أَنْ تُوَدُّوا الْأَمَانَاتِ إِلَىٰ أَهْلِهَا وَإِذَا حَكَمْتُمْ بَيْنَ النَّاسِ أَنْ تَحْكُمُوا بِالْعَدْلِ إِنَّ اللَّهَ نِعِمَّا يَعِظُكُمْ بِهِ إِنَّ اللَّهَ كَانَ سَمِيعًا بَصِيرًا».

5 «وَإِنْ كَانَ ذُو عُسْرَةٍ فَنَظِرَةٌ إِلَىٰ مَيْسَرَةٍ وَأَنْ تَصَدَّقُوا خَيْرٌ لَكُمْ إِنْ كُنْتُمْ تَعْلَمُونَ».

6 «يُرِيدُ اللَّهُ بِكُمُ الْيُسْرَ وَلَا يُرِيدُ بِكُمُ الْعُسْرَ وَلِتُكْمِلُوا الْعِدَّةَ وَلِتُكَبِّرُوا اللَّهَ عَلَىٰ مَا هَدَاكُمْ وَلَعَلَّكُمْ تَشْكُرُونَ».

⁷ The full text of the banking contracts of the Usury-free banking can be accessed on the website of Iran's central bank (see the link: <https://www.cbi.ir/showitem/14322.aspx>).

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DIRECTORS' REMUNERATION IN LISTED SMALL AND MEDIUM SCALE FIRMS: DOES CORPORATE GOVERNANCE MATTER?

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ABSTRACT

The study examines the relationship between corporate governance mechanisms on directors' remuneration of listed small and medium scale firms in Malaysia. It was conducted over the period 2014 to 2017 on the 274 listed small and medium enterprises on Bursa Malaysia. Six potential corporate governance mechanisms were utilized as surrogates including size, executive ownership, CEO duality, family relationship, independent non-executive directors on the remuneration committee, and board meetings; amount of remuneration package of all the directors was used as dependent variables. By controlling for potential endogeneity among the variables, the study estimates the data with system dynamic generalised method of moment. The results from this estimate reveal that five out of six corporate governance mechanisms significantly affect the directors' remuneration among listed small and medium enterprises in Malaysia. The study concludes that CEO duality, board size, directors' ownership, the presence of independent directors on the remuneration committee and board meetings have a significant impact on directors' remuneration among listed small and medium enterprises in Malaysia. The study provides insights into the relevance of

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agency theory in the context of corporate governance research. The use of GMM as an estimator made the results from the study align closely with this theory which ordinary would have been rejected. Also, the current study fills the gap identified in the literature regarding corporate governance and directors' remuneration among small and medium enterprises in a majority-world economy.

JEL Classification: M480

Keywords: Directors' remuneration, Corporate governance, Agency conflict, Malaysia

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1. INTRODUCTION

Investigating the relationship between corporate governance (CG) and director remuneration is not new but studies that focus specifically on listed small and medium scale firms are relatively new, especially in a Global South nation such as Malaysia. Earlier studies in various business magazines and academic journals have documented various factors that could explain director remuneration (Boyd, Franco Santos, and Shen, 2012). Earlier studies on this relationship have also been published in regulatory authorities and policymakers circulars (Graham, Li, and Qiu, 2012). In most of the developed economies, compensation package of the executive directors and CEO of top listed firms rose significantly during the 1980s and 1990s leading to a debate on the possible factors that could explain the managerial compensation package (Pereira and Esperança, 2015).

Extant studies have considered agency theory to offer explanations of corporate governance mechanisms as the potential determinants of directors' remuneration (Greckhamer, 2016). Most of these studies either focussed on larger firms (Pereira and Esperança, 2015), government-linked firms (Minhat and Abdullah, 2014) or developed economies (James, 2014). Little is known, however, about the potential effect of determinants of directors' remuneration of listed small firms in majority world economies. These economies make up about 90% population of the entire globe and have specific features and characteristics that could not make the findings on developed economies applicable to their development. Further, small firms underpin the economic development of these nations as they provide

more employment and produce basic consumable products for national well-being.

It has been documented that 85% of Malaysian listed companies are small firms characterized as owner-managed (Claessens, Djankov, and Lang, 2000). The impact of CG on the directors' compensation in these small firms is mostly unknown and poorly understood. There is scant evidence on this despite the many works of literature on executive compensation. This could have resulted from the absence of small firms, coupled with data difficulties in countries with such a scenario. This study will contribute to addressing this gap by utilizing hand-collected data from the financial statements and annual reports of 234 listed firms in Malaysia. Though Minhat and Abdullah (2014) examine determinants of executive compensation in listed companies, the authors considered only government-linked public listed firms. To the best of our knowledge, the scenario concerning smaller firms is yet to be considered.

Utilizing agency and managerial rent extraction theories, this study examines the possible impact of board size, directors' ownership, CEO duality, presence of family members and independent directors on the remuneration committee on directors' remuneration. The findings from the data analyses are expected to help the regulatory authorities in shaping and enhancing the future code of corporate governance among small enterprises in Malaysia.

2. CORPORATE GOVERNANCE REFORM IN MALAYSIA

Generally, the codes of good governance in many nations from the Global North and South (e.g., United States, United Kingdom, Australia, Germany, Japan, Malaysia, India, Nigeria, and Brazil) have incorporated the remuneration committee as part of the corporate governance committees to monitor director remuneration packages. Specifically, the code of corporate governance in Malaysia, introduced in March 2000, sets out the principles and best practices of good governance and describes optimal corporate governance structures and internal processes. Besides, the board governance system exists to control and reduce agency problem that arises due to adverse selection and moral hazard (MCCG, 2012) by monitoring the board of directors, compensation of executives, shareholders, accounting expertise, and internal audit in the country. The code was revised twice, in 2007 and 2012, to ensure that its principles and recommendations were aligned

with business practices and market development. The new updated code is tagged as MCCG 2017.

MCCG (2017) stated clearly that the board should establish a Remuneration Committee to determine the directors' remuneration. The Remuneration Committee should consist exclusively or a majority of, non-executive directors, drawing advice from experts, if necessary. Companies without a Remuneration Committee should have board policies and procedures on matters that would otherwise be dealt with by the Remuneration Committee. Board remuneration policies and procedures should be disclosed in the annual report.

3. THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

3.1 THEORETICAL FRAMEWORK

The present study will be based on the managerial rent extraction theory and agency theory. Managerial rent extraction theory associates director remuneration with managers' ability to extract rents (Bertrand and Mullainathan, 2001) and that the level of pay and the use of forms of remuneration that are easier to conceal (e.g., stock options) would increase during periods of unsound corporate governance. The fundamental opinion is that poor corporate governance has allowed managers to skim profits from the company, thus leading to a significant increase in director remuneration (James, 2014). The agency theory, on the other hand, posits that the agent is a rational actor, risk-averse, and motivated by self-interest. Therefore, the principal can encourage the agent by managing compensation (Stroh et al., 1996). The concept of agency has been widely used to analyze relations between owners and managers within organizations. Even CEO compensation is a negotiation between a CEO and a principal (Kumar and Zattoni, 2016). In addition, small and medium-sized firms tend to have different director remuneration strategies than larger firms because of limited resource capacity.

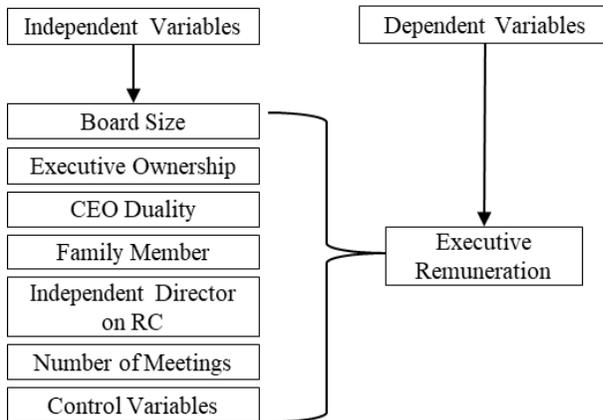
3.2 CONCEPTUAL FRAMEWORK

Figure 1 shows the relationship between the dependent variable and the independent variables, which is the basic framework of the study. Executive remuneration is related to the CG mechanism in either positive or negative relationship. Remuneration can increase or

decrease. It depends on the BOD effectiveness and efficiency in performing their duties. Agency theory suggests that providing incentives is the best solution for mitigating the agency problem (Boyd et. al., 2012). The relationship between the remuneration and BOD depends on board effectiveness in determining director remuneration.

In the small firms, the executive directors control the key position such as chairperson and chief executive officer which lead to the positive relationships with remuneration. For example, executive ownership (Kumar and Zattoni, 2016), family member (Chen and Lee, 2008), and CEO duality (Krause, Semadeni, and Cannella, 2014) shows a positive relationship with total remuneration. Thus, the relationship between a number of meeting and remuneration will have a positive relation. The Malaysia Code of Corporate Governance revised (MCCG) 2012, requires that the remuneration committee have a majority of independent directors. The expertise and experience of the independent non-executive directors will enable them to understand and effectively fulfill their role in monitoring and controlling excessive remuneration. Therefore, the monitoring and controlling in this study will have a negative relationship with total remuneration.

FIGURE 1
Conceptual Framework



3.3 HYPOTHESIS DEVELOPMENT

This subsection explains the hypothesized relationship between the corporate governance mechanisms and directors' remuneration among

the listed small and medium enterprises on the floor of Bursa Malaysia as follows.

3.3.1 BOARD SIZE

The size of the Board of Directors (BOD) is an important factor for board effectiveness in determining director remuneration (Greckhamer, 2016). The optimal size should be a balance between the knowledge and resources gained from a larger board with that of more effective communication and coordination obtained from a smaller board (Graham et al., 2012). Most of previous research on executive compensation has documented a positive relationship with board size (Ozkan, 2007), indicating that larger boards lead to more agency problems. Smaller boards, however, lead to better alignment with shareholders, which is more effective in controlling the agency problem (Hermalin and Weisbach, 2003).

MCCG 2012 requires the board size to be examined in respect of board effectiveness; however, no specific number has been recommended. Therefore, based on the abovementioned argument, the board should not be too big nor too small. Rather, companies should promote a board with active participation and the ability to make effective decisions and perform its duties. Most of the studies indicate a significant positive relationship between board size and executive remuneration (Fahlenbrach and Stulz, 2010; Basu et al., 2007). This leads to the first hypothesis:

H1: There is a positive and significant relationship between board size and executive remuneration in small firms.

3.3.2 BOARD SHAREHOLDING

As shareholders appoint the BOD, it may be in the shareholder interest to ensure increased alignment through stock ownership, or a general requirement for directors to hold company shares (Hermalin and Weisbach, 2003). This will increase alignment with shareholders, thereby leading to higher benefits of monitoring as the board will have a vested interest in the company's profitability (Basu et al., 2007). This generates a more proactive board and mitigates the agency's problem (Fahlenbrach and Stulz, 2010). When viewing the practice of stock-based remuneration in relation to the risk profile of the small company, stronger shareholder alignment leads to a larger risk-willingness

(Chen and Lee, 2008). Moreover, Cheng and Firth (2006) revealed that director's stockholding reduces pay because receiving a higher dividend lowers the need for cash remuneration. Therefore, it is argued that executive ownership will result in strong alignment with shareholders, improve company performance, increase monitoring and control firm activities, be in accordance with shareholders, and ensure efficient company performance. Since this ensures the expected higher dividend will lower the need for cash remuneration, hence it can be hypothesized that:

H2: There is a negative and significant relationship between executive ownership and the remuneration expected due to a stronger alignment with shareholders.

3.3.3 CEO DUALITY

When the CEO is also a board chair (CEO duality), agency theory suggests that the agency problem will increase (Krause et. al., 2014). In addition, the combined leadership CEO duality weakens the monitoring role of the board over the executive manager; this has a negative effect on corporate performance (Elsayed, 2007). Therefore, agency theory suggests a negative relationship between CEO duality and remuneration (Boyd et al., 2012). It is believed that when the CEO and the chairman of the board is the same person, the company will achieve strong, unambiguous leadership and internal efficiency hence reducing potential conflicts between the chairman of the board and CEO through the unity of command and avoid confusion with the stakeholders (Hermalin and Weisbach, 2003). Most researchers, however, documented that the separation of the CEO and board chair will eliminate the dominance of the CEO over the board (Elsayed, 2007). The board will be more powerful and better exercise its control, which will lead to reduced executive remuneration (Daily, Johnson, and Dalton, 1999). Therefore, it is expected that CEO duality will have a negative relationship with executive remuneration. There is a requirement to balance the power and authority between the CEO and chairman of the board, and that the leadership structure should be disclosed publicly (MCCG, 2017). This leads to the following hypothesis:

H3: There is a negative and significant relationship between CEO duality and executive remuneration in small firms.

3.3.4 FAMILY MEMBERS

Many small firms are majority-owned by individuals and their family members, which holds implications for CG, firm performance, and executive remuneration (Sapp, 2008). Instead of hiring more qualified managers, family firms tend to provide positions for family members (Chen and Lee, 2008) even if they are not talented enough to run a business (Cheng and Firth, 2006). This relationship is not against regulations because the firm belongs to them and they have a right to be awarded higher remuneration even though unqualified, as long as it is not proven risky to the firm.

Non-executives have less power to argue or oppose the actions by family members because the family appoints them. Family groups in committees can actively influence the committee's decision-making to benefit themselves (Boyd et al., 2012). Cheung, Stouraitis, and Wong (2005) found a negative association between family ownership and executive remuneration in Hong Kong public listed companies. Additional findings show that family executives receive lower remuneration compared to their counterparts (Ozkan, 2007). Contradictory results show that there is a positive relationship between family ownership and remuneration (Basu et al., 2007). It can be argued that family firms do not always strictly follow the remuneration policies and procedures, and are often not truthful nor transparent during justification. As a result, they can grant themselves higher remuneration, which leads to a decline in firm performance (Chen and Lee, 2008). This leads to the following hypothesis:

H4: There is a positive and significant relationship between directors who have a family relationship with the company and director remuneration in small firms.

3.3.5 REMUNERATION COMMITTEE

Although the remuneration committee plays an essential role in determining directors' pay, only a few researchers have studied the relationship (Sapp, 2008). The remuneration committee is responsible for designing packages that follow CG's best practices. The committee can design remuneration packages such that they are made up of salary, bonuses, fees (Cheung et al., 2005), and stock options (Greckhamer, 2016), consonant with the performance of the executive and the firm. Independent directors are a source of external control

over the management, and it is suggested that independent directors/non-executives constitute the majority of the remuneration committee members. Therefore, is likely that independent directors discourage excessive remuneration for the directors and also link remuneration to company performance (Cheng and Firth, 2006). This leads to the following hypothesis:

H5: There is a positive and significant relationship between remuneration committees that have directors with family relationships and director remuneration in small firms.

3.3.6 INDEPENDENT DIRECTORS ON THE REMUNERATION COMMITTEE

The remuneration committee members consist wholly or mainly of independent directors, and committee membership should also appear in the annual reports. Furthermore, the remuneration committee should make recommendations to the board on company policy and structure for all forms of remuneration paid to the directors and top management. This leads to the establishment of a formal and transparent procedure for developing policy on directors' remuneration (MCCG, 2012).

Existence of independent directors on the remuneration committee can be used as a monitoring mechanism that reduces high remuneration to the executive directors since independent directors are unlikely to grant excessive remuneration to the executives.

Although independent directors act as external control mechanisms, they also present a drawback in as much as they are part-timers who lack expertise, knowledge, and information about the company's business. The non-executive directors of family firms who are on the remuneration committee increase the remuneration either to satisfy or to achieve executive expectations (Lee, 2009) since they have less power and lack independence. Presence of non-executive independent directors on the remuneration committee, however, is more likely to make the best decisions in line with the shareholders to reduce agency problems. This leads to the following hypothesis:

H6: There is a negative and significant relationship between executive remuneration and a higher proportion of independent directors/non-executive directors on the remuneration committee in small firms.

3.3.7 NUMBER OF BOARD MEETINGS

Generally, directors are rewarded by attractive fees for each board meeting they attend in the firm, which has a significant influence on the effective role in decision-making in the boardroom. Therefore, the frequency of board meetings is clearly affected by many factors including the firm's characteristics and the board structure (Vafeas, 2003). The process of meeting to assess the viability of business propositions and corporate proposals has a significant impact on company performance and financial decisions (Lee, 2009). The directors are paid a fee according to the number of board meetings, which is directly included in the cash and total remuneration computation.

Therefore, a strong positive relationship is expected between cash and total compensation (Pereira and Esperança, 2015). It is required by Bursa Malaysia Listing Requirements that board meetings should be held at quarterly intervals with additional meetings when necessary. However, it is so hard to explain how the number of board meetings can affect the remuneration since a higher number of meetings indicate the board's response to poor performance by raising the level of operating activities in the following year. It is argued that regulations concerning the number of board meetings may influence the board of directors to improve the performance. More frequent board meetings have a significant effect on firm performance and executive remuneration. This leads to the following hypothesis:

H7: There is a positive and significant relationship between executive remuneration and the number of board meetings per financial year of small firms.

3.4 RESEARCH MODELS AND DATA ANALYSIS METHODS

The selection of the bottom listed companies is based on market capitalization. Initially, this study considered 351 companies; however, a sample of 274 bottom listed companies turned out as the final sample. Based on Table 1, 77 companies were excluded from the initial total population because their annual reports were missing, had incomplete data or poor disclosure, and had no information on executive remuneration. The data were extracted from the financial statements of the selected firms over the period of 2014 to 2017.

This study developed and utilized longitudinal panel data for the analyses. The panel regression model was used to estimate the

association between corporate governance attributes and directors' remuneration among listed small and medium enterprises on the Bursa Malaysia. The choice of panel data analysis is its significant over time-series and cross-sectional data analyses which include ability to control for individual heterogeneity of observations; giving better informative data, more variability, less collinearity among the variables, and also permitting studying of dynamics analysis among others (Baltagi, 2005).

TABLE 1
Final Sample Selection

Selection Criteria	Number of Companies
Listed companies (Total population)	351
Companies with incomplete data	44
Companies in the finance industry	6
Companies with no information on executive remuneration	27
Final Sample	274

All analyses were carried out using Microsoft Excel, IBM SPSS 21, E-view statistical package version 7, and STATA version 13.1. The generalization of findings was made from hypotheses testing based on the inferential statistics (Field, 2013; Wooldridge, 2010). Based on Table 2, the empirical models include dependent and independent variables adopted for analyses of expected association between corporate governance and directors' remuneration of listed small and medium scale firms in Malaysia. Stochastically, the models are written as follows:

$$\begin{aligned}
 LNREM_{it} = & \alpha + \beta_1 LNREM_{it-1} + \beta_2 BSIZE_{it} + \beta_3 LNEXCOWN_{it} \\
 & + \beta_4 CDUALITY_{it} + \beta_5 FMEMBER_{it} \\
 & + \beta_6 INRC_PCT_{it} + \beta_7 NUM_MTNG_{it} + \beta_8 SIZE_{it} \\
 & + \beta_9 ROA_{it} + \varepsilon_{it}
 \end{aligned}$$

The equation represents the stochastic model for estimating the static OLS regression without consideration of effect potential endogeneity among the variables.

TABLE 2
Summary, Definition, and Measurement of
Symbols Used in the Study

Symbol	Meaning	Measurement	Source
<i>LNREM</i>	log of remuneration of executive directors	Log of remuneration of executive directors in each firm	Annual report
<i>LNREM_{it-1}</i>	difference of <i>LNREM_{it}</i>	The first difference of <i>LNREM_{it}</i>	Annual report
<i>B_{SIZE}</i>	Size of the board	Number of a member of board director	Annual report
<i>LNEXCOWN</i>	Log executive ownership		Annual report
<i>CDUALITY</i>	CEO duality	dummy variable coded as one (1) if the post of CEO and Chairperson is held by the same person, otherwise zero (0)	Annual report
<i>F_{MEMBER}</i>	CEO or chairperson has a family relationship with any Director and/or major shareholder of the company	refers to a dummy variable coded as (1) if the CEO or chairperson has a family relationship with any Director and/or major shareholder of the company otherwise zero (0)	Annual report
<i>INRC_{PCT}</i>	independent non-executive directors on the remuneration committee	percent of independent non-executive directors on the remuneration committee	Annual report
<i>NUM_{MTNG}</i>	Number of times the board meeting in a financial year	refers to the number of meetings held in financial year	Annual report
<i>SIZE</i>	Size of the firm	the log of total assets	Annual report
<i>ROA</i>	Return on total assets	EBIT divided by Total Assets	Annual report

4. DATA ANALYSIS AND DISCUSSION OF FINDINGS

4.1 DESCRIPTIVE STATISTIC ANALYSIS

Table 3 presents a summary of the descriptive statistics of the variables of interest used in the study. The table reveals that the average size of board members among the small and medium scale enterprises is seven with a maximum number of 18 members. This aligns with the MCCG 2012 encouraging firms to have directors commensurate with their scope of activities. The average number of seven might indicate that the boardroom has a substantial number that would facilitate robust discussion on a crucial decision that could make or break a firm existence. Also, the sample of the average director remuneration is RM2,416,969 with the maximum amount of RM47,000,000 over the research period. This indicates that the pay variable is highly right-skewed, so we use the log of compensation, LN_EXREM, in our regressions.

Further, on average, the sampled firms met five times over of the five years of the study. It means at least the board members meet once a year. Average firm performance is low in the aftermath of among the sampled firms, with mean return-on-assets, ROA, being 0.18%. The deviation of almost all the observations from the mean are pronounced, and results of skewness and kurtosis suggest the possibility of normality problem. (Field, 2013; Wooldridge, 2010).

Examination of the Jarque-Bera statistic indicates the presence of heteroscedasticity of the residual of the regression. Thus, normality might be a major issue among the series. Hence, the study ran the OLS and later compared the results with that of GMM (Baltagi, 2008). The results of skewness, kurtosis, and Jarque-Bera further explained the pattern of distribution. Across all variables, there were mixed findings regarding normality based on the skewness value as some were within the benchmarks while others were not.¹ Further, a closer look at the kurtosis values shows that most of the observed variables had violated the cut-off point², an indication of non-normality of distributions.

TABLE 3
Summary of Descriptive Statistics

	Mean	Median	Max	Min	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Prob.	Obs
BS	7	7	18	2	2.01	1.23	6.65	880.3	0.00	1087
DSHD	0.195	0.053	61.918	0.000	1.913	31.11	999.2	4512	0.00	1087
IND_PCT	0.713	0.667	1.000	0.000	0.225	-0.815	4.493	221.4	0.00	1087
EXREM	2416969	1421127	247000000	955	8195156	25	733	24244303	0.00	1087
LN_EXREM	6.143	6.153	8.393	2.980	0.412	-0.226	7.394	883.8	0.00	1087
NOMTG	5.442	5.000	21.000	0.000	1.965	2.931	17.553	11148	0.00	1087
ROA	0.181	0.029	66.297	-70.8	4.286	1.863	183.61	1478	0.00	1087
SIZE	8.291	8.161	11.850	3.076	0.806	0.642	11.657	3469.3	0.00	1087

Also, the results of Jarque-Bera (JB) statistics which are mainly based on OLS residuals (Field, 2013) indicate values that are above critical level and a probability value of 1% except for a few indications which are further confirmation of non-normality problem of the observations³. Distribution of observed variables, however, might not necessarily pose any major problem with the estimation of the parameters but that of error term which might suggest the presence of heteroscedasticity (Wooldridge, 2010). The result of the JB statistics indicates the absence of homoscedasticity of the variance of disturbance. (Hill et al., 2011). The possible reasons for this might be the composition of the firms sampled in the present study as they are from different size, and from different industries which are panelled in the present study (Baltagi, 2008).

Results of testing frequency distribution of the firms CEO duality and the CEO or chairperson has a family relationship with any Director and/or major shareholder of the company are presented in Table 4. The result reveals that about 88.3% of the firms have different individual occupying the position of chairman and CEO of the sampled firms. The remaining 11.7% of the have fusion of power in the boardroom with the same person occupying both positions.

TABLE 4
Summary of the Frequency Distribution

	Code	Frequency	Percent
CDUAL	0	967	88.3
	1	128	11.7
FMBER	0	751	68.5
	1	344	31.5

4.2 CORRELATION COEFFICIENT MATRIX

Based on Table 5, the matrix shows the absence of multicollinearity problem among the explanatory variables as the coefficients are within the acceptable region as suggested by prior studies. For instance, Field (2013), respectively set the level of coefficient of correlation below 0.8 or 0.9. Otherwise, there could be a collinearity problem.

Specifically, the result reveals that the Board size and directors' remuneration display a significant positive correlation, which means the higher the board size, the higher the package paid. Meanwhile, the CEO duality has a significant positive correlation with board member remuneration. This also means that when an individual

occupies the position of CEO and Chairman, the remuneration packages might be reduced. Probably, the individual only receives an entitlement from one position and sacrifices from the other. Also, the number of a family member on the board has a significant positive association with the directors' remuneration. The possible implication of this might be that these set of people might dominate the board and award bogus packages to themselves.

The expected role of the independent director is to ensure that the remuneration committee does things in the shareholder interest. Hence, the relationship with remuneration should be negative if the job is done well. This correlation result confirms this expectation. The frequency of board meeting has a significant positive association with director remuneration. The finding might be explained by the board composition being appropriate, enabling adequate discussion and minimal amount of allowances claimed. The two control variables have a positive correlation with directors' remuneration. This is expected because the higher the profitability, the better would be the packages for directors. This would align with the firm size.

Table 6 presents the results of VIF and tolerance value of the series in further consideration of the possibility of multicollinearity. The variable has VIF of less than two and tolerance of higher than 0.5 across the panels. These further suggest the absence of multicollinearity as the value is below the benchmark of 10 for VIF and above 0.10 for tolerance (Field, 2013). The result in panel B would be used to confirm the aggregate IC disclosure while Panel A is employed for the IC disclosure categories.

4.3 THE DYNAMIC SYSTEM GMM RESULTS

The present study proceeds by subjecting the series to further estimation using dynamic system GMM. The result of the estimation is presented in Table 7. The results reveal that the previous remuneration has a significant positive effect on the present remuneration. This finding implies that the amounts paid to the directors are on an incremental basis as the higher the prior year amount, the higher would be the current year package. This justifies the dynamic nature of the study and confirms that the results from traditional OLS discussed above fails to consider. The fitness of the model is explained by the Wald χ^2 with a significant probability value of less than 1%.

TABLE 5
Summary of Pearson Correlation Coefficients

	LnEXREM	BS	DSHD	CDUAL	FMBER	IND_PCT	NoMtg	ROA	Size
LnEXREM	1								
BS	0.370**	1							
DSHD	0.011	0.025	1						
CDUAL	-0.123**	-0.191**	0.076*	1					
FMBER	0.105**	0.088**	0.051	0.091**	1				
IND_PCT	-0.037	-0.100**	-0.016	0.128**	-0.010	1			
NoMtg	0.291**	0.293**	-0.017	-0.089**	-0.053	0.020	1		
ROA	0.093**	0.000	-0.001	-0.015	0.010	0.048	0.005	1	
Size	0.484**	0.340**	-0.020	-0.110**	-0.026	-0.041	0.460**	-0.006	1

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

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

TABLE 6
The Results of VIF and Tolerance Value

Variable	VIF	1/VIF
SIZE	1.35	0.739924
NOMTG	1.32	0.758847
BS	1.23	0.814809
CDUAL	1.07	0.934769
IND_PCT	1.03	0.970230
FMBER	1.03	0.971359
DSHD	1.01	0.990093
ROA	1.00	0.997634
Mean VIF	1.13	

Similarly, Table 7 reveals the result of the specification tests- the AR (1) first-order series correlation test and Sargan test of overidentifying restrictions. The AR (1) test produced a significant value of 0.2457 which means that the study cannot reject the null hypothesis of no serial correlation. The Sargan test yields a J-statistic which is distributed χ^2 under the null hypothesis that subset of instruments that the study used in the level equation are exogenous.

4.3.1 BOARD SIZE AND DIRECTORS' REMUNERATION

Meanwhile, the relationship between the numbers of persons in the boardroom on the remuneration is positive. This is consistent with the finding under the OLS result. The implication of this is that no matter the kind of estimators adopted, the board size would always have a positive impact on the amount of directors' remuneration. The only difference between the two results is that the OLS result is significant at 1% while that of GMM is at the 10% level of significance. It could, therefore, be concluded that the higher the board size the more would be the remuneration packages accrued to the directors among the listed small and medium enterprises in Malaysia. The finding aligns with some of the prior studies (Fahlenbrach and Stulz, 2010) and confirms the study hypothesis.

TABLE 7
Summary of Dynamic System GMM Result

EXREM	Coef.	Std. Err.	z	P>z
EXREM(-1)	0.0127894	0.004634	2.76	0.0060
BS	302852.8	153284.4	1.98	0.0480
DSHD	-2214909	268237.7	-8.26	0.0000
CDUAL	3834928	932120.6	4.11	0.0000
FMBER	-3139712	1020797	-3.08	0.0020
IND_PCT	-8339568	1944527	-4.29	0.0000
NOMTG	288026.2	234334.1	1.23	0.2190
ROA	-2897.297	20841.09	-0.14	0.8890
Size	724954.7	272858.4	2.66	0.0080
CONS	834824.5	3110098	0.27	0.7880
AR(1) test (p-value)				0.2457
Sargan test of overidentifying restrictions (p-value)				0.9991
Wald chi2(9)(p-value)				0.00000

Note: LNREM is log of remuneration of executive directors; SIZE is the size of the board; DSHD is log of executive ownership; CDUAL is CEO duality; FMEMBER is CEO or chairperson has family relationship with any Director and/or major shareholder of the company; INRC_PCT is the independent non-executive directors on the remuneration committee; NOMTG is the number of times the board meeting in a financial year; SIZE is the size of the firm; ROA is Return on total assets; LNREMit-1 is the difference of LNREMit.

4.3.2 BOARD SHAREHOLDING AND DIRECTORS' REMUNERATION

The study hypothesized a significant negative relationship between the two variables. Though the result of the OLS reveal insignificant positive impact, the GMM result confirms our hypothesis as Table 7 reveals significant negative impact of board ownership on the amount of directors' remuneration. This also justifies the superiority of the GMM over the OLS estimator. The finding is in alignment with agency theory which opined that the agency problem might be mitigated by encouraging director ownership as this may be in the interests of the shareholders to ensure increased alignment through the ownership stock, or a general requirement for directors to hold company shares (Cheng and Lee, 2008). The finding is consonant with prior studies that concluded that agency problem could be minimized if the director ownership is encouraged (Cheng and Firth, 2006).

4.3.3 FAMILY MEMBER AND DIRECTORS' REMUNERATION

The result of the GMM estimator presented in Table 7 reveals that CEO or chairperson having a family relationship with any Director and/or major shareholder of the company has a significant negative impact on the directors' remuneration. The implication of this finding is that the presence of CEO or chairperson with a family relationship with any Director and/or major shareholder of the company would minimize the remuneration of directors. This implies that agency conflicts might be curtailed among the listed small and medium enterprises if the CEO or chairperson has a family relationship with any Director and/or major shareholder of the company contradict the expected hypothesized relationship advanced earlier in the present study and the OLS result presented above where a significant positive impact was revealed. The finding, however, is consistent with that of Chen and Lee (2008).

4.3.4 INDEPENDENT DIRECTORS ON THE REMUNERATION COMMITTEE AND DIRECTORS' REMUNERATION

The present study hypothesised a negative and significant relationship between executive remuneration and a higher proportion of independent directors/non-executive directors on the remuneration committee in small firms. Unlike the OLS regression result, the dynamic system GMM confirms the hypothesis by revealing a significant negative relationship between the two variables. The finding contradicts that of Lee (2009) which reveals that the presence of independent non-executive directors of family firms who are on the remuneration committee increase the remuneration either to satisfy or to achieve executive expectations.

4.3.5 NUMBER OF BOARD MEETINGS AND DIRECTORS' REMUNERATION

The present study expects a positive and significant relationship between executive remuneration and the number of board meetings per financial year of small firms. The results of the GMM regression reveal an insignificant positive relationship between the two variables. The results are almost the same as OLS that reveals a moderate positive significant association between the variables. This explains the power of the dynamic system GMM is refining the series better than the OLS by taking into consideration some endogeneities among

the variables and possible impact of previous values of the present value of series.

4.3.6 CEO DUALITY AND DIRECTOR REMUNERATION

The result of the dynamic system GMM square regression (Table 7) indicates that CEO duality has a significant positive impact on the directors' remuneration. This contradicts the hypothesized negative relationship between the two variables.

Hence, the hypothesized relationship is rejected. The result aligns with agency theory that if there is a fusion of power between CEO and Chairman, the board will affect the independence of the directors as an individual has more power. This is one of the features of the small and medium enterprises which are mostly owned by a few groups of people. Most of the firms in the categories are evolving and might have enough resource to hire more directors. The finding contradicts prior studies that documented a significant negative impact of CEO duality on the directors' remuneration (Daily et al., 1999).

Results of the dynamic system GMM estimator have provided some findings that are more consistent with theoretical assumptions compared to that of OLS. This justifies the argument of Baltagi (2008) that the estimator which incorporates the dynamic nature of internal governance choices provides valid and powerful instruments that address unobserved heterogeneity and simultaneity, hence, provide more reliable results mostly in accordance with theory and by extension with realities in society.

5. CONCLUSION AND RECOMMENDATION

The current study considers the potential impact on director remuneration of CG mechanism measures as Board size, CEO duality, executive ownership; CEO or chairperson has a family relationship with any Director and/or major shareholder of the company; independent non-executive directors on the remuneration committee and a number of times the board meets in a financial year. The results from GMM estimates reveal that the board size has a positive impact on the remunerations package of the directors among the small and medium enterprises in Malaysia. The result confirms the theoretical assumption of managerial extension rent theory and the reality in society.

The conclusion from the study is that board size would always have a positive impact on the amount of director remuneration. The

finding confirms the study hypothesis of a significant positive impact of the number of board of directors on the amount of ringgits they earn annually.

Another objective of the present study is examine the extent to which the fusion of power of CEO and chairman in the hand of an individual would influence director remuneration packages. The results reveal a positive significance, making the finding inconclusive. Going by the belief that CEO duality could make an individual more powerful and reduce the board independent which might result in the aggravating the agency conflict, especially among the listed small and medium enterprises, thus, that CEO duality has significant positive impact on the directors' remuneration among the listed small and medium enterprises in Malaysia. Most of the small and medium enterprises are owned by the family or few members.

This study examined the extent to which the proportion of board member from the same family in the boardroom would impact on the directors' remuneration among listed small and medium scale enterprises. The finding of GMM after controlling for endogeneity in the series, reveals a negative effect. This implies that agency conflicts might be curtailed among the listed SMEs if the CEO or chairperson has a family relationship with any Director and/or major shareholder of the company contradict the expected hypothesized relationship advanced earlier in the present study. While most of the small firms might be unable to hire independent directors, the results of GMM estimate reveal a significant negative impact on the amounts of ringgits paid to directors in the period of study align with the GMM findings which also confirm the assumption of agency theory. This study also looked into the relationship between number of board meetings and director remuneration. The result of GMM regressions reveal a significant positive relationship between the two variables. It can, therefore be concluded that the number of board meeting would affect the directors' remunerations.

From the theoretical contribution aspect, the study provides insights into the relevance of agency theory in the context of corporate governance research. The use of GMM as estimator made the results from the study align closely with this theory which ordinarily would have been rejected.

The negative significant finding on CEO duality in directors' remuneration is expected to have policy implication regarding the nature of allowing an individual to occupy both roles in this category of business organizations. In line with the result of GMM estimator, it is suggested that no individual is allowed to occupy both roles as the

result of the frequency distribution indicates that an ample number of firms are still practising this concept.

Also, our results show the presence of independent director is will minimize agency problem by reducing the amount of remuneration package accrued to the directors. The authorities might need to ensure that companies have this kind of directorship in the committee. Besides, since the board size increases the director remuneration, the regulators might ensure that the number of directors is commensurate with the firm activities. This would protect the non-controlling interest and reduce agency conflict.

This study also finds that directors' shareholding has significant negative impact on directors' remuneration. Hence the regulators might mandate a sizeable proportion of shareholding right should be concealed to directors as this would promote principal-agent relationship, thus reduce corporate failure risk among others.

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ENDNOTES

1. The benchmark applied for normality are -3 to 3 (Wooldridge, 2010).
2. See the point 1 above.
3. The p value of Jarque-Bera statistics should be insignificant for normally distributed observations.

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STRATEGIC DECISION MAKING IN UNCERTAINTY BASED ON GAME THEORY

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ABSTRACT

This article presents a new mathematical model based on game theory about government policies in company planning. We present suggestions to the government on how to provide facilities to companies to implement energy improvement systems. This novel model helps companies and governments to make strategic decisions in times of uncertainty and to enhance management and planning in financing companies. Using game theory, we model the government and the company's performance and introduce some of the parameters affecting their performance. By examining the game between them, the solution of the game theory, which is the equilibrium, is calculated and suggestions to improve their performance are given. The results show that this model helps decision makers and planners to have a more appropriate strategic planning process and choose a more effective strategy under uncertainty conditions.

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1. INTRODUCTION

Today, unpredictable developments have eliminated many industries from the competition. In strategic planning, uncertainty and time play important roles. Various and unexpected changes have scuppered many plans. Organizations encounter new products, new markets, and new technologies, and the strategy chosen often does not meet their needs in this dynamic environment. Frenetic change has created a business environment where conventional organizational management

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methods cannot adapt enough. Experience is useful when changes are minor, but when strategic decisions lead to irreversible results, organizations may fail to make decisions based on intuitive and empirical judgments. Companies, however, can be prepared to deal with rapid change and this preparedness creates a competitive advantage.

Environmental instability and uncertainty have become important aspects of the strategic planning process. Organizations nimble enough to adapt to these changes can succeed. Experts in strategic planning do not see traditional methods succeeding in current conditions. This has led to emergence of tools such as scenario planning, stochastic planning, and game theory to help in planning for more efficient and effective management.

In this article, we use game theory tools to help companies and governments identify each other's behavior, align policies, and increase the favorable consequences. Game theory is a branch of mathematics that analyzes interactions related to strategic financial decision-making. These interactions are called games and the parties involved in this game are players who can be individuals or groups. In classical game theory, players are assumed to act logically. Rational players are those who decide on the basis of what is most profitable for them and choose the strategy (Jameson, 2014). Game theory is a mathematical tool for describing and analyzing situations of conflict, cooperation, and coordination. Game theory helps us understand situations where decision-makers interact. It provides a solution or a set of optimal decision-making strategies in a group; it is used in many fields, including economics, political science, biology, business, wireless networks, computer science, and many other sciences (Nie et al., 2014; Halpern, 2007).

A game means a competitive activity and a strategic situation where players interact with each other according to a series of rules. Game theory tries to model the mathematical behavior of a strategic situation. This situation arises when the success of one side of the game depends on the other side's choice of strategy. The purpose of game theory and business applications is to show how game theory can be used to model and analyze business decisions. All of these programs include competitive decision settings. In company financial matters, game theory helps a lot in choosing the optimal decision. (Lashgari et al., 2022; Lashgari, Bahiraie, and Eshaghi Gordji, 2022; Bahiraie, Azhar, and Ibrahim, 2011). Game theory provides a compelling guide to analyzing business decisions and strategies

(Chatterjee and Samuelson, 2001). In a paper published in 2018 (Nagurney et al., 2018), a game theory model was developed, for transportation service providers to maximize their expected utility by competing for business by senders as well as investing in security. Senders reflect their preferences for shipping service providers through the prices they are willing to pay, depending on the quantities shipped and the security levels invested. In this study, Nash equilibrium is formulated as a guaranteed variable inequality problem. In 2017, an article on a game theory model for development strategy in uncertain market environment was published (Mednikov et al., 2017). In this paper, a game theory model for increasing market share under uncertainty was proposed and game theory was found to improve formation of organizational development strategy.

Making the right decision requires individuals or organizations to know what decisions their competitors are likely to make. Assuming their competitors are rational and self-interested, should organizations know how to respond to their actions? One important factor is that the optimal choices of competitors probably depend on what you will do. Their choice depends on their evaluation of your choice. This kind of thinking may make it seem as if the whole problem is completely unsolvable. But this is exactly where game theory is most useful (Brickley, Smith, and Zimmerman, 2000). In 1991, Garth Saloner who studied game theory and strategic management stated that by using game theory models in planning, we can realize the truth of game theory usefulness in strategic management (Saloner, 1991).

Today, economic organizations face fierce competition; only using traditional methods of decision-making in situations of risk, low confidence, and uncertainty cannot ensure the right decisions. Given that investing in developing countries is associated with many risks, many unknown variables, as well as multiple competitors, identifying a method such as game theory and using it to succeed is very helpful against competitors. Colombo (2015) examined the balance of pricing policy in dual monopolies. The question was, when a competitor uses price discrimination, should we also use the price discrimination method? The result showed that if customers were not forward-looking enough, it would be better to use the same pricing method instead of price discrimination (Bahiraie and Alipour, 2020).

Given the current state of market instability and uncertainty, the main aim is to answer the question of possibility to provide a model for improving performance of companies, organizations, and

institutions using game theory. Another objective is to present an optimal strategic planning process using game theory tools to help managers and planners identify environmental changes. Our study was based on companies such as Midhco, Daliran Pars, Sepahan Cement, and so forth.

2. MODEL

The basic principle of strategic management is that companies and institutions should seek to develop strategies that take advantage of effective external opportunities and minimize external threats or risks. SWOT Analysis is an important tool for identifying environmental conditions and organizational internal capabilities. The basis of this tool is strategic management and knowledge of the environment around the organization.

TABLE 1
The SWOT Matrix

	Strength	Weakness
Opportunity	Strategy $S - O$	Strategy $W - O$
Threat	Strategy $S - T$	Strategy $W - T$

- Strategy $S - O$ represents a strategy that seeks to seize opportunities, and these strategies are consistent with the company's ability.
- Strategy $W - O$ represents a strategy based on overcoming weaknesses to take advantage of opportunities.
- Strategy $S - T$ represents a strategy that seeks to identify and examine ways of reducing risk of threats to the company.
- Strategy $W - T$ represents a strategy that is purely defensive and prevents the company from being harmed by external threats because of its weaknesses.

We examine the game between a government and a company representing all companies. We consider a competitive game between these two players and do not introduce a monopoly in this game. Given that constant changes in the business environment necessitate changes in planning, it has led people to identify the tools for making such changes. An important tool is game theory, which we use to study the game between the government and the company. In this article, we

examine the granting of government facilities to companies implementing the energy efficiency plan. Given the impact of government executive policies on corporate planning, we consider the government as one of the market players. Changes in energy carrier tariffs in the industrial sector and payment of ancillary facilities cause changes in corporate planning, so we consider the game between the government and the company in a competitive environment to provide government facilities to companies implementing the energy efficiency plan.

This game is a dynamic game with complete information and a game with non-fixed sums. By definition, in a dynamic game, it is assumed that the government as a player implements economic or social policies and then companies react to the government strategy by formulating different strategies. On the other hand, because all players in the game are aware of each other's history, we consider the definition of this game with complete information. Also, because what the government loses does not necessarily profit the company, and vice versa, what the company loses does not necessarily profit the Government, we considered this game to be a game with a non-fixed sum.

Players' strategy is a mixed strategy because none of the players have a definite belief in their opponent's behavior and only have possibilities about how their opponent is performing. Companies consider long-term policies in their long-term or annual planning, but they do not say for sure when and how they will be implemented. That is, they do not have confidence in the choice of the other party, and that is why a mixed strategy is used.

When a government implements a particular program, the company responds to it and uses strategies with probabilities. The equilibrium that the company and the government achieve in playing this game is the Nash equilibrium of a mixed strategy. Nash equilibrium is the point at which none of the players can achieve a better outcome by changing their strategy, assuming that the other's play is consistent. In this game, at the equilibrium point, both the company and the government can choose the best point and plan based on it. The strategy resulting from this action plan is the best and most effective strategy for both players. In the event of changes in energy tariffs, the government provides facilities to encourage companies and provides these facilities to those companies that have implemented energy efficiency systems. The Government can control this process purposefully and effectively through a monitoring and evaluation

mechanism or to grant facilities without using such a monitoring and evaluation mechanism. Companies are also free to implement this system or not to implement it and can make a choice.

In this game, the government has the opportunity to provide facilities by examining and identifying the companies that have implemented such systems and have increased their organizational productivity. The government can also grant facilities without identifying whether the company is equipped with an improvement system. The company can also increase energy efficiency by doing this plan or not implement this plan.

We consider two players in the game as follows:

- First player: Company
- Second player: Government

The players' strategy is as follows:

- Company strategy: {Implement energy efficiency system (I), Non-implement energy efficiency system (NI)}.
- Government strategy: {Monitoring and evaluation of the company (M), Non-monitoring and non-evaluation of the company (NM)}.

Company strategies include “Implement energy efficiency system” and “Non-implement energy efficiency system”. Government strategies are “Monitoring and evaluation of the company” and “Non-monitoring and non-evaluation of the company”.

The government seeks to maximize its profits, that is, to minimize energy consumption, so government revenues and expenditures are defined accordingly. The company is also looking to achieve its maximum profit. A company that takes action to implement the energy efficiency system will receive a Government incentive, such as facilities, while if this plan is not implemented, the government will consider a punitive policy such as high taxes for the company. In the company-government interaction, we consider some parameters. Table 2, shows the symbols and parameters of the model.

In Table 2, Cc shows the cost of implementing energy efficiency systems for the company. If the company decides to implement this system, it will incur a cost of Cc and will benefit from the system implementation by Pc ; for example, this profit can be a profit from reduced energy prices, increased product quality, and increased market share. The company will also receive A facilities

from the government if this plan is implemented, which is a kind of government incentive policy.

TABLE 2
Model Parameters

Symbol	Meaning
Cc	cost of implementing energy efficiency systems in the company
Pc	profit from implementing energy efficiency systems in the company
A	facilities received from the government for implementing the energy efficiency improvement system
B	penalty for non-implementation of energy efficiency system for the company
Cg	the cost of monitoring and evaluating companies for the government
$C'g$	costs due to non-implementation of energy efficiency improvement system for government

Cg is the cost to the government for monitoring and evaluating companies, which can include the cost of a working group to identify, develop a method, coordinate with financial institutions, and pay for facilities.

B represents the penalty for not implementing the energy efficiency improvement system for the company, which is a kind of punitive policy by the government. $C'g$ represents the cost to the government of not implementing an energy efficiency improvement system. These costs can be attributed to the lack of reduction in energy consumption in the country because energy production has many costs for the government and, as a result, reducing this cost can be considered as revenue for the government. The payoff matrix between company and government is shown in the following Table 3:

TABLE 3
The Payoff Matrix Between Company and Government

		Government	
		M	NM
Company	I	$-Cc + Pc + A, -Cg - A$	$-Cc + Pc, 0$
	NI	$-B, -Cg - C'g + B$	$0, -C'g$

The parameters of the table represent the profits of the company and the government when they choose their strategies.

3. ANALYSIS OF THE MODEL

In this study, reaching the equilibrium point is the goal of both sides of the game. To reach the solution of this game, we must get the equilibrium point. For example, the government can decide to what extent it should consider the size of its facilities to guide companies in implementing the plan. Also, given the volume of facilities provided and the costs of implementing the plan, companies can decide whether or not to implement such systems. Government facilities to companies can include large loans for companies to implement their activities and plans. As mentioned, this game has a non-fixed sum and the strategy used is mixed strategy. Therefore, we examine this game using the best response method.

In game theory, the best response is the strategy that gives the player the most benefit by constantly considering the strategy of the other players; in other words, in a two-player game, if the strategy of the first player is a and the strategy of the second player is b , and assuming that the function $U(s)$ is the first player's profit, in which case a is the best response to b if and only if for any a' of the first player strategies where $a \neq a'$ have:

$$(1) \quad U(a, b) \geq U(a', b)$$

We examine the game from the perspective of both sides of the game. We first examine the game from a Government perspective. The Government does not know for sure whether the company is implementing or not implementing an energy efficiency improvement system. But the Government can consider the possibility of the company taking action. The Government assumes that the company is running the system with a probability of p and not with a probability of $1 - p$. Therefore, the government, according to its two strategies (“monitoring and evaluation of the company” and “non-monitoring and evaluation of the company”) against the mixed strategy of the company, has consequences. We show the government payoff (expected payoff) obtained with $U(G)$.

When the government chooses a “monitoring and evaluation of the company” strategy (M), the payoff is as follows:

$$(2) \quad U_G(p, M) = p(-Cg - A) + (1 - p)(-Cg - C'g + B) \\ = p(-A + C'g - B) - (Cg + C'g - B)$$

When the government chooses a “non-monitoring and non-evaluation of the company” strategy (M), the payoff is as follows:

$$(3) \quad U_G(p, NM) = p(0) + (1 - p)(-C'g) = (p - 1)(C'g)$$

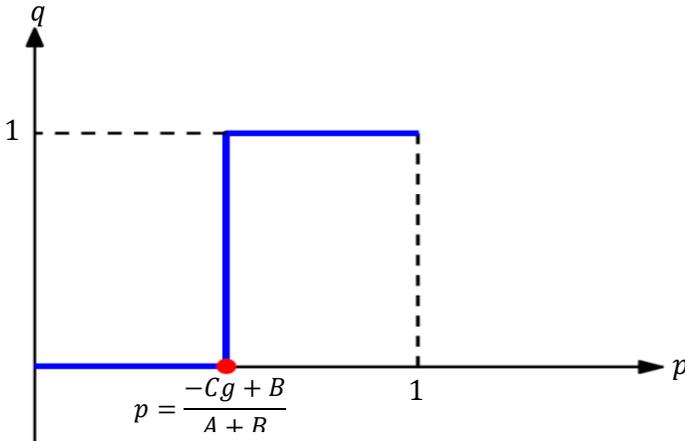
Given the consequences for the Government, we get the best response chart for the Government player that shows the most optimal probability for this game by the Government.

$$(4) \quad \frac{dU_G(p, M)}{d_p} = -A + C'g - B \\ \frac{dU_G(p, NM)}{d_p} = C'g$$

$$(5) \quad p < \frac{-Cg + B}{A + B} \rightarrow q = 0 \\ p > \frac{-Cg + B}{A + B} \rightarrow q = 1 \\ p = \frac{-Cg + B}{A + B} \rightarrow q = [0,1]$$

The chart of the best response for the Government is as follows:

FIGURE 1
Best Response for the Government



Therefore, when $p < \frac{-Cg + B}{A + B}$, the best response of the Government is to choose a strategy of “non-monitoring and evaluation of the company” of companies, i.e. ($q = 0$), and when $p > \frac{-Cg + B}{A + B}$, the best response of the Government is to choose a “monitoring and evaluation of the company” of companies means ($q = 1$). When $p = \frac{-Cg + B}{A + B}$, the Government's consequence of “monitoring and evaluation of the company” or “non-monitoring and evaluation of the company” the company is the same, that is, at this point the government's desirability of monitoring and evaluation of the company or non-monitoring and non-evaluation of the company is the same, in other words, the Government is indifferent at this point.

Now we will examine the game from the company's perspective. The company does not know for sure whether the Government monitors or evaluates the systems. But the company can consider the possibility of the Government taking action. The company assumes that the government is monitoring and evaluating the company with a probability of q and not with a probability of $1 - q$. Therefore, the company, according to its two strategies (“implement energy efficiency system” and “non-implement energy efficiency system”) against the mixed strategy of the government, obtains

consequences. We show the company payoff (expected payoff) obtained with $U(C)$.

When the company chooses the “implement energy efficiency system” strategy (I), the payoff is as follows:

$$(6) \quad U_C(I, q) = q(-Cc - Pc + A) + (1 - q)(-Cc - Pc) \\ = qA + Pc - C$$

When the company chooses the strategy of “non-implement energy efficiency system” (NI), the payoff is as follows:

$$(7) \quad U_C(NI, q) = q(-B) + (1 - q)(0) = -qB$$

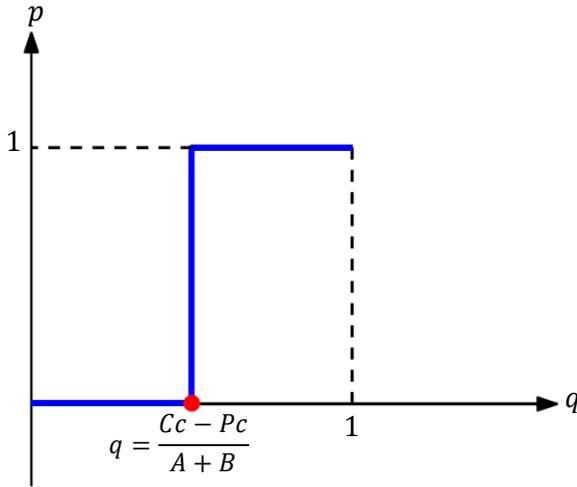
Considering the consequences for the company, we get the chart of the best response of the company that shows the most optimal probability for this game by the company.

$$(8) \quad \frac{dU_C(I, q)}{d_q} = A \\ \frac{dU_C(NI, q)}{d_q} = -B$$

$$(9) \quad q < \frac{Cc - Pc}{A + B} \rightarrow p = 0 \\ q > \frac{Cc - Pc}{A + B} \rightarrow p = 1 \\ q = \frac{Cc - Pc}{A + B} \rightarrow p = [0,1]$$

The chart of the best response for the company is as follows:

FIGURE 2
Best Response for the Company



So when $q < \frac{Cc - Pc}{A + B}$, the best response for the company is to choose a strategy of “non-implement energy efficiency system” i.e., ($p = 0$), and when $q > \frac{Cc - Pc}{A + B}$, the best response is the Government choosing the strategy “implementing energy efficiency systems” i.e., ($p = 1$). When $q = \frac{Cc - Pc}{A + B}$ the consequence of the company from the “implementation of the system” or “non-implement energy efficiency system” is the same, that is, at this point the “implement energy efficiency system” or “non-implement energy efficiency system” has the same benefit for the company and in other words, the company is indifferent at this point.

By definition, we know that equilibrium is a game where none of the players are willing to change their position, and the best result is the income of each player. So the equilibrium point of this game is ($p = \frac{-Cg + B}{A + B}$, $q = \frac{Cc - Pc}{A + B}$) and this point indicates exactly where both the government and the company get the best favor in this game and are indifferent to the choice of their opponent. In other words, neither side of the game changes their position, considering the choice of the opponent, this is their best decision.

4. DECISION MAKING

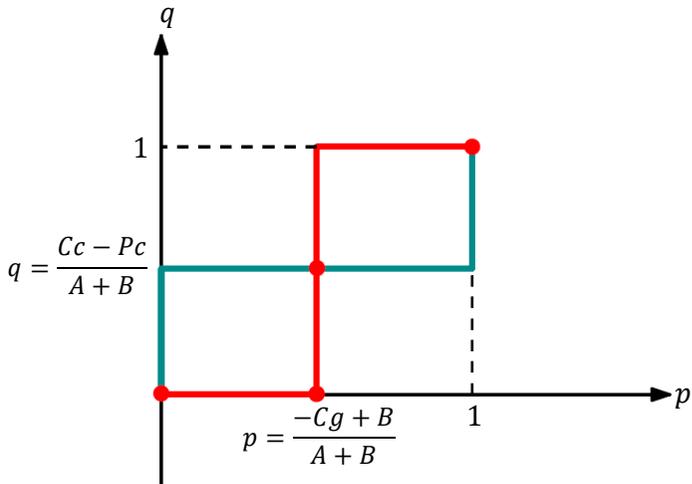
The best response diagram of the game the government and the company intersect at three points, which are as follows:

(10)

$$\begin{aligned} & (p = 0, q = 0) \\ & (p = 1, q = 1) \\ & \left(p = \frac{-Cg + B}{A + B}, q = \frac{Cc - Pc}{A + B} \right) \end{aligned}$$

The chart of the best response for the government and the company is as follows:

FIGURE 3
Best Response for The Government and The Company



The point $(p = 0, q = 0)$ is a pure strategy equilibrium and states that the Government chooses the strategy of not monitoring and evaluating the company and the company chooses the strategy of not implementing the systems.

The point $(p = 1, q = 1)$ is also the equilibrium of the pure strategy, stating that the government chooses the strategy of monitoring and evaluating the company, and the company chooses the strategy of implementing the systems.

Point $(p = \frac{-Cg + B}{A + B}, q = \frac{Cc - Pc}{A + B})$ in a strategy equilibrium is mixed and states that if the government chooses the “monitoring and

evaluation of the company” strategy of the company with probability, then the company also chooses the strategy of “implement energy efficiency system” with probability. This is the point where none of the players are willing to change their position because this is where the government and the company get the most payoff.

The payoff of the government at the equilibrium point is as follows:

(11)

$$\begin{aligned}
 U_G(p, q) &= qU_G(p, M) + (1 - q)U_G(p, NM) \\
 U_G(p, q) &= \left(\frac{Cc - Pc}{A + B}\right)U_G(p, M) \\
 &\quad + \left(1 - \frac{Cc - Pc}{A + B}\right)U_G(p, NM)
 \end{aligned}$$

The payoff of the company at the equilibrium point is as follows:

(12)

$$\begin{aligned}
 U_C(p, q) &= pU_C(I, q) + (1 - p)U_C(NI, q) \\
 U_C(p, q) &= \left(\frac{-Cg + B}{A + B}\right)U_C(I, q) \\
 &\quad + \left(1 - \frac{-Cg + B}{A + B}\right)U_C(NI, q)
 \end{aligned}$$

Equilibrium point is where the best situation occurs and players are reluctant to change it, but in the area before and after the equilibrium point, the strategies no longer work with the same probabilities as before, and another solution must be found. In the chart, in the area before p , the Government is no longer indifferent to the choice of the company and prefers to grant the facility without monitoring and evaluation, i.e., it chooses $q = 0$. Also in the area after p , the government prefers to do monitoring and evaluation and then provide facilities, i.e., $q = 1$.

The company in the area before q is indifferent to the choice of the Government and prefers not implementing the energy efficiency system, ie it chooses $p = 0$. Also, in the area after q the company prefers to implement energy efficiency systems, i.e., it chooses $p = 1$.

5. CONCLUSIONS

In this study, the effective applications of game theory regarding the relationship between the Government and the company are

investigated. By using game theory, the problem between the government and the company regarding allocation of facilities to the companies implementing the energy optimization system has been examined. The results show that by using the obtained equilibrium for the government and the company, they reach their highest profit at the equilibrium point which is the game solution. By using the numerical values of the companies, the partners can use the balances obtained in this article and move toward the optimal strategy and maximize their expected utility. The Government can use the equilibrium point obtained to estimate the costs of implementing energy efficiency improvement systems in companies. It can also determine the value of facilities paid to the companies and the fines for non-implementation such that it can achieve maximum benefit.

Findings of this study help managers and planners to have a proper strategic planning process and choose a more effective strategy by using this model based on the theory of games under uncertainty conditions. The proposed model helps to improve company, organization and institution performance in a practical and effective way, while the balance obtained by using game theory enhances the executive programs in practice.

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DETERMINANTS OF CAPITAL STRUCTURE IN THE FINANCIAL SECTOR: EVIDENCE FROM GCC COUNTRIES

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ABSTRACT

This article aimed at investigating the determinants of capital structure in financial sector companies in six Gulf Cooperation Council (GCC) countries. By using the data of 84 companies from subsectors including banks, insurance, investment banking, and investment holding companies of the financial sector for 20 years from 2001 to 2020, making 1596 firm-year observations, we run panel data regressions for the whole sample, in country and subsector breakdowns. The results revealed that profitability has a negative relationship with leverage, while earnings volatility, tangibility, growth opportunities, and size are positively related to the whole sample. The findings are mixed in country and subsector details. The study has important implications for managers, regulators, policy makers, and academics regarding the determinants of capital structure, as well as the capital structure decisions taken by financial sector managers. To the best of our knowledge, this is the first study analyzing determinants of capital structure in the GCC context and subsector detail of financial companies.

JEL Classification: G32, G21, G23

Keywords: Capital structure, Financing decisions, Financial sector, Banks, GCC countries

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1. INTRODUCTION

One of the most debated topics in corporate finance is firms' capital structure decisions. The combination of debt and equity on the right-hand side of the balance sheet, whether this combination affects firm value, the search for an optimal level, and the determinants of capital structure decisions attracted great attention. Beginning from Modigliani and Miller's proposition 1 (1958) and 2 (1963), several theoretical explanations have been presented, including trade-off theory, pecking order theory, free cash flow theory, and some others. Most of the capital structure studies focused on non-financial companies and excluded the financial sector. Several arguments have been proposed for this exclusion. First, financial companies, especially banks, are more regulated and they must comply with the regulatory authority capital adequacy requirements set by central banks. Second, the financial sector business model is very different from that of the non-financial or real sector. While the latter is focused on providing goods and/or services, the former is focused on provision of funds and related financial services.

Use of high leverage in non-financial companies is regarded as an increased risk and is an undesired situation, especially from the equity holder perspective. Risk, however, is the core concept for financial sector companies; their business is based on risk-taking. By the nature of business, they operate by a small portion of equity, and they obtain a greater portion of the capital from deposits. Despite those factors, some variations exist in financial company capital structure. This article aimed at investigating the determinants of financial companies' capital structure. Khan et al. (2021) researched the determinants of bank capital structure in a GCC country, Saudi Arabia, and they suggested that future research be conducted covering all GCC countries. Following this suggestion and even adding more, we aimed at exploring the determinants of financial companies' capital structure in six GCC countries.

The article makes significant contributions by making the analyses for a multi-country sample and also by using the data of several subsectors of financial companies; it does not only focus on banks, but also other financial companies including banks, insurance, investment banking, and investment holding companies.

The topic of the article is important in several aspects and its results might have significant practical implications. The financial sector, especially banks, performs very important functions for the economic system and stability of any country; their financial

soundness is critically important for the national economy, and even for the international financial system. Capital structure is one of the most important factors affecting the financial status of those companies. A good understanding of the determinant factors of capital structure may help design and develop appropriate financial management policies, such as deciding on the optimal debt-equity mix in the capital structure.

Gulf Cooperation Council (GCC) countries present a unique institutional framework that affords a compelling opportunity to examine the determinants of capital structure. The economic and social characteristics of these nations are highly analogous. First, the GCC nations rely heavily on hydrocarbon revenues, which comprise more than 70 percent of their respective governments' revenues and total goods exports (World Bank, 2021). Second, corporate taxes in the GCC are markedly lower compared to other countries, and this variance may significantly influence company capital structure (Zeitun et al., 2017). Third, GCC markets do not impose taxes on dividends and capital gains (Al-Ghazali, 2014). This may incentivize financial enterprises to obtain funds from capital markets at lower cost in comparison to other markets.

The rest of the article is organized as follows; the next section provides a review of related literature. The third section provides the details of the sample, data, and methodology. The fourth section presents the results of the analyses and the discussion. The last section concludes.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Seminal work of Modigliani and Miller (1958) sets one of the milestones in the theory of capital structure. In their proposition one which has been known as irrelevance theory, they claimed that the capital structure decision does not affect firm value under unrealistic assumptions. Later, in proposition two (1963), they relaxed the assumptions and included taxes in the models and concluded that as firms use debt, they benefit from tax shields, and they should use more debt financing. They ignored the potential risks of debt. The theory which considers the benefits and the risks of debt financing is known as the trade-off theory introduced by Kraus and Litzenberger (1973) and developed further by Myers (1984). Trade-off theory proposes that the firm may use debt till the point at which the tax shield benefits outweigh the bankruptcy costs. The other important theory on capital

structure is the pecking order theory introduced by Myers and Majluf (1984), which claims that there must be a hierarchy of financing sources and that the firms must first use internal resources (retained earnings), then issue debt, and lastly issue new equity. Pecking order theory implies that managers have no specific leverage targets, and they make the decisions based on cost, by not considering future outcomes (Barclay and Smith, 2005). According to the free cash flow theory, higher debt levels may increase the value of a firm despite the risk of financial distress in case operating cash flows significantly exceed profitable investment opportunities (Jensen, 1986). The free cash flow theory models the agency cost between managers and investors, and this is not very different for financial sector companies.

Even though the main principles of the theories mentioned are also applicable to financial institutions, some other theories explain the capital decisions of banks and other financial sector companies. The charter value theory claims that higher profitability and higher cost efficiency motivate the management to keep higher amounts of capital from earnings to protect against liquidation risk (Saunders and Wilson, 2001). The moral hazard theory proposes that banks with lower capital levels tend to construct risky asset portfolios at the expense of deposit holders and by trusting in government bailouts (Jacques and Nigro, 1997; Aggarwal and Jacques, 2001). The capital buffer theory claims that having capital above the minimum legal requirement is important for banks and they tend to maintain or reach a capital buffer because, in case of an increase in regulatory capital level, it might be costly to increase capital in a short period (Stein, 1998).

Yousef (2019) investigated the determinants of capital structure in the real estate sector of the Gulf Cooperation Council (GCC) and the United Kingdom (UK). The findings of his study revealed that firm size had a positive and significant relationship with leverage, while profitability and return on earnings had an adverse effect on leverage. Abdullah and Naser (2015) examined the impact of bank-specific factors on capital structure in the GCC from 2001 to 2010. Their study found that profitability, assets tangibility, and size were negatively correlated with banks' debt.

A more recent study by AL-Hunnayan (2020) on the determinants of capital structure in GCC Islamic banks revealed that firm performance, asset tangibility, and financial market development had a negative impact on leverage. Furthermore, the study revealed that firm size and growth opportunities were positively related to leverage, consistent with the pecking order theory. Khan et al. (2021)

examined the factors affecting capital structure in 12 Islamic banks in Saudi Arabia between 2010 and 2017. Their study found that firm size, earnings volatility, and growth opportunities had a positive impact on leverage. They also detected that bank performance and tangibility were adversely correlated with leverage.

Khaki and Akin (2020) focused on non-financial firms in the GCC and studied the factors affecting their capital structure. Their results revealed that firm size, tangibility, and growth opportunities, such as profitability, liquidity, and government ownership, were positively (negatively) correlated with leverage. Rao et al. (2007) investigated the relationship between leverage and firm performance in non-financial firms in Oman from 1998 to 2002. Their study found that firm performance was negatively and significantly correlated with leverage.

In the US, Jucá et al. (2012) investigated the relationship between capital structure and profitability in the banking industry. Their results demonstrated that profitability and growth opportunities were negatively and significantly related to leverage. Consistent with the trade-off theory, Ripamonti (2020) discovered that there exists a target capital structure in financial corporations across 64 US financial institutions. Dávila and Walther (2020) proposed a theoretical model that demonstrated how bank size is the key determinant of equity-debt choice. Several firm-level or macroeconomic determinants of capital structure decisions exist. Firm-level determinants may include size, asset tangibility, profitability, growth opportunities, and earnings volatility. Macroeconomic determinants may include economic growth, measured by gross domestic product (GDP) growth, and inflation rate.

2.1 PROFITABILITY

The pecking order theory predicts a negative relationship between profitability and leverage, which can be interpreted as firms having higher profitability will have more retained earnings, and according to the hierarchy proposed by the theory, the firms tend to use those funds first and use less debt. Prior literature supported this view for both non-financial firms (Bartoloni, 2013; Booth et al., 2001) and financial firms (Jucá et al., 2012; Gropp and Heider, 2010). On the other hand, the tradeoff theory proposes a positive relationship, based on the assumption that more profitable firms tend to use a higher level of debt financing because they have more funds to pay back financing costs and at the same time, they tend to benefit from debt financing tax

shields (Sheikh and Quereshi, 2017). In line with tradeoff theory, we expect a positive relationship and write the first hypothesis as follows:

H1: There is a positive relationship between profitability and leverage.

2.2 EARNINGS VOLATILITY

From the tradeoff theory viewpoint, a negative relationship is expected between a firm's earnings volatility and its leverage, because high volatility in earnings affects firm credibility and, in turn, decreases its borrowing capacity. Another important point is related tax shield utilization; in case of unstable earnings, the firm may incur losses in some periods and may be unable to get the debt financing tax advantage (Fama and French, 2002; De Jong et al., 2008). On the other hand, the pecking order theory predicts a positive relationship, based on the reasoning that the firm with high volatility in earnings faces constraints in financing from retained earnings and therefore goes for external financing through debt markets (Frank and Goyal, 2009). We adopt the view of tradeoff theory and expect a negative relationship, hence the second hypothesis can be written as follows:

H2: There is a negative relationship between earnings volatility and leverage.

2.3 ASSET TANGIBILITY

Proponents of the pecking order theory claim that tangible assets are more visible assets, and there is less information asymmetry and uncertainty about them compared to financial assets or intangible assets. This, in turn, makes the equity issues less costly. Therefore, firms with more tangible assets are inclined to use less debt, implying a negative relationship (Shibru et al. 2015; Ahmad and Abbas, 2011; Sheikh and Wang, 2011; Amidu, 2007; Bradley et al., 1984). Proponents of the tradeoff theory claim that there is a positive relationship between asset tangibility and leverage (Saif-Alyousfi et al., 2020; Tchuigoua, 2014; Gropp and Heider, 2010; Wald, 1999; Rajan and Zingales, 1995). This can be interpreted in several aspects. First, as firms purchase more tangible assets, they need more funds that may not be readily available, and firms tend to use debt. Second, firms with more tangible assets have more convincing collateral for

borrowing funds. We also expect a positive relationship and develop the third hypothesis as follows:

H3: There is a positive relationship between asset tangibility and leverage.

2.4 GROWTH OPPORTUNITIES

Based on the tradeoff and agency theories, the prior literature reported a negative relationship between growth opportunities and leverage, because firms with high leverage are less likely to implement profitable investment opportunities due to the potential financial distress and agency problems (Frank and Goyal, 2009; Padron et al., 2005; Barclay and Smith, 1999; Myers, 1977). Pecking order theory, however, predicts a positive relationship; firms having more growth opportunities need more cash and after internal funds are used, firms are inclined to use debt financing instead of issuing equity (Al-Najjar and Hussainey, 2011; Al-Hunnayan, 2020). In case of growth opportunities, we adopt the view of the pecking order theory and write the fourth hypothesis as follows:

H4: There is a positive relationship between growth opportunities and leverage.

2.5 SIZE

The literature reported different results on the direction of the relationship between size and leverage, based on the theory adopted. Proponents of the pecking order theory claim that a negative relationship exists because larger firms are expected to have higher amounts of retained earnings and have less need for external financing. In addition, there is lower information asymmetry in case of larger banks, encouraging equity financing (Yildirim et al., 2018; Al-Mutairi and Naser, 2015; Jucá et al., 2012).

Proponents of the tradeoff theory say that larger firms are expected to have higher credibility with lending institutions and have higher amounts of debt. Also, they may have higher amounts of tax shields based on the higher level of leverage. In case of financial institutions, the credibility or reputation of a bank, for instance, can be considered a similar case. Larger banks are expected to attract higher customer deposits. Therefore, a positive relationship is expected between size and leverage (Al-Hunnayan, 2020; Sheikh and Quereshi, 2017; Lemma and Negash, 2014; Lim, 2012; Antoniou et al., 2008).

In line with tradeoff theory, we expect a positive relationship and develop the fifth hypothesis as follows:

H5: There is a positive relationship between firm size and leverage.

2.6 GDP GROWTH

In addition to firm-specific determinants, some macroeconomic variables may also affect firms' capital structure decisions (Levy and Hennessy, 2007). The most used indicator to reflect macroeconomic conditions is the GDP growth rate. Trade-off and pecking order theories propose opposing views. Trade-off theory predicts a positive relationship implying that in times of economic expansion, firms are inclined to use more external financing while pecking order theory claims that there should be sufficient funds from internal sources and use of external financing is expected to decline (Saif-Alyousfi et al., 2020; Ahmad and Albaity, 2019). We expect the results to be consistent with the tradeoff theory and the sixth hypothesis can be written as follows:

H6: There is a positive relationship between GDP growth rate and leverage.

2.7 INFLATION

Even though some empirical studies (Hoque and Pour, 2018; Fan et al., 2012) found no significant relationship between inflation and leverage, by following Guizani and Ajmi (2021) we argue that the impact of inflation on debt-equity choice is based on the inflation-interest rates relationship. Lower interest rates encourage firms to use higher levels of debt and vice versa. In cases of high inflation, central banks raise their policy interest rates, which affect market interest rates. Therefore, high inflation is intervened by higher interest rates and in turn, higher interest rates result in lower leverage, implying a negative relationship. We adopt this viewpoint and develop the seventh hypothesis as follows:

H7: There is a negative relationship between inflation rate and leverage.

3. METHODOLOGY AND MODELS

3.1 SAMPLE AND DATA

The sample includes 84 firms from different subsectors of the financial industry. The details are presented in Table 1. The data were obtained from the Refinitiv database and cover the 20-year period from 2001 to 2020. In the final dataset, there are 1596 observations, as one year is lost to calculate earnings volatility. The dataset is a balanced panel covering 19-year data of 84 firms.

TABLE 1
Sample Details

Country	TRBC Industry Group Name	No. of firms
Bahrain	Banking Services	5
	Insurance	4
	Investment Banking & Investment Services	2
Kuwait	Banking Services	13
	Insurance	3
	Investment Banking & Investment Services	11
	Investment Holding Companies	1
Oman	Banking Services	9
	Insurance	4
	Investment Banking & Investment Services	3
	Investment Holding Companies	2
Qatar	Banking Services	4
	Insurance	1
Saudi Arabia	Banking Services	7
	Insurance	1
United Arab Emirates (UAE)	Banking Services	11
	Insurance	3
Total		84

3.2 VARIABLES AND MEASUREMENT

Table 2 shows the variables, their calculation formulas, the previous studies referred to and the expected signs of direction in the relationships. We used the ratio of total liabilities to total assets as the proxy for leverage. We used both short- and long-term liabilities, because financial institutions, especially banks, operate by a relatively small proportion of equity, and rely on external sources, this being the nature of the industry.

TABLE 2
Variables

	Variable		Calculation Formula	Selected References	Expected Sign
Dependent	Leverage	LEV	Total Liabilities/Total Assets	Khan et al., 2021; Al-Matari, 2021	n/a
Independent	Profitability	ROA	Net Profit/Total Assets	Sheikh and Quereshi,2017	+
	Earnings Volatility	VOL	$(\text{Net Profit}_{t1} - \text{Net Profit}_{t-1}) / \text{Net Profit}_{t1}$	De Jong et al.,2008	-
	Asset Tangibility	TANG	Tangible non-current Assets/Total Assets	Tchuigoua, 2014; Saif-Alyousfi et al., 2020	+
	Growth Opportunities	GROW	Market price per share/Book value per share	Al-Najjar and Hussainey, 2011	+
	Size	SIZE	Natural Logarithm of Total Assets	Lemma and Negash, 2014; Sheikh and Quereshi,2017; Al-Hunnayan, 2020	+
Control	GDP Growth	GDPGR	YoY Change in GDP	Ahmad and Albaity, 2019; Saif-Alyousfi et al., 2020	+
	Inflation	INFL	Annual rate of inflation	Hoque and Pour, 2018; Guizani and Ajmi, 2021	-
Dummy		COUN IND	Dummies for Country and Industry		n/a

3.3 MODEL AND ESTIMATION TECHNIQUE

The following equation is the model equation used to test the determinants of leverage for the sample firms. Since the data comprised balanced panel data, panel estimation methods were used, namely fixed effects and random-effects models. The fixed-effects model allows the intercept to differ for each firm in the sample; however, it requires the slope parameters to stay constant for cross-sections and periods. On the other hand, the random-effects model is based on a random variation assumption across firms and is not correlated with the dependent variable.

$$LEV_{i,t} = \beta_0 + \beta_1 ROA_{i,t} + \beta_2 VOL_{i,t} + \beta_3 TANG_{i,t} + \beta_4 GROW_{i,t} \\ + \beta_5 SIZE_{i,t} + \beta_6 GDPGR_{i,t} + \beta_7 INFL_{i,t} + \beta_8 COUN_i \\ + \beta_9 IND_i + \varepsilon_{i,t}$$

The model is run for the whole sample, and also according to two categorizations, the first is per subsector and the second is per country.

4. THE RESULTS OF ANALYSES AND DISCUSSION

4.1 DESCRIPTIVE STATISTICS

Table 3 reports descriptive statistics of the variables. Mean is reported for the whole sample as overall value, standard deviation, minimum, and maximum are reported in three categories overall, between, and within for the panel data. Overall values show the variation across firms and over time. Within values show the change for a specific firm over time, while between values show the change among all the firms.

TABLE 3
Descriptive Statistics of All Variables

Variable		Mean	Std. Dev.	Min	Max
LEV	overall	0.683	0.235	0.020	1.550
	between		0.212	0.206	0.899
	within		0.103	0.236	1.608
ROA	overall	0.023	0.072	-0.680	0.370
	between		0.022	-0.062	0.063
	within		0.068	-0.626	0.451

TABLE 3 (continued)

Variable		Mean	Std. Dev.	Min	Max
VOL	overall	0.000	0.243	-8.580	2.710
	between		0.055	-0.445	0.152
	within		0.237	-8.135	2.559
TANG	overall	0.038	0.118	-0.020	0.960
	between		0.107	0.000	0.917
	within		0.052	-0.231	0.709
GROW	overall	1.461	1.623	-3.260	31.230
	between		0.718	0.468	4.336
	within		1.458	-3.085	28.979
SIZE	overall	21.326	2.234	16.140	26.360
	between		2.154	16.929	24.863
	within		0.638	18.876	22.823
GDPGR	overall	3.533	5.150	-8.690	26.170
	between		1.365	2.708	8.666
	within		4.968	-8.693	21.037
INFR	overall	4.218	11.805	-25.960	33.750
	between		0.671	3.521	5.381
	within		11.786	-26.293	32.587

The overall mean value of the leverage variable is 68.3%, which is a reasonable level for the financial sector. The leverage level could be even higher for only banks; however since the sample also includes other subsectors, it takes this value. The minimum leverage is 2%, which belongs to an investment holding company. The maximum leverage is 155%. It exceeds 100% due to accumulated losses. Return on assets has a mean value of 2.3% with a minimum of negative 68% and a maximum of 37%. The lowest return on assets values belongs to the firms with higher accumulative losses and higher leverage values. The volatility of profits has a mean of zero with 0.243 standard deviation implying a variation among firms. The proportion of tangible fixed assets to total assets is 3.8%. The variable indicating growth opportunities has a mean value of 1.461, implying that the financial sector firms are valued positively by the market.

Table 4 reports the correlations among variables. Size, growth opportunities, profit volatility, and GDP growth rate have positive correlations with leverage, while asset tangibility, profitability, and inflation have negative correlations.

TABLE 4
Correlation Matrix

	LEV	SIZE	TANG	ROA	GROW	VOL	GDPGR	INFR
LEV	1							
SIZE	0.745***	1						
TANG	-0.044*	-0.118***	1					
ROA	-0.190***	-0.075**	-0.017	1				
GROW	0.198***	0.195***	-0.074**	0.111***	1			
VOL	0.002	0.014	0.003	0.271***	0.014	1		
GDPGR	0.008	-0.009	-0.012	0.206***	0.212***	0.025	1	
INFR	-0.020	-0.086***	0.007	0.107***	0.205***	0.001	0.347***	1

***, **, *: Significance at 1%, 5%, and 10%, respectively.

4.2 PANEL REGRESSION RESULTS

This section reports the results of panel data regressions at different breakdowns, for the whole sample, per subsector, and per country.

Table 5 reports the regression results for the whole sample according to the fixed effects model, the random-effects model, and pooled OLS model. The results reveal that fixed effects, random effects and pooled OLS have overall model significance and have high R^2 values; no difference exists in the directions of the relationships for all variables. The Hausman test suggests fixed effects regression.

The results show that profitability has a negative effect on leverage, indicating that the large profitability in banks raises the availability of internal resources to finance projects hence reducing the need for debt financing. This is consistent with the findings of Amidu (2007), Shibru et al. (2015), Sheikh and Qureshi (2017), Al-Harby (2019), Toumi (2020), and Khan et al. (2021). The results are opposed to the tradeoff theory, however, which suggests that as banks become more profitable, they can attract more funds from depositors, resulting in higher levels of leverage.

In all models, the estimated coefficient of earning volatility (VOL) exhibited a statistically significant and positive relationship at the 5% significance level. This noteworthy finding suggests that higher earnings volatility tends to prompt banks to rely less on internal financing and instead gravitate toward external debt. This outcome challenges our hypothesis, which is grounded in the trade-off theory. It is plausible that the expectation of the trade-off theory may hold for non-financial firms, but when it comes to financial sector companies, especially banks, this theory may be inapplicable given their unique business model. Specifically, banks collect deposits from customers, leading to an increase in their leverage levels, which is supported by prior studies (e.g., Khan et al., 2021; Sheikh and Qureshi, 2017; Teixeira et al., 2014; Gropp and Heider, 2010).

Our findings indicate a significantly positive correlation between asset tangibility and leverage, which confirms our hypothesis and aligns with the tradeoff theory. While prior research has yielded contradictory outcomes, suggesting that tangible assets may not function as collateral for non-financial firms in the same way they do for banks, our results support the notion that asset tangibility plays a pivotal role in shaping capital structure decisions. Notably, our findings imply that an increased presence of tangible assets within banks can bolster their collateral reserves in the event of bankruptcy,

thus reducing the financial distress costs, which is consistent with Gropp and Heider (2010) and Ghosh (2018).

Results of our analysis have unveiled a significantly positive association between growth opportunities and leverage, validating both our hypothesis and the pecking order theory, while contradicting the tradeoff theory. Our findings suggest that financing future investments to leverage growth opportunities necessitates additional capital, which resonates with prior research by Bukair (2019).

The numbers in parentheses are standard errors, p values are shown by the asterisks.

Our findings indicate a significantly positive relationship between size and leverage, aligning with both our hypothesis and the tradeoff theory while challenging the pecking order theory. This outcome suggests that large banks in the Gulf Cooperation Council (GCC) are better positioned to secure financing with ease, owing to their relatively low default and financial distress costs, a notion supported by earlier studies (e.g., Khan et al., 2021; Al-Hunnayan, 2020; Sheikh and Quereshi, 2017; Lemma and Negash, 2014).

Regarding macroeconomic variables, we found insignificantly positive results for both of them. It can be interpreted that those variables do not affect the capital structure decisions of the sample firms.

TABLE 5
Panel and Pooled Regression Results for the Whole Sample

	Fixed Effects		Random Effects		Pooled OLS	
ROA	-0.5331	(0.0935)***	-0.5439	(0.0918)***	-0.5232	(0.0568)***
VOL	0.0184	(0.0094)**	0.0197	(0.0096)**	0.0326	(0.0163)**
TANG	0.3863	(0.1769)***	0.2991	(0.1372)**	0.0874	(0.0324)**
GROW	0.0093	(0.0025)***	0.0095	(0.0024)***	0.0093	(0.0025)***
SIZE	0.0562	(0.0103)***	0.0581	(0.0091)***	0.0766	(0.0018)***
GDPGR	0.0012	-0.0009	0.0013	(0.0009)*	0.0009	(0.0008)
INFR	0.0003	-0.0002	0.0003	(0.0002)*	0.0008	(0.0004)**
Constant	-0.5374	(0.2237)***	-0.5439	-0.0918	-0.9615	(0.0378)***
R^2	53%		74%		58%	
Model Significance	18.29 (0.000)***		791.96 (0.000)***		317.21 (0.000)***	
Hausman	19.36 (0.0071)					
Observations	1596		1596		1596	
Groups	84		84			

***, **, *: Significance at 1%, 5%, and 10%, respectively.

4.3 THE RESULTS PER SUBSECTOR

Table 6 provides an overview of the panel regression results pertaining to financial subsectors, where fixed effects and random effects regressions were conducted for all subsectors, and clustered robust standard errors are reported in parentheses. While results for both types of regressions are presented, the Hausman test was utilized to determine the suitability of fixed and random effects. The outcomes indicate that, except for the Investment Holding Companies group, the findings from both fixed and random effects models are comparable. In this section, the outcomes are interpreted based on the results of the Hausman test.

Considering the Bank services subsector, the estimated outputs reveal that GCC bank profitability is negatively associated with leverage. That is, the coefficient of ROA is negative and statistically significant at the 1% level, indicating that more profitable banks tend to have lower leverage, consistent with the earlier study of Gropp and Heider (2010) and the pecking order theory. Earnings volatility and tangible assets bear positive and insignificant coefficients, which are not aligned with both the trade-off theory and the pecking order theory. This suggests that GCC banks' leverage is not influenced by these variables. The coefficient of growth opportunities is positive and significant, implying that banks increase leverage to finance future growth. The results also demonstrate a positive association between leverage and size, indicating that larger banks attract more external funding, which is in line with the trade-off theory. Unlike our findings for the whole sample as stated in Table 5, we find evidence that GDP growth bears a positive and statistically significant coefficient, confirming our hypothesis 6. This implies that during economic expansion, banks' leverage increases, which may be attributed to an increase in customer deposits.

The estimated results of the insurance subsector reveal that profitability is negatively and statistically correlated with leverage, indicating that insurance firms reduce leverage when they make more profit to minimize the borrowing cost, which supports the pecking order theory. Asset tangibility in the insurance industry has a positive impact on leverage, implying that these firms rely on external financing for fixed asset expansion. The results also show that growth opportunities and size are negatively (positively) associated with leverage, in line with the trade-off theory. The former indicates that insurance firms rely less on debt for financing growth opportunities, while the latter implies that larger insurance firms increase their

leverage to take advantage of tax shields. Earnings volatility, GDP growth, and inflation, however, have no impact on insurance firms' leverage.

Findings on the determinants of leverage in the investment banking and investment services subsector are similar to those obtained for the insurance subsector, except for growth opportunities. The results show that in this subsector, the coefficient of growth opportunities is positive and statistically significant at 10%, indicating that these companies increase their leverage to finance future opportunities, consistent with the pecking order theory.

Considering investment holding companies in the GCC, Table 6 shows that asset tangibility and size bear a positive coefficient significant at the 10% level. This finding suggests that investment companies with more tangible assets increase their leverage for tax shield advantages (in line with the trade-off theory), or they use their tangible assets to obtain external financing (consistent with the pecking order theory). The estimated coefficient of size is negative and statistically significant at the 5% level, indicating that larger investment holding companies have sufficient accumulated earnings, leading them to rely less on external debt, consistent with the pecking order theory.

4.4 THE RESULTS PER COUNTRY

The findings in Table 7 present the panel regression results at the country level, in which the suitability of fixed effects and random effects models is assessed using the Hausman test. The results reveal that, except for Saudi Arabia, the random-effects model is deemed to be appropriate for all countries.

Empirical outcomes of the study reveal that profitability serves as the primary driver of leverage among financial firms across all Gulf Cooperation Council (GCC) countries. Specifically, the results show a robust and significant negative correlation between leverage and profitability, which is consistent with the pecking order theory. This finding indicates that financial firms with higher profitability in the GCC opt to use internal funding rather than relying on external financing.

TABLE 6
Panel Regression Results Per Subsector

	Banking Services				Insurance			
	FE		RE		FE		RE	
ROA	-0.8970	(0.0514)***	-0.8981	(0.0516)***	-0.4434	(0.1117)***	-0.4794	(0.1137)***
VOL	0.0117	(0.0166)	0.0115	(0.0167)	0.0405	(0.0417)	0.0425	(0.0426)
TANG	0.0248	(0.0364)	-0.0061	(0.0305)	0.7062	(0.1295)***	0.6126	(0.1308)***
GROW	0.0051	(0.0012)***	0.0058	(0.0012)***	-0.0169	(0.0074)**	-0.0153	(0.0075)**
SIZE	0.0225	(0.0029)***	0.0274	(0.0026)***	0.1069	(0.0103)***	0.1037	(0.0099)***
GDPGR	0.0017	(0.0004)***	0.0019	(0.0004)***	-0.0003	(0.0011)	-0.0003	(0.0011)
INFR	0.0002	(0.0002)	0.0003	(0.0002)	0.0003	(0.0004)	0.0002	(0.0005)
Constant	0.3180	(0.0669)***	-0.8981	(0.0516)***	-1.4844	(0.2041)***	-0.4794	(0.1137)***
R ²	45%		52%		23%		56%	
Model	57.12 (0.000)		471.31 (0.000)		36.57 (0.000)		280.09 (0.000)	
Significance								
Hausman test	2.33 (0.9395)				1.65 (0.9766)			
Observations	931		931		304		304	
Groups	49		49		16		16	

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TABLE 6 (continued)

	Investment Banking & Investment Services				Investment Holding Companies			
	FE		RE		FE		RE	
ROA	-0.4582	(0.0720)***	-0.4652	(0.0713)***	0.0817	(0.1283)	-0.1730	(0.3288)
VOL	0.0066	(0.0171)	0.0088	(0.0170)	-0.0759	(0.1456)	-0.4067	(0.3696)
TANG	0.5744	(0.1525)***	0.5763	(0.1478)***	1.0282	(0.1204)***	0.5411	(0.2089)***
GROW	0.0262	(0.0138)*	0.0261	(0.0137)*	0.0068	(0.0038)*	0.0042	(0.0090)
SIZE	0.1380	(0.0142)***	0.1337	(0.0130)***	-0.0355	(0.0361)	-0.0738	(0.0343)**
GDPGR	-0.0009	(0.0017)	-0.0009	(0.0017)	0.0001	(0.0030)	0.0009	(0.0075)
INFR	-0.0003	(0.0007)	-0.0003	(0.0007)	-0.0004	(0.0009)	-0.0003	(0.0023)
Constant	-2.2995	(0.2735)***	-2.1087	(0.2398)***	0.9663	(0.6867)	1.7637	(0.6670)***
R ²	42%		45%		21%		53%	
Model	27.19 (0.000)		482.11 (0.000)		15.66 (0.000)		377.12 (0.000)	
Significance								
Hausman test	2.53 (0.9520)				8.14 (0.3205)			
Observations	304		304		57		57	
Groups	16		16		3		3	

***, **, *: Significance at 1%, 5%, and 10%, respectively. Numbers in parentheses are standard errors, and p values are denoted by asterisks.

TABLE 7
Panel Regression Results Per Country

	Bahrain		Kuwait		Oman	
	FE	RE	FE	RE	FE	RE
ROA	-0.37 (0.07)***	-0.38 (0.07)***	-0.61 (0.06)***	-0.62 (0.06)***	-0.30 (0.08)***	-0.30 (0.08)***
VOL	0.06 (0.11)	0.06 (0.11)	0.02 (0.01)*	0.02 (0.01)*	-0.01 (0.04)	-0.01 (0.04)
TANG	-0.04 (0.29)	-0.03 (0.28)	0.66 (0.17)***	0.32 (0.10)***	0.63 (0.07)***	0.59 (0.07)***
GROW	0.01 (0.01)	0.01 (0.01)	0.01 (0.00)***	0.01 (0.00)***	0.03 (0.01)***	0.04 (0.01)***
SIZE	0.07 (0.01)***	0.07 (0.01)***	0.01 (0.01)***	0.11 (0.01)***	0.06 (0.01)***	0.07 (0.01)***
GDPGR	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)***	0.00 (0.00)***	-0.00 (0.00)	-0.00 (0.00)*
INFR	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Constant	-0.83 (0.17)***	-0.85 (0.17)***	-1.488 (0.21)***	-1.63 (0.16)***	-0.57 (0.18)***	-0.75 (0.16)***
R2	64%		56%		44%	
Model Sign.	18.51 (0.000)		38.85 (0.000)		22.67 (0.000)	
Hausman test	0.29 (0.9999)		2.57 (0.9219)		8.34 (0.3037)	
Observations	209		532		342	
Groups	11		28		18	

TABLE 7 (continued)

	Qatar		Saudi Arabia		United Arab Emirates	
	FE	RE	FE	RE	FE	RE
ROA	-3.08 (0.76)***	-4.54 (0.76)***	-1.26 (0.09)***	-1.26 (0.10)***	-0.67 (0.17)***	-0.76 (0.18)***
VOL	2.88 (2.17)	6.46 (2.18)***	0.36 (0.16)**	0.35 (0.16)**	-0.19 (0.37)	-0.09 (0.40)
TANG	0.84 (0.74)	0.02 (0.78)	-1.15 (0.42)***	-1.60 (0.40)***	0.17 (0.05)***	0.13 (0.05)***
GROW	0.03 (0.01)	0.01 (0.01)*	0.01 (0.00)***	0.01 (0.00)***	0.01 (0.00)**	0.01 (0.00)***
SIZE	0.03 (0.01)***	0.06 (0.01)***	-0.01 (0.00)*	0.00 (0.00)	0.04 (0.01)***	0.06 (0.01)***
GDPGR	0.03 (0.00)**	0.06 (0.00)***	0.00 (0.00)**	0.00 (0.00)**	-0.00 (0.00)	0.00 (0.00)
INFR	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)**	-0.00 (0.00)**	-0.00 (0.00)	0.00 (0.00)
Constant	0.15 (0.25)	-0.39 (0.18)**	1.05 (0.10)***	0.80 (0.08)***	-0.10 (0.16)	-0.60 (0.12)***
R2	78%	81%	49%	67%	70%	73%
Model Sign.	4.90 (0.0001)	378.79 (0.000)	33.84 (0.0000)	241.82 (0.000)	14.70 (0.0000)	247.83 (0.000)
Hausman test	4.27 (0.7479)		15.98 (0.0253)		9.89 (0.1948)	
Observations	95	95	152	152	266	266
Groups	5	5	8	8	14	14

***, **, *: Significance at 1%, 5%, and 10%, respectively. The numbers in parentheses are standard errors, p values are shown by the asterisks.

The earnings volatility is found to have a positive and significant impact on leverage for Kuwait, Qatar and Saudi Arabia, consistent with pecking order theory. This finding indicates that financial firms in these countries are less reliant on internal financing due to the high volatility in earnings, and instead, seek external financing, as highlighted in the study by Frank and Goyal (2009). No evidence of this association, however, has been found for Bahrain, Oman, and the United Arab Emirates.

The coefficients of asset tangibility are positive and significant for Kuwait, Oman, and the United Arab Emirates, in line with the trade-off theory. This implies that financial firms in these countries tend to utilize debt to acquire tangible assets. For Saudi Arabia, however, it has been observed that asset tangibility is negatively associated with leverage at a statistically significant level of 1%, suggesting that equity financing may be less expensive due to lower information asymmetry. No effect of this variable, however, has been detected for Bahrain and Qatar.

Estimated results indicate that growth opportunities bear positive and significant coefficients supporting the pecking order theory in all GCC countries, except Bahrain. These findings suggest that financial firms in these countries tend to increase their leverage to finance future growth. Furthermore, the coefficients of size are positive and significant for all GCC countries, except for Saudi Arabia where this coefficient is statistically negative. The former set of results indicates that larger financial firms in these countries tend to increase their leverage to take advantage of tax shields, which supports the trade-off theory. The latter finding demonstrates that larger financial firms in Saudi Arabia may prefer to utilize accumulated earnings to finance projects, in line with the pecking order theory.

The empirical evidence indicates a statistical positive (negative) relationship between gross domestic product (GDP) growth and leverage among financial firms in Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates (Oman). The positive link implies that during economic expansion periods, financial entities within these nations tend to rely more heavily on external financing as they pursue growth opportunities, thereby supporting the trade-off theory. Conversely, the negative association, which is in line with the pecking order theory, suggests that there is sufficient fund available in financial sectors leading them to prioritize internal financing options rather than relying on external capital.

In the context of the Saudi Arabian economy, it has been determined that the coefficient of inflation bears a negative and statistically significant association. This implies that a rise in the level of inflation precipitates a subsequent increase in interest rates, ultimately resulting in elevated borrowing costs and a concomitant reduction in leverage. However, we find that other Gulf Cooperation Council (GCC) nations exhibit no such association between inflation and leverage, suggesting that the economic dynamics of Saudi Arabia in this regard may be idiosyncratic to that particular context.

5. CONCLUSION

This article attempts to identify the determinant factors of leverage for financial sector companies from Gulf Cooperation Council countries for a 20-year period. The study aimed at exploring the factors affecting financial company leverage and also examining how those factors might change among subsectors and countries. Therefore, the results are reported in three ways: for the whole sample, in subsector detail, and finally, in country detail. We attempted to explore the impact of independent variables on leverage with reference to commonly accepted theories in capital structure literature, namely trade-off, agency, and pecking order theories and developed hypotheses accordingly. The results reveal that the financial sector companies have high leverage levels. This is not a surprising finding because of the different nature of business in financial companies compared to non-financial companies. We found a negative relationship between profitability and leverage for the whole sample, in both country and industry breakdown, which supports the pecking order theory. This implies that lower profitability leads the companies to use external finance. For earnings volatility, we found mixed results; the results reported a positive significant relationship for the whole sample and three countries in the country breakdown, while being insignificant for all subsectors. This finding is contrary to trade-off theory; however, due to the different nature of business model in financial companies, it seems reasonable.

Tangibility has a positive significant effect on leverage for the whole sample, for subsectors except banking services, while the results are mixed in country details. This implies that in most cases tangible assets perform the collateral function for leverage decisions. We found a significantly positive relationship between growth opportunities and leverage for the whole sample and most of the

countries in country detail; however, the results are mixed in subsector detail. As growth opportunities increase, firms finance this growth potential by external finance, resulting in higher leverage. We found a positive significant relationship between size and leverage for the whole sample, for all subsectors except investment holding companies, and for all countries except Saudi Arabia. This finding is consistent with trade-off theory and implies that larger firms use higher levels of leverage. Macroeconomic variables produced insignificant results, even though some significant cases in country and subsector details exist.

This article contributes to the literature by providing a comprehensive analysis of capital structure determinants for not only banks but all financial companies in all six GCC countries. The results have important implications for financial firms and their capital structure decisions and are expected to help financial companies in designing their capital structure policies. First, by understanding the determinants of leverage, financial firms can better manage their financing needs and make informed decisions about their capital structure; they can consider potential effects of those characteristics in making decisions. Second, the leverage-profitability relationship has implications for financial sector regulators and policymakers. Because the financial sector plays a pivotal role in macroeconomy by financing real sector companies, financial institution soundness is critically important.

A good understanding of the capital structure determinants will help policymakers in improving the relevant policies. High leverage and low profitability can push firms into financial distress, potentially leading to systemic risk and negative economic consequences. Policymakers may need to consider measures that encourage financial firms to prioritize stability and prudence and maintain a sound capital structure. Our findings might also have some implications for academics. Those conducting research on the topic might consider teaching the topic by discussing all theoretical aspects and emphasizing that all theories might be applicable in different contexts. Finally, the study highlights the importance of considering the unique financial sector characteristics when examining the determinants of capital structure.

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CENTRALITY EFFECTS IN THE FINANCE-GROWTH NEXUS: PANEL DATA EVIDENCE FROM EASTERN AND SOUTHERN AFRICAN COUNTRIES

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ABSTRACT

This study examines the moderating effect of spatial centrality (in trade) on the relationship between Financial Sector Development (FSD) and Gross Domestic Product (GDP) growth in Southern and Eastern African countries based on panel Error Correction Models (ECM) and a Panel Smooth Transition Regression (PSTR) model where centrality is used as a regime-switching variable. Data covering 1980 to 2022 were obtained from the World Development Indicators (WDI) and Comité Européen d'Etudes des Polyphosphates (CEPII). The centrality regime switching effect is found to be statistically significant, with the finance-growth nexus being negative via both broad money and credit to the private sector in center countries and positive via credit to the private sector in the periphery, an observation that supports the Convergent Growth Hypothesis (CGH) that countries in the periphery are catching up to Centers in terms of GDP growth. This long-run behavior is strongly endorsed by gross fixed capital formation, which has a long-run effect on GDP growth but is rarely supported by openness and working population, whose effect is country-specific. This study adds Geography and FSD as key explanatory variables of the local CGH, where periphery countries tend to catch up to relatively developed center countries within their respective regions.

JEL Classification code: F36

Keywords: Centrality, Money, Domestic credit, Finance-growth nexus, financial sector development

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1. BACKGROUND

The finance-growth causal effect is still debatable in most Sub-Saharan African (SSA) countries alongside four schools of thought, all supported by empirics (McHardy, 2022). The “demand following hypothesis” (DFH) suggests a positive causality generally running from growth to FSD (Bara and Mudzingiri, 2016; Zerbo, 2015). The DFH is supported by the fact that growth in most African countries has been driven by commodities and natural resources (AfDB, 2013). Similarly, The DFH is most likely where financial sectors have limited depth and efficiency and countries experiencing high levels of financial exclusion (Bara, Mugano, and Pierre, 2016). The “supply-leading hypothesis” (SLH), also called the “finance-led growth hypothesis”, postulates that FSD drives economic growth. This view finds support in Odhiambo (2009), Akinlo and Egbetunde (2010), and Arayssi and Fasih (2017). The “bidirectional causality hypothesis” (BCH), also called the “feedback hypothesis” ascribes equal importance to both the FSD and growth since it assumes a positive two-way causal relationship between FSD and economic growth as supported in Odhiambo (2011), Arayssi and Fasih (2017), Waiyaki (2016) and Urgaia (2016). The “neutrality view”, which ascribes no significant causal relationship between FSD and economic growth, is also well supported by empirics (Shan and Morris, 2002; Shan, Morris, and Sun, 2001; Graff, 1999; Lucas, 1988).

The idea that the geography of a country determines economic growth (the geography thesis) was initially propounded by Montesquieu (1748). It is based on areas in the world not being equally endowed in terms of geographic attributes such as soil quality, natural resources, topography, climate, and disease environment (Acemoglu, 2009; Escobar D'Angelo and Torero Cullen, 2000). Geographical location may affect finance-growth nexuses by influencing goods flow and production factors. Geographic areas can be distinguished by physical localities (Operational distances) and functional spaces between any two localities, i.e., countries (Papi et al., 2017). Thus, the rise in the international flow of goods can be attributed to a decline in distance-weighted transportation costs (Bosker and Garretsen, 2021; Hummels, 2007). This geo-divide suggests that trading localities (firm within a country or across countries) may either be far away from their markets (centers) or their sources of raw materials (periphery).

The center-periphery divide can exist within a country in specific financial sectors such as banking (Papi et al., 2017) or across countries when comparing countries in specific geographic localities such as the European Union (Hinz, 2012; Boulhol and de Serres, 2008), ECOWAS (Sissoko, Sloboda, and Kone, 2018; Mahawiya, 2015) or EAC¹ and SADC² regions (Alananga and Mutasa, 2021; Bara, Mugano, and Le Roux, 2017). Transport cost problems, however, are well known to be more serious in periphery African countries than in Centers, mainly in Europe or the USA (Bloom et al., 1998). Redding and Venables (2004) relate wages and proximity to demand and supplier markets and explain a large part of the variation in GDP using geographic variables. Nearby countries, for example, tend to have stronger economies if the costs of doing business between them are eliminated (Bloom, Sachs, Collier, and Udry, 1998). Frankel and Romer (1999) find evidence of a positive relationship between per capita income and exogenous variation in the ratio of trade to GDP due to geographical variations.

Clark et al. (2004) provide additional evidence that developing countries have relatively higher intra-trade costs of 8% compared to their developed counterparts who potentially benefit from trading not only with closer partners but also relatively centrally located trading partners. In examining both foreign and real market potential as a measure of trade centrality, Head and Mayer (2011) observed a significant impact of market potential on income per capita. Similarly, Boulhol et al. (2008) suggest that the benefit of being a centrally located country is around 6-7% of GDP growth. Regarding market potential, Boulhol et al. (2008) estimate the effect of market access variable to be around 0.06-0.07. The variation identified this access effect, though Hinz (2012) notes that the market access explains between 27%-30% of the variation of GDP, and the result is dynamic since periphery countries with lower initial market access tend to improve relatively faster than those located closer to the Center. Similarly, the centrality of South Africa was observed to attract FSD in nearby SADC countries, and the effect of money was stronger than credit (Bara et al., 2017).

Contrary to the geography thesis, empirics suggest that geographic variables and GDP have a narrow relationship, often changing with circumstances (Bhupatiraju and Verspagen, 2013). Nakajima et al., (2010) allude to the lack of significant evidence of the centrality effect over time. Hinlo and Arranguéz (2017) note an insignificant relationship between economic growth and centrality. In

both the Philippines and Singapore, however, GDP growth and economic centrality cause each other over time, while a unidirectional connection between economic concentration and GDP was noted in the Philippines only. The conclusion from Hinlo and Arranguez (2017) suggests that diffusion of amenities, or a part of central functions or current innovations toward the periphery, may happen. Still, it rarely results in a total reduction of inequalities between center and periphery regions. Although centrality provides positive growth prospects, there are potential negative consequences for proximal countries with trading constraints, specifically those lacking free trade agreements with the Center (Gambuli, 2023; Alananga and Mutasa, 2022). It is against these contra observations that this study was backgrounded.

Following the introduction and background, we will present the theoretical underpinnings of centrality in section 2, followed by the conceptual framework in section 3, the methodology in section 4, the findings in section 5, and the conclusion in section 6.

2. THEORETICAL UNDERPINNINGS ON CENTRALITY

Recent studies on the finance-growth nexus are numerous (Odhiambo, 2023; Wen et al., 2021; Aluko and Ibrahim, 2020; An et al., 2020) but the moderation possibly provided through the Center-periphery divide is still understudied. The Heckscher-Ohlin trade theorem suggests that factor endowment is at the core of trade, leading to world factor price equalization under an open economy (Guo, 2015). Perroux's (1977) polarization theory suggests that geographic spaces are separated between Pole and Dominated regions. The basic notions arise in what is referred to as the pathological complexes or complexes related to the limitation imposed by limited space within a bordered area which in the traditional Heckscher-Ohlin trade theorem can be regarded in terms of factor endowments (Bilas and Bošnjak, 2015). The central place theory (CPT) suggests that space produced by human communities is oriented (anisotropic). Places selected as centers are associated with social, symbolic and economic value, thus making them attractive to flows of persons, energy, material, information, and finance from the periphery. The convergence of people and other resources toward the center is called polarization, and the property that centers have to offer several services to their periphery is called centrality. Based on the CPT, the further a region is located from the center of economic

activities, i.e., London and Brussels, the lower is its market access (Hinz, 2012).

Similarly, the traditional gravity equations model bilateral trade flows as a function of income and a vector of distance variables to capture geographical distances. The Krugeman-type economic geography models have also been implemented to explain the relationship between the factor income levels in a country (wages if labor is the only factor) and the weighted sum of expenditures of all countries in the world in what has been referred to as Market Access (MA) or Market Potential or Real Market Potential (RMP) (Head and Mayer, 2011). The weights are bilateral trade costs from one country to each destination country for its exports, which measures trade centrality.

3. CONCEPTUAL FRAMEWORK

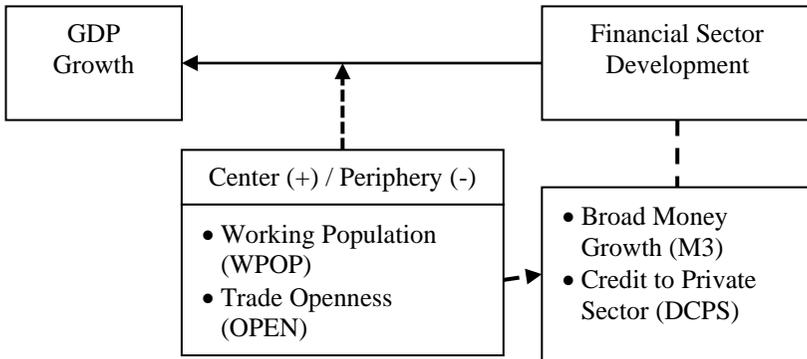
Based on the foregoing, centrality in economic activities is shaped by at least three significant forces. The first is the “product market competition effect” whereby workers (working population) migrate from one region to another thus enhancing competition in the latter (Ascani et al., 2012). The second is the “home market effect” which implies that the region with the larger market (Center) for a specific product is a net exporter (Krugman, 1991). Lastly, the “price index effect” implies that a larger share of workers in one region determines lower prices for industrial products in the local market (Ascani et al., 2012). Figure 1 suggests that expanded FSD can cause GDP growth for countries in the Center because they engage themselves in skill-intensive manufacturing and will reverse in the periphery as they engage themselves in less skill intensive production. Given the higher developmental prospects of Center countries, a positive FSD-growth nexus is expected to be stronger in the Center than the periphery.

Empirical observations on the above postulates suggest that growth tends to be higher in center countries because first returns to physical and human capital tend to be higher in countries having better access to larger markets (Redding and Schott, 2003); Center countries have higher opportunity to concentrate finances in activities of comparative advantage which also encourages specialization of firms Boulhol et al., 2008); localized industries (Nakajima et al., 2010); and other transport saving advantages (Clark, Dollar, and Micco, 2004). These observations point to an

important role of market access for exports and it is hypothesized as follows.

H1: Center countries have a significantly higher FSD-growth effect than periphery countries

FIGURE 1
Spatial Centrality in the Finance-Growth Nexus



In terms of factor labor Boulhol et al. (2008), suggest that geographically periphery countries have a lower skill premium on manufactured goods than Center countries. The effect of labor or working population (WPOP) can also be understood in terms of the proportion of the WPOP among the educated workforce (Bilas and Bošnjak, 2015). Since many developing countries are also periphery countries, they produce less skill intensive products hence have a larger WPOP share per unit of output compared to Center countries. With a larger WPOP share per unit of output, periphery countries are likely to experience marginal effect of FSD and growth. As a result, much of the FSD effect end-up in lower-price goods ultimately reversing the finance-growth link. Similarly, Redding and Schott (2003) provide some evidence that the world's most peripheral countries have relatively low education levels (Boulhol et al.,2008) thus improving the workforce quality through higher education in these countries may have a larger marginal impact than in Center countries where it is already high. From these postulates it is hypothesized as follows.

H2: Increased quality of the working population for a center country has a significantly lower FSD-growth effect than in a periphery

Additionally, Figure 1 suggests that centrality encourages firm specialization that can achieve efficient scale and more generally exploit increasing returns in specific fields of production (Boulhol et al., 2008). Further evidence based on the Augmented gravity model, point to the effect that centrality both in terms of in-degree (importer openness) and out-degree (international competitiveness) have significant but varied effect on international trade flows for African countries (Kitila and Chen, 2021). For this end a third hypothesis is formulated as follows:

H3: Increased openness in a center country has a significantly lower FSD-growth effect than in a periphery country

Centrality in trade has also been observed to affect profit distribution across countries, thus influencing power relations among nations (Iliopoulos et al., 2021). This suggest that firms in the Center country may accrue higher gross profit but at the marginal additional capital investment may have higher marginal returns alongside the law of diminishing marginal returns. As such, one would expect gross fixed capital formation to have a higher net impact in countries classified as periphery than those classified as Centers. Thus, a fourth hypothesis is formulated as follows:

H4: Increased gross fixed capital formation for a Center country has a significantly lower FSD-growth effect than in a periphery country

4. METHODOLOGY AND DATA

4.1 MODEL SPECIFICATION AND ESTIMATION

In order to identify the role of FSD on growth, the basic Solow-Swan Model is augmented with the indicators of FSD. In the context of panel regression, data from 1980 – 2022 are used to estimate three models for Periphery, Center and combined countries. In the second, approach, a PSTR model which captures the effect of centrality in

the growth-finance nexus was implemented. The general PSTR model for the purpose of this study is given in Equation 1.

$$(1) \quad \Delta y_{it} = \varepsilon_i + \alpha_0^1 x_{it} + \alpha_1^1 x_{it} G(\widetilde{c}_{it}, \gamma, \widetilde{c}^*) + \varepsilon_{it}$$

Where, $i = 1, \dots, N$ is the number of individuals in the panel, $t = 1, \dots, T$. The variable Δy_{it} is the growth rate of real per capita GDP, the vector x_{it} includes the transformed spatial centrality indicator (\widetilde{c}_{it}) and the control variables, ε_{it} represents the individual fixed effects and ε_{it} are the errors. The transition function $G(\widetilde{c}_{it}, \gamma, \widetilde{c}^*)$ is continuous in the observable transition variable, \widetilde{c}_{it} . It is a normalized function that takes values between 0 and 1, and its extreme values are in turn associated with the regression coefficients α_0^1 and α_1^1 . More generally, the value of \widetilde{c}_{it} determines the value of $G(\widetilde{c}_{it}, \gamma, \widetilde{c}^*)$ and thus the effects of spatial centrality on growth, $\alpha_1^1 x_{it} G(\widetilde{c}_{it}, \gamma, \widetilde{c}^*)$, for country i in period t . Following Mahawiya, (2015), G is a logistic function taking the form specified in Equation 2:

$$(2) \quad G(\widetilde{c}_{it}, \gamma, \widetilde{c}^*) = \frac{1}{1 + \exp(-\gamma(\widetilde{c}_{it} - \widetilde{c}^*))}$$

Where the slope parameter of the logistic function, $\gamma > 0$; determines the speed of transition, and \widetilde{c}^* is the spatial centrality threshold. For $\gamma \rightarrow \infty$, the logistic transition function approaches to an index function $I(\widetilde{c}_{it} > \widetilde{c}^*)$ that takes the value of 1 if $\widetilde{c}_{it} > \widetilde{c}^*$. For $\gamma \rightarrow 0$, the transition function approaches a constant and the model becomes homogenous or a linear panel regression model with fixed effects. The specific PSTR model that was estimated takes the form of Equation 3.

(3)

$$\begin{aligned}
\Delta GDPGROW_{it} &= \varepsilon_i + \\
&\alpha_0^1 GDPGROW_{it-1} + \alpha_0^2 FSD_{it} + \\
&\alpha_0^3 WPOP_{it} + \alpha_0^4 GFCFGDP_{it} + \\
&\alpha_0^5 OPEN_{it} + \alpha_0^6 CENTRI_{it} + \\
&\alpha_1^1 OPEN_{it} G(\tilde{c}_{it}, \gamma, \tilde{c}^*) + \\
&\alpha_1^2 WPOP_{it} G(\tilde{c}_{it}, \gamma, \tilde{c}^*) + \\
&\alpha_1^3 GFCF_{it} G(\tilde{c}_{it}, \gamma, \tilde{c}^*)
\end{aligned}$$

A two-regime PSTR model is implemented with an assumption that the finance-growth causal relationship is partly determined by country centrality. PSTR is a fixed effect model with exogenous repressors that caters for the heterogeneity problem in the model (Mahawiya, 2015). Three variables are tested for the regime transition effect that is OPEN, WPOP and GFCF assuming CENTRI as a regime switching variable i.e., \tilde{c}_{it} . In addition, the model included two dummies for regional block (eco_bloc) and proximity effects (prox_dummy) as observed in Alananga and Mutasa (2022).

4.2 DATA AND VARIABLES

The annual time series data from the World Development Indicators (WDI) of the World Bank provides a first step in obtaining aggregate data for measures of real GDP per capita, FSD is based on private credit to the private sector (lnCPSGDP) and the ratio of M3 to GDP (M3GDP). Since it is imperative to control for other economic effects, trade openness (OPEN) and labor or working population (WPOP) and Gross Fixed Capital formation (GFCFGDP) across countries were included. The core variables in the relationship were centrality and proximity. Centrality (CENTRI) is measured in terms of aggregated bilateral trade volumes and was obtained from CEPII³. The CENTRI is a gravity-based market potential index which was linearly interpolated for missing values. The estimated panel regression model also included the Foreign Market Potential (lnFMPRV) based on Redding and Venables (2004) as a control. A description of the variables is provided in Table 1.

TABLE 1
Description of Variables

Abbreviation	Variable Name	Measurement	Data Source
Dependent Variable			
GDPGROW	GDP growth at Constant (2015) prices	Values in %	WDI
Intervening Variables			
CENTRI	Trade centrality index	Number standardized using the G function Dummy as {1 if centrality index exceeds threshold (\hat{c}^*), 0 otherwise} in the PSTR model	CEPII
Independent Variables			
M3GDP	Broad money as a share of GDP	Values in %	WDI
LNCPSGDP	Natural log of domestic credit to the private sector as a share of GDP	Values	WDI
GFCFGDP	Gross fixed capital formation as a share of GDP	Values in %	WDI
OPEN	Import plus export as a share of GDP	Values	WDI
WPOP	Working population as a share of the population aged 15 years or above	Values	WDI
LNRMPRV	Natural log of real market potential computed using Redding and Venables (2004)'s method	Values	CEEPII

TABLE 1 (*continued*)

Abbreviation	Variable Name	Measurement	Data Source
ECO_BLOC	Regional bloc	Dummy 01 if a country belongs to the SADC economic bloc and 0 if it belongs to the EAC	
PROX_DUMMY	Proximity to the identified Center countries measured in terms of sharing a border	Dummy =1 if sharing a border with a Center country, 0 otherwise	

Based on the centrality classification, Tanzania, Kenya and Uganda within EAC are classified as Center countries while Rwanda and Burundi are considered periphery. Within the SADC region, Botswana, Eswatini, South Africa and Zimbabwe are considered as Center countries while Madagascar, Malawi, Mauritius, Seychelles and Zambia are considered Periphery countries. Table 2 provides descriptive statistics which points to a reversed relationship for the two monetary policy variables (M3 and DCPS); while money growth could be important for Periphery countries DCPS growth is more prevalent in Center countries.

Descriptive statistics are provided in Table 2 where periphery and Center countries are compared. Overall Center countries experience higher GDP growth although on average difference is only around 0.1. Center countries also experience high M3GDP which is almost twice as much, a higher DCPSB which is more than three times, a higher GFCFGDP and a higher WPOP which is almost four times larger. The only variable for which periphery countries are slightly higher is FMP. In terms of stability of the series, growth, capital formation and quality of working population are the three variables that seem to be relatively unstable in the periphery. The FSD indicators are relatively varied in Centers than Periphery countries. The Center-periphery divide is almost having the same degree of variation for openness, centrality and market potential.

TABLE 2
Descriptive Statistics

Variable	Centre				Periphery			
	Mean	Std. Dev	Min	Max	Mean	Std. Dev	Min	Max
GDPGROW	3.6	4.2	-14.6	19.5	3.5	6.5	-50.3	35.2
M3GDP	51.9	23.5	12.1	122.6	25.7	15.3	7.3	151.6
DCPSB	36.3	21.7	6.2	104.9	11.7	12.1	-98.3	84.1
lnCPSGDP	36.2	21.7	6.2	104.9	11.9	12.2	-98.3	84.8
GFCFGDP	23.2	8.0	11.0	56.5	17.0	14.5	-59.3	46.6
OPEN	0.8	0.4	0.2	2.0	0.6	0.4	-0.2	1.8
WPOP	60.9	9.3	26.9	80.7	67.5	15.7	-4.9	92.6
LNFMPRV	13.4	1.1	11.8	15.9	13.5	1.0	11.5	16.1
CENTRI	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1
N	258				473			

FIGURE 2
Centrality Effect on the Trends of GDPGROW

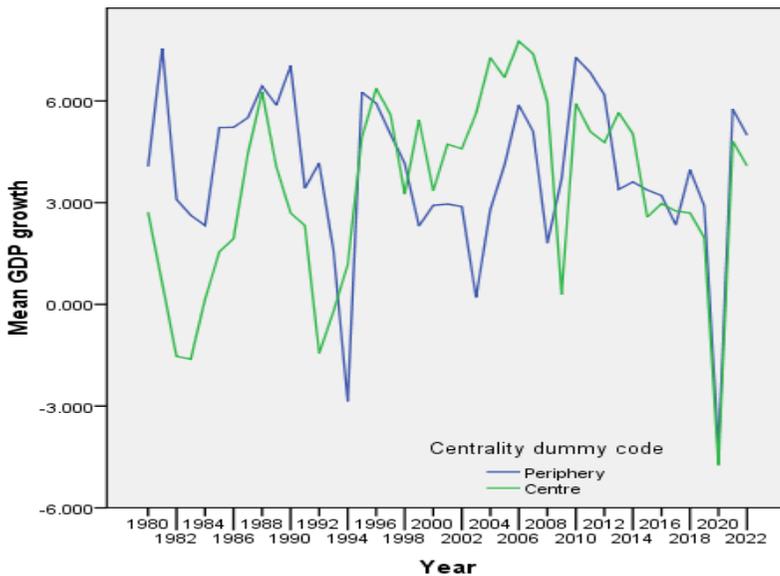


Figure 2 suggests that for most of the period before 1995, GDP growth was higher in the periphery than the Center and between 1995 and 2008, GDP in Center countries dominated. Since then, however, there are ups and down for both Periphery and Center countries. Center and Periphery countries are however clearly differentiated in terms of M3 growth in Figure 3. Prior to 1990 and after 2018 Periphery countries have higher M3 growth than Center countries; otherwise, Center countries have dominated.

FIGURE 3
Centrality Effect on the Trends of M3GDP

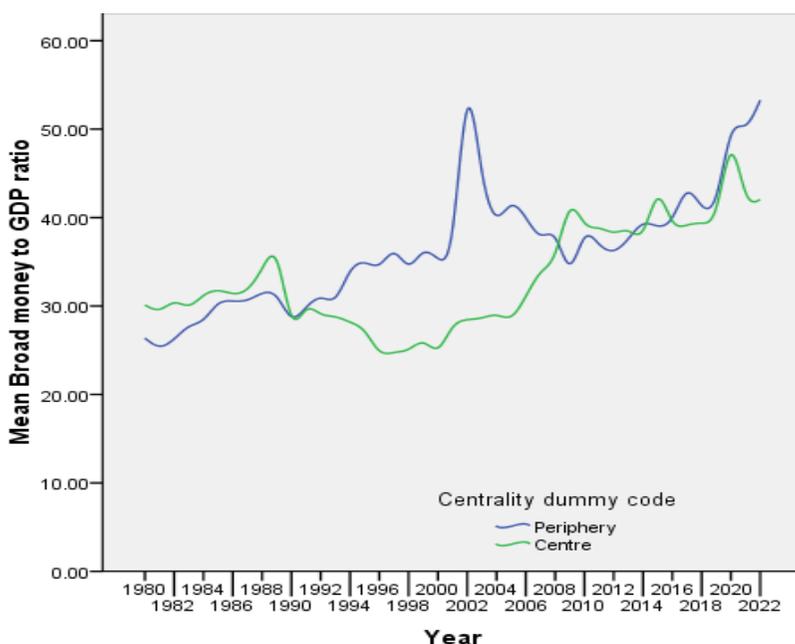


Figure 4 suggests that DCPS between Centre countries and Periphery one do experience periods of ups and downs with periphery countries dominating marginally in those years they lead but Centers dominate with larger magnitude in the years of their respective years of dominance. Figure 5 suggests that overall, the GDP is higher in Center and Periphery countries.

FIGURE 4
Centrality Effect on the Trends of DCPSGDP

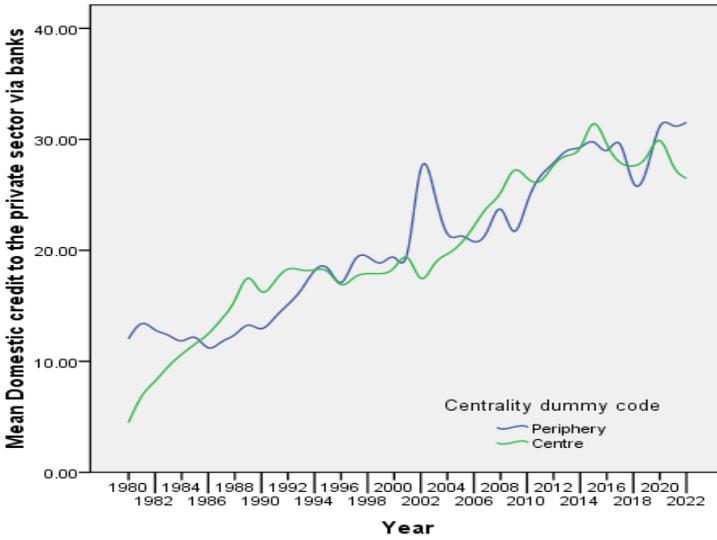
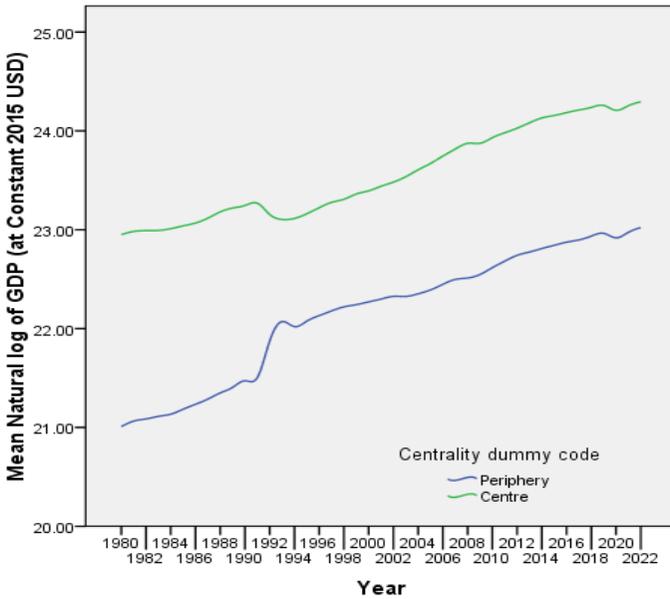


FIGURE 5
GDP for Centre and Periphery Countries



In terms of correlation among variables, Table 3 suggest that all the variables have a correlation of less than 80% suggesting that serial correlation is not a serious problem in the sample. In the Centers however, three cases of relatively high correlation exist, which are however reduced to only one case in the overall correlation analysis. The correlation coefficient is generally considered appropriate although DCPSB had to be dropped as FSD indicator for subsequent analyses.

4.3 PANEL UNIT ROOT TEST

Testing for weak cross-sectional dependence (CSD) in the panels the H_0 : weak cross-section dependence against the alternative H_1 : strong cross-section dependence was implemented and the results are presented in Table 4. All the series except three suggested for cross sectional dependence thus necessitating the adoption of second-generation unit root tests. The second generation Pesaran (2003), unit root test based on the assumption of a cross-sectional dependence, to identify the order of integration of the variables was adopted, while the Levin-Lin-Chu (LLC) unit-root test was used for independent series as shown in Table 5.

The LLC bias-adjusted test statistic $t * \delta = -3.2679$ is significantly less than zero ($p < 0.0005$) for GFCFGDP at level while for GDPWPOP bias-adjusted test statistic $t * \delta = -3.2727$ is significantly less than zero ($p < 0.0005$ when the trend is included), so we reject the null hypothesis of a unit-root [that is, that $\phi = 0$ in (2)] in favor of the alternative that both GDPWPOP and GFCFGDP are stationary (that is, that $\phi < 0$). OPEN seem to be integrated of higher order since even after including the trend it is still not stationary.

Following the detection of CSD in five out of the eight variables of interest, Panel Unit Root test (CIPS) results are presented as recommended by Pesaran (2012), in Table 6. All the variables except InFMPRV are stationary at level while taking the trend into consideration makes all the CSD variables stationary. The null hypothesis of unit root is therefore rejected and the alternative that all series are stationary is accepted.

TABLE 3
Correlation Analysis Results for Periphery and Centre Countries

	GDPGROW	M3GDP	lnCPSGDP	GFCFGDP	OPEN	WPOP	LNFMPRV	CENTRI
Center countries								
GDPGROW	1.00							
M3GDP	-0.13	1.00						
lnCPSGDP	-0.18	0.64	1.00					
GFCFGDP	0.13	0.25	-0.27	1.00				
OPEN	0.18	0.45	0.01	0.66	1.00			
WPOP	0.02	-0.12	-0.41	0.21	0.11	1.00		
LNFMPRV	-0.08	0.24	0.42	-0.08	0.06	0.11	1.00	
CENTRI	0.03	0.60	0.07	0.38	0.50	0.23	-0.18	1.00
Periphery countries								
GDPGROW	1.00							
M3GDP	-0.15	1.00						
lnCPSGDP	0.22	0.48	1.00					
GFCFGDP	0.11	-0.06	0.02	1.00				
OPEN	0.05	0.25	0.22	0.35	1.00			
WPOP	-0.03	0.04	-0.09	-0.01	-0.22	1.00		
LNFMPRV	0.09	-0.01	0.28	0.28	0.39	0.02	1.00	
CENTRI	0.08	-0.13	0.12	0.04	-0.14	-0.13	0.20	1.00

TABLE 3 (continued)

	GDPGROW	M3GDP	lnCPSGDP	GFCFGDP	OPEN	WPOP	LNFMPRV	CENTRI
	Overall							
GDPGROW	1.00							
M3GDP	-0.10	1.00						
lnCPSGDP	0.05	0.71	1.00					
GFCFGDP	0.11	0.15	0.08	1.00				
OPEN	0.08	0.45	0.28	0.46	1.00			
WPOP	-0.03	-0.13	-0.27	-0.03	-0.20	1.00		
LNFMPRV	0.05	0.08	0.26	0.18	0.25	0.04	1.00	
CENTRI	0.05	0.42	0.22	0.19	0.26	-0.04	-0.01	1.00

TABLE 4
Cross Sectional Dependence Test Results

Variable	CD	SIG	CDW	SIG	CDW+	SIG	CD*	SIG	Decision
GDPGROW	12.09	***	-1.37		199.72	***	-1.59		Dependence
CENTR	-1.98	**	0.32		45.01	***	-3.11	**	Dependence
LNCPSGDP	0.00		0.00		0.00		-4.39	***	Dependence
LNFMPRV	77.45	***	4.95	***	963.01	***	-1.24		Dependence
WPOP	0.00		0.00		0.00		-0.45		Independent
GFCFGDP	0.00		0.00		0.00		-0.18		Independent
M3GDP	18.68	***	-2.45	**	476.08	***	1.09		Dependence
MS	24.81	***	-0.77		422.77	***	0.54		Dependence
OPEN	0.00		0.00		0.00		-1.29		Independent
WPOP	0.00		0.00		0.00		-3.15	**	Dependence

TABLE 5
Levin-Lin-Chu Unit-Root Test

Variable	No trend			With Trend			Integration
	Unadjusted t	Adjusted t*	Sig	Unadjusted t	Adjusted t*	Sig	
GDPWPOP	-4.2	-0.8	0.2	-7.8	-3.3	0.0	-4.2
GFCFGDP	-5.9	-3.3	0.0	-8.3	-0.2	0.4	-5.9
OPEN	-2.1	1.7	1.0	-6.4	-1.1	0.1	-2.1

TABLE 6
Unit Root Tests Assuming Independent of the Series (A) and CSD (B)⁵

Variable	lags	(A) Maddala and Wu (1999) Panel Unit Root Test (MW)				(B) Pesaran (2007) Panel Unit Root Test (CIPS)				Integration Order
		No trend		With trend		No trend		With trend		
		chi_sq	Sig	chi_sq	Sig	Zt-bar	Sig	Zt-bar	Sig	
GDPGROW	0	419.39	***	367.19	***	-14.87	***	-13.86	***	I(1)
	1	229.74	***	191.26	***	-9.55	***	-8.76	***	
	2	135.21	***	99.79	***	-5.08	***	-3.65	***	
CENTR	0	86.40	***	72.63	***	8.81		8.71		I(0)
	1	46.66	*	37.10		9.74		9.83		
	2	33.03		22.72		10.18		10.58		
DCPSB	0	98.05	***	56.46	**	-1.22		1.09		I(0)
	1	46.92	*	42.98		-1.71	**	0.69		
	2	45.28	*	38.31		-1.20		1.49		
FMPRV	0	0.71		5.75		-2.95	**	-3.24	***	I(1)
	1	0.81		8.92		-2.90	**	-5.32	***	
	2	0.84		4.97		-0.75		-3.72	***	
M3GDP	0	52.41	**	37.29		-0.79		1.49		I(0)
	1	36.03		41.71		0.21		1.21		
	2	31.95		31.40		0.11		1.93		

TABLE 6 (continued)

Variable	lags	(A) Maddala and Wu (1999) Panel Unit Root Test (MW)				(B) Pesaran (2007) Panel Unit Root Test (CIPS)				Integration Order
		No trend		With trend		No trend		With trend		
		chi_sq	Sig	chi_sq	Sig	Zt-bar	Sig	Zt-bar	Sig	
GDPWPOP	0	70.14	***	37.69		-3.42	***	2.04		I(0)
	1	30.65		35.96		-2.48	**	0.71		
	2	34.11		25.64		-1.65	**	1.90		
LNCPSGDP	0	97.68	***	56.60	**	-1.14		1.16		I(0)
	1	46.90	*	41.64		-1.63	*	0.79		
	2	49.58	**	38.99		-1.27		1.44		

4.4 PANEL CO-INTEGRATION TESTS RESULTS

Since all the variables were found to be stationary, second-generation co-integration tests based on Westerlund (2007) were implemented for long-run relationship among variables. The error-correction based not only allows for various forms of heterogeneity, but also provides p-values which are robust against cross-sectional dependencies via bootstrapping. In short, it is tested whether the null of no error correction can be rejected (either for the whole panel or for a non-zero fraction of the cross units depending on whether a pooled or group-mean estimation is performed). If the null can be rejected, there is evidence in favor of cointegration. Table 7 displays the Westerlund test results. In the last column the bootstrapped p-values, which account for cross-sectional dependencies are also included. According to three of the four tests statistics we can reject the null of no significant error correction at the 5%-level.

TABLE 7
Panel Cointegration Test Results

Statistic	Value	Z-value	p-value	Robust p-value
Gt	-4.252	-6.947	0.000	0.000
Ga	-8.671	3.153	0.999	0.275
Pt	-12.608	-2.613	0.005	0.003
Pa	-11.145	0.084	0.533	0.037

Before carrying out a panel-based error correction model, two steps were further accomplished; the first is choice of the best estimator between Pooled Mean Group (PMG), Mean Group (MG) and Dynamic Fixed Effect (DFE). The results of the Hausman test between PMG and MG for all countries are presented in Table 8. It is evident that the PMG model is superior; since the probability is not statistically significant we reject the null of no efficiency improvement from MG to PMG and adopt the alternative that the PMG is more efficient.

The Akaike Information Criterion (AIC) was used for optimal lag selection for counteracting variables in each country based on the ARDL model. As such the lags are allowed to vary per variable. The most recurring optimal lags across countries were then chosen as the best lags for the panel ARDL model implemented hereafter. The results in Table 9 suggest that only the dependent variable can be lagged in the overall model with possible lags for GFCF and WPOP. Since they do not dominate across countries,

however, the approach adopted here is to lag only the dependent variable i.e., GDPGROW.

TABLE 8
The Hausman Test Results⁶

Variable	Coefficients			
	(b)	(B)	(b-B)	sqrt(diag(V _b -V _B))
	mg	pmg	Difference	SE
M3GDP	0.04	-0.01	0.04	0.13
lnCPSGDP	3.27	-0.45	3.72	3.72
GFCFGDP	2.64E+06	0.06	0.20	0.12
OPEN	1.91	0.09	1.82	9.20
WPOP	-0.22	0.06	-0.28	0.31
LNFMPRV	-0.77	-0.86	0.09	1.26
CENTR	0.10	0.33	-0.23	0.77

Test: Ho: difference in coefficients not systematic
 $\chi^2(8) = (b-B)'[(V_b - V_B)^{-1}](b-B) = 9.78$
 Prob> $\chi^2 = 0.2809$

TABLE 9
ARDL Results for Optimal Lag Estimation⁷

	GDP GROW	M3 GDP	DCPSB	Ln CPSGDP	GFCF GDP	OPEN	WPOP	Ln FMPRV
Lag (id=1)	1	0	0	0	0	0	0	0
Lag (id= 2)	1	0	0	0	0	0	0	0
Lag (id= 3)	1	0	0	0	0	0	1	0
Lag (id= 4)	1	0	0	0	1	0	0	0
Lag (i=-5)	1	0	0	0	0	0	0	0
Lag (id= 6)	1	0	0	0	0	0	0	0
Lag (id= 7)	1	0	0	0	0	0	0	0
Lag (id=- 8)	1	0	0	0	0	0	0	0
Lag (id=- 9)	1	0	0	0	0	0	0	0
Lag (id=- 10)	1	0	0	0	0	0	0	0
Lag (id=- 11)	1	0	0	0	1	0	0	0
Lag (id=- 12)	1	0	0	0	0	0	0	0
Lag (id=- 13)	1	0	0	0	1	0	0	0

TABLE 9 (continued)

	GDP GROW	M3 GDP	DCPSB	Ln CPSGDP	GFCF GDP	OPEN	WPOP	Ln EMPRV
Lag (id= 14)	1	0	0	0	1	0	0	0
Lag (id= 15)	1	0	0	0	0	0	0	0
Lag (id= 16)	1	0	0	0	0	0	0	0
Lag (id= 16)	1	0	0	0	0	0	0	0
Lags	1	0	0	0	1	0	1	0

5. FINDINGS AND DISCUSSION

5.1 CENTRALITY EFFECT IN THE PSTR MODEL

Based on the linearity (homogeneity) tests of the PSTR model, it was observed that the linear model (LM) of the data exhibits significant linearity among the explanatory variables. This linearity was however eliminated once a Heteroskedastic robust model (HAC) is used. The linear part of the PSTR model results in Table 10 suggest that countries with a centrality value less than one are in the first regime where only the centrality indicator significantly reduces GDP growth. GDP growth in these countries declines by around 9.7% for each unit increase in the centrality indicator. Thus, being a trade Center seems to be detrimental to GDP growth or rather countries embarking seriously on enhancing international trade within the SADC and EAC tend to lose in terms of GDP growth.

It was further noted that in the second regime GDP growth significantly declines with DCPSGDP. This observation suggests that countries considered highly dependent on trade, are seriously and negatively affected by their respective growth in the share of DCPSGDP. Potentially such DCPS may be directed toward non-tradable sectors or are more consumptive than productive in nature. Similarly, a unit increase in WPOP growth of Center countries reduces GDP growth in Center countries while it is positive though not statistically significant in periphery countries.

It is also notable in the second regime that both lagged GDP growth and M3 growth reduce GDP growth at the 10% significance level. This provides some evidence that in relatively higher centrality economies, GDP growth may decline over time as well as

in response to M3 growth. This effect is however not relevant for periphery countries. The variable GFCFGDP tends to be positive in trade Center countries while it was negative in Periphery countries. This suggests that capital investment rather than financial investment is what matters to achieve higher GDP growth in Center countries while the reverse could be true in the periphery. The effect of the variable OPEN is flat regardless of the degree of centrality owing possibly to much of its effect being captured in the centrality indicator which is positive on GDP growth in the Center countries.

In the nonlinear part of the model, Table 6 suggests that a unit increase in the lagged value of GDP growth reduces GDP growth by more than 37% thus confirming the behavior of the second centrality regime. Similarly, a percent increase in M3 reduces GDP growth by 8% which also confirms the behavior of the second regime. Figure 6 (a) illustrates the reversal of the money growth effect on the response variable. It is clear that although M3 growth contributes positively toward GDP growth, a high-level centrality index (beyond around 0.5) reverses that effect. This observation suggests that the effect of M3 on GDP growth is determined to some extent by the respective degree of centrality achieved by a country.

TABLE 10
PSTR Model Estimation Results⁸

Variable	EST	SIG.	EST	IG.
Parameter Estimates in the Linear Part				
	First extreme regime		Second extreme regime	
ECO_BLOCK	2.55			
	(1.38)			
PROX_DUMMY	0.81			
	(0.84)			
GDPGROW	25.93		-11.9	*
	(9.96)		(7.46)	
DCPSGDP	20.51		-388.2	***
	(120.70)		(143.60)	
M3_GROWTH	4.1		-3.85	*
	(2.26)		(2.46)	
CENTRI	-9.78	***	0.16	
	(3.79)		(0.46)	
OPEN	119.8		139.1	
	(70.51)		(74.75)	

TABLE 10 (continued)

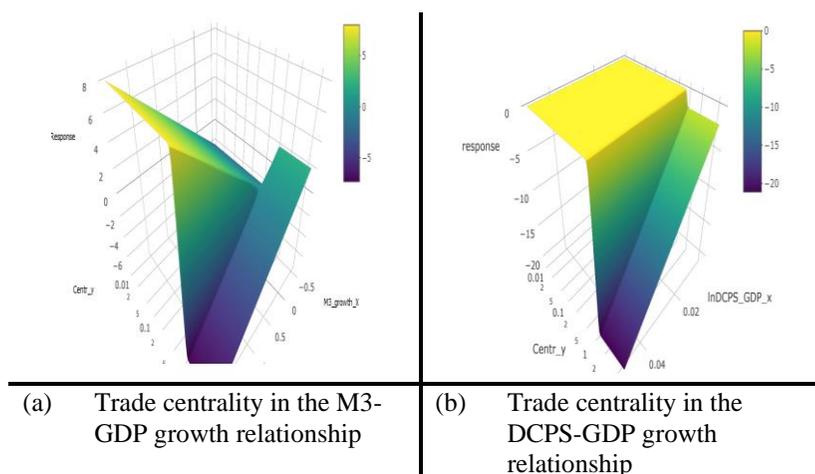
Variable	EST	SIG.	EST	IG.
Parameter Estimates in the Linear Part				
	First extreme regime		Second extreme regime	
WPOP	286.9 (122.00)		-100.3 (34.63)	***
GFCFGDP	-2.78 (3.26)		0.58 (1.75)	
Parameter Estimates in the Non-Linear Part				
GDPGROW	-37.84 (12.92)	***		
DCPSGDP	-408.7 (210.20)	**		
M3GDP	-7.95 (3.97)	**		
CENTRI	9.94 (3.83)			
OPEN	19.36 (9.71)			
WPOP	-387.1 (149.40)	***		
GFCFGDP	3.36 (3.29)			
Non-Linear Parameter Estimates				
GAMMA	35.7			
C_1	7.94			

Table 7 further indicates that a unit increase in DCPSGDP reduces GDP growth. This also confirms the second regime behavior. Figure 6 (b) illustrates reversal of the DCPSGDP effect as a share of GDP on the response variable. It is clear that, although DCPSGDP growth contributes positively to GDP growth, a high-level centrality index (beyond around 1) reverses that effect. This observation suggests that the effect of DCPS growth is dependent on the respective degree of centrality of a country. Periphery countries enjoy a relatively higher growth in response to DCPS expansion while such expansion is detrimental to GDP growth of the Center countries.

In terms of GFCFGDP, it contributes positively to GDP growth although the effect is not statistically significant. This observation is also reflected in the second regime rather than the first. Figure 7 (b) illustrates reversal of the GFCF growth effect on the response variable. It is evident that, although GFCF contributes

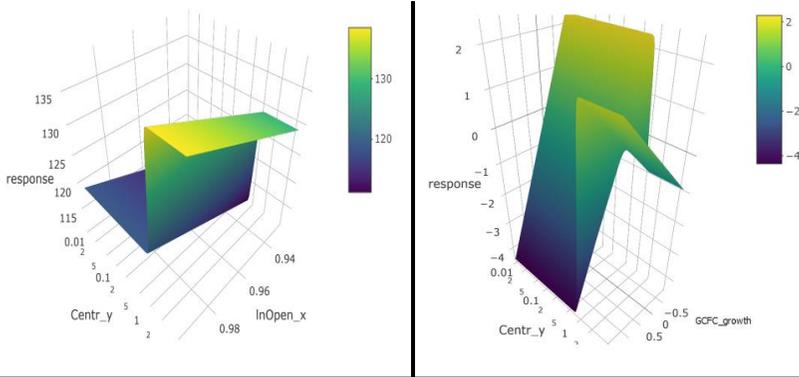
negatively towards GDP growth, a high-level centrality index (beyond around 1) reverses that effect. This observation suggests that the GFCF effect is to some extent determined by the respective degree of centrality though such effect is negligible. Based on this observation, it is suggested that there is limited evidence that GFCF is associated with economic growth regardless of the centrality regime under consideration.

FIGURE 6
 Visualisation of the Centrality Effect on the Finance-Growth Indicators



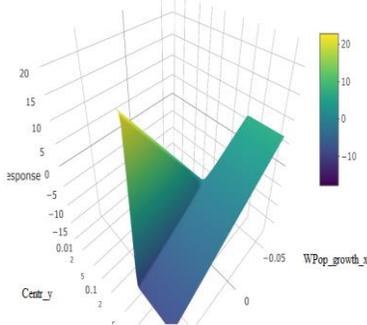
These nonlinear model results also confirm the behavior of the second regime where trade dependence reverses the effect of WPOP on growth. Figure 7 (c) illustrate the reversal of the effect of WPOP growth on the response variable. It is noted that WPOP growth contributes positively to GDP growth up to zero levels where the maximum GDP growth is achieved for regimes with a centrality index lower than 0.2. A high-level centrality index (beyond around 0.2) reverses that effect though marginally. Based on our observations it is suggested that there is limited evidence that WPOP growth is associated with economic growth where trade centrality is lower than 0.2.

FIGURE 7
Centrality Effect on Control Variables



(a) Trade centrality in the Openness-GDP growth relationship

(b) Trade centrality in the GFCF-GDP growth relationship



(c) Trade centrality in the WPOP-GDP growth relationship

5.2 CENTRALITY EFFECT IN THE PMG REGRESSION MODEL

Results of the PMG effect with error correction are presented in Table 11 for the three models implemented. In the overall model the long-run effect of $\ln\text{CPSGDP}$ and OPEN is positive suggesting that credit to the private sector and openness enhances growth in the countries studied. The positive effect of credit to the private sector seems to be a character of Center countries although it was not significant while in the periphery expanding credit to the private sector has negative impact on growth though not statistically significant. Trade openness has a significantly negative effect on GDP growth in Center countries even if it is negative as well in the periphery but not statistically significant. The conclusion here is that

expanding credit to the private sector is likely to increase the GDP of Center countries rather than Periphery countries principally in the long-run to reflect the capacity to absorb the expanded credit into other economic sectors. Openness is generally detrimental to growth in many SSA countries including those under this study regardless of their centrality status, potentially reflecting the strong position held by imports and marginal export that these countries are making.

The overall model further suggests that in the long-run WPOP and CENTRI are negative on GDP growth suggesting that centrality and the workforce quality will end-up having a negative implication on growth. Centrality has a significant and positive effect in Center countries alongside the PSTR model and a negative effect in the periphery thus confirming the regime switching effect. Improving the quality of the working population through education seem to be negative (though not statistically significant) on growth in both the Center and the periphery prompting some questions on the ability of the education system to produce an adequate workforce for the expanded GDP.

It was expected that Center countries will achieve higher GDP growth owing to their ability to attract and absorb both financial and non-financial resources. Centrality in the periphery seems to be oriented toward merchandise imports, hence having limited effect on real GDP growth or, as proven in the PSTR model, has a negative effect on growth. Additionally, it is notable that what matters to achieve long-run growth in the Center countries pertains to GFCF in addition to centrality while in the periphery countries foreign market potential coupled with reduced openness and centrality can bolster GDP growth.

The positive short-run effects in Center countries are manifest through credit to the private sector (also supported in the PSTR) and foreign market potentials while the negative short-run effect is realized via M3. While foreign market potential is a long-run positive effect in the periphery, it is a short run positive effect in Centers potentially reflecting the frequency with which trade takes place in Centers when compared to periphery. In the periphery, positive short-run effect is significant only for foreign market potential at 10% significance level, suggesting that FMP has both short and long-run effect among periphery countries though the magnitude is rather small. The slow pace for which exports reach destinations given the geographical localities of periphery countries

can partly explain this observation. In the overall model the short-run effect is observed to be significant only for openness at 10% significance levels and foreign market potentials at 1%. Although openness has a significant negative effect on growth in the long-run, the short-run effect could be negative only in the periphery and the effect is not statistically significant.

In terms of adjustment speed toward long-run equilibrium, Center countries are adjusting toward equilibrium at a rate of around 13% while periphery countries are adjusting at around 93% per annum and in both cases the adjustment speed is statistically significant. The sporadic adjustment in periphery countries can be attributed to relatively higher instabilities in these economies. The Center countries seem to be consistent in their adjustment speed and adjust slowly toward equilibrium partly confirming the growth convergence hypothesis.

A summary of country specific observations is further provided in Appendix 1. It is observed that countries classified as Periphery in this study comprises Burundi, Tanzania and Rwanda from among those in the EAC regional block and Angola, Lesotho, Eswatini, Mozambique, Zambia, Zimbabwe and Madagascar from those among the SADC. All the remaining countries are considered Centers. Based on Appendix 1, the adjustment speed among Center countries based on ECT seem to be sporadically highest in South Africa at around 123% followed by Mauritius at 122% and Botswana at 86% per annum. Among periphery countries the highest adjustment speed is sporadically high for Madagascar at around 113% followed by Eswatini at 98% and Rwanda at 96% per annum. Overall, all countries adjust accordingly to their respective long-run equilibrium with South Africa leading the race among SADC members and Rwanda among EAC member states.

Appendix 1 also suggests that although money growth is generally detrimental to growth, only two countries among the Center countries are significantly affected. The GDP growth declines by 36% and 25% in Mauritius and Kenya respectively in response to a one percent increase in M3GDP. A similar negative effect is observed for four countries in the periphery where a 1% expansion in M3GDP reduces GDP growth by 75% in Eswatini; by 74% in Madagascar, by 111% in Rwanda and by 68% in Uganda. These observations for Center and periphery countries suggest that although expanded M3 reduces growth across countries such effect tend to be even higher among periphery rather than Center countries.

TABLE 11
Pooled Mean Group Regression⁹

VARIABLE	CENTER		PERIPHERY		OVERALL	
	COEF.	SIG	COEF.	SIG	COEF.	SIG
ECT						
M3GDP	-0.04 (0.03)		0.07 (0.04)		0.05 (0.02)	
LNCPSGDP	0.08 (0.02)		-0.04 (0.07)		3.99 (0.02)	**
GFCFGDP	5.27 (0.06)	**	0.20 (0.03)		0.25 (0.02)	
OPEN	-0.03 (1.88)		-6.25 (1.06)	**	-0.68 (0.79)	***
WPOP	-0.40 (0.03)		-0.22 (0.02)		-0.24 (0.02)	**
LNFMPRV	0.85 (0.38)		0.27 (0.41)	*	0.09 (0.27)	
CENTR	0.00 (0.57)	***	-1.39 (1.23)	***	-0.96 (0.50)	***
SR						
ECT	-0.13 (0.10)		-0.93 (0.09)	**	-1.01 (0.07)	**
M3GDP	-0.32 (0.08)	*	-0.46 (0.13)	(0.09)	-0.37	

TABLE 11 (continued)

VARIABLE	CENTER		PERIPHERY		OVERALL	
	COEF.	SIG	COEF.	SIG	COEF.	SIG
LNCPSGDP	11.70 (0.17)	**	3.49 (0.17)		-4.36 (0.13)	
GFCFGDP	-0.21 (0.20)		0.03 (0.12)		0.05 (0.10)	
OPEN	2.43 (5.86)		-12.70 (12.92)		-5.13 (8.79)	*
WPOP	66.63 (0.19)		-0.69 (5.46)		-0.45 (3.17)	
LNFMPRV	5.09 (1.55)	***	1.33 (2.40)	*	1.11 (1.69)	***
CENTR	0.00 (155.50)		1.10 (107.11)		0.94 (84.42)	
CONS	0.00 (0.58)		11.79 (1.61)		14.18 (1.16)	
NUMBER OF OBS.	252.00		462.00		714.00	
NUMBER OF GROUPS	6.00		11.00		17.00	
OBS PER GROUP: MIN	42.00		42.00		42.00	
AVG	42.00		42.00		42.00	
MAX	42.00		42.00		42.00	
LOG LIKELIHOOD	(605.86)		(1,188.30)		(1,802.82)	

In terms of expanded CPS, Appendix 1 suggest that three Center countries are significantly impacted negatively; expanded credit to the private sector will have a 109% reduction in GDP growth in Botswana, a 17% reduction in Mauritius and 46% in Namibia. In contrast, expanded CPS in the periphery increases the GDP growth of Eswatini by 54%, Tanzania by 17% and Uganda by 132%. Combining with the previous observation, it is notable that while in Center countries, the two monetary policy instruments can have the same effect but to different countries, in the periphery, the effect could be different even within the same country. Growth in Periphery countries such as Eswatini and Uganda respond negatively to expanded money supply but positively to expanded credits. Thus, it may be concluded that the expanded FSD is significantly detrimental to GDP growth in Center countries but can benefit some periphery countries if appropriate instruments are targeted and, in this case, the best instrument is credit expansion to the private sector rather than broad money supply growth.

The effect of GFCF on growth is positive for two Center countries and two periphery countries and is negative in Eswatini, thus suggesting a limited reliance on GFCF to bolster growth in Eswatini. Openness is also positive for three Center countries namely Mauritius, Botswana and South Africa and one country in the periphery (Madagascar). Two countries in the periphery, namely Angola and Rwanda, are negatively affected by enhanced openness. Potentially, the meager size of export as noted earlier could be responsible for this observation. The effect of WPOP is insignificant in any of the Center countries, possibly a good indicator that, in such countries, having a high education is not among the key inputs in production. In contrast, WPOP seem to be a key factor in GDP growth for five periphery countries.

In Angola, Eswatini and Rwanda WPOP reduces GDP growth suggesting that as the share of those with high education increases in these countries, GDP growth declines. This could be embedded in the nature of the education system in these countries. Contrariwise enhanced high education attainment in Burundi contributes positively to growth, an indicator that productive sectors of Burundi are dominated by a high education workforce. Generally, improving workforce quality has an insignificant effect in centers and varied effect in periphery countries, potentially reflecting on the nature of the education system.

Among the Center countries FMP is only significant in South Africa where a positive effect is observed. In the periphery FMP has a positive effect on GDP growth in Angola, Lesotho, Madagascar and Tanzania and a negative effect in Rwanda. The positive FMP effect on GDP growth is attributed to trade flows which can have a multiplier effect in local economies. Therefore, for countries such as Rwanda such multiplier effect could be minimal given the nature of trade flows pertinent in those countries. Generally, FMP is conclusively positive in Center countries but can vary in Periphery countries depending on a country's specific attributes. In terms of CENTRI, Appendix 1 suggest that it could be negative or positive even in some Center countries, although the ultimate effect is expected to be positive in Center countries and negative in the periphery.

5.3 DISCUSSION OF THE FINDINGS

This study suggests that the finance-growth nexus could be positive in the short run among Periphery countries if implemented via credit to the private sector and is generally positive to growth of Centers in the long run save only for Botswana, Mauritius and Namibia where it is negative on both monetary policy indicators. Based on this observation, the ability of regional trade Centers to withstand monetary shocks in the long run is highly questionable despite emerging evidence on the same (Clark, Dollar, and Micco, 2004). The observation in the second regime where centrality values are higher than one (1), suggest that increasing the WPOP in trade Center countries tends to lower economic growth. The fact that this observation is linked to trade Center countries rather than Periphery countries is an indication that as a country becomes dependent on international trade, most of its labor force forsake the productive sector in favor of business sectors mainly for merchandise trading.

The results in Table 11 suggest a negative centrality effect on growth (with the exception of Namibia) which somehow contradicts the geographic thesis as hypothesized in this study where it was theorized that trade-Center countries benefit from agglomeration or localization of economic activities. The observation in this study, however, is in line with Bhupatiraju and Verspagen (2013) who note insignificant effect of localization on GDP that changes over circumstances. Similar observations were also evident in Nakajima et. al. (2010) and Hinlo and Arranguéz (2017) where localization and concentration had no significant effect

on GDP growth. This primarily is a typical characteristic of developing countries which instead of linking economic activities to the productive sector which may end up attracting more employment, a larger share of the workforce is engaged in petty trading of imported merchandise (Mahawiya, 2015).

The implication of the preceding observation is that even when finance tools are used, the impact on the local economy may be marginal or even negative because the infrastructure to support and channel the expanded financial resources to productive venture is lacking (Escobal D 'Angelo and Torero Cullen, 2000). Theoretically, positive GDP growth response to FSD should happen only in the short run (Boulhol and de Serres, 2008; Radelet and Sachs, 1998), but in as far as the growth threshold is consistent, countries in this study have not attained that minimum growth level necessary for FSD to positively contribute to higher growth (Ibrahim, 2017; Zerbo, 2015). Only Tanzania, Eswatini and Uganda do exhibit positive relationship between FSD and Growth which is however short lived rather than long-term.

This study shows that even in the relatively higher trade Center countries, GDP growth may decline over time in response to M3 growth though the effect is not statistically significant. Thus, the H0: 3 that increased openness in a center country has a significantly lower FSD-growth effect than in a periphery is rejected. Potentially, trade in these economies does not encourage production and thus could be detrimental to growth as observed in Mahawiya (2015). Similarly, the control variable OPEN has been observed to have a positive effect in Center countries of Botswana, Mauritius and South Africa while in the periphery only Madagascar's growth does benefit from openness. Openness is generally negative in the Periphery with Angola and Rwanda bearing the brunt of the effect. For the majority of the remaining countries openness is neutralized with more imports rather than exports thus making trade openness sterile on GDP growth similar to the observations of Nyasha and Odhiambo (2015) for South Africa. Countries within the EAC and SADC region that have historically benefited from trade openness include Kenya (Waiyaki, 2016), Mauritius (Matadeen, 2015), South Africa (Hashikutuva, 2016) and Malawi (Chirwa and Odhiambo, 2016). The observation in this study contradicts these previous studies but complement a different line of literature suggesting that trade effect

is first and foremost on productivity; otherwise, it is neutral (Bhupatiraju and Verspagen, 2013).

The observed negative openness effect in the periphery countries of Angola and Rwanda could be linked to the sequencing hypothesis, whereby for a positive effect of openness on GDP growth, FSD needs to be preceded with financial openness or both trade and financial openness (Rajan and Zingales, 2003). The challenge to many countries under this study is that they act as transit route to land locked countries instead of being exporters themselves. The negative effect of trade openness could also be linked to poor institutional quality and/or low level of development (Waiyaki, 2016).

GFCF growth contributes positively to growth in Center countries in the long run, an indicator that capital investment rather than financial investment is what matters to achieve higher GDP growth in Center countries. Thus, the H0: 4 that increased gross fixed capital formation for a Center country has a significantly lower FSD-growth effect than in a periphery is rejected. A similar effect has also been observed in the short run in the Periphery countries of Madagascar and Rwanda. In a cross-country study, Chirwa and Odhiambo (2016) provide ample evidence that GFCF has a positive effect on growth in Zambia, Malawi and South Africa. For trade Center countries such as Kenya and South Africa, increased GFCF is by far the most beneficial strategy to achieve higher GDP growth specifically in the long run. Empirical studies alluding to this fact include Urgai, (2016) and Uddin et al. (2013) for Kenya, Ziramba (2016) and Nyasha and Odhiambo (2015), for South Africa, and Matadeen (2017) in Mauritius. The productive sector will nevertheless shrink in the short run leading to lower or constant GDP growth and as more capital stock is put into full production, GDP will eventually increase (Hashikutuva, 2016).

In the short run, the results of this study suggest that the GFCF effect is negligible in contrast to empirical observation in some previous studies (Urgaia, 2016; Uddin et al., 2013; Ziramba, 2016). Based on this observation, it is suggested that there is limited evidence that GFCF is associated with economic growth in the short run save for Eswatini where it is negative and Madagascar and Rwanda where it is positive. Potentially, both the SADC and EAC countries limitedly rely on GFCF as a strategy to bolster short run economic growth. In the long run, however, substantial evidence in this study exists that GFCF will increase GDP growth in line with

expectations. This observation augurs well with Chirwa and Odhiambo, (2016) in Zambia, as well as Ziramba, (2016) and Polat et al., (2013) in South Africa.

Although DCPS growth contributes positively to GDP growth, a high-level centrality index (beyond around 1) reverses that effect as in Ibrahim (2017). Trade periphery countries enjoy a relatively higher growth in response to DCPS expansion while such expansion is detrimental to GDP growth of the Center countries. This observation provides evidence that in Center countries too much finance incentive is susceptible to moral hazard as it diverts talents and human capital away from productive sectors (Ikhide, 2015). Too much financial incentive may also end up in financing unproductive ventures, thus shifting resources away from productive investment and hence exacerbating decline in GDP growth (Acaravci et al., 2009).

Similarly, the effect of WPOP growth is to some extent determined by the respective degree of centrality though such effect is negligible specifically in the short run. Thus $H_0: 2$ that increased quality of the working population for a center country has a significantly lower FSD-growth effect than in a periphery is rejected. Based on our observations, it is suggested that limited evidence exists that WPOP growth is associated with economic growth where trade centrality is lower than 0.2 as in Boulhol et. al. (2008). This effect however, dominates in the short run where WPOP may provide a link to understanding FSD-growth linkages Boulhol et al., (2008).

This is highly supported with panel data evidence where the variable WPOP is highly detrimental to GDP growth in both the short and long run as shown by Chirwa and Odhiambo (2016). Exceptions, however, exist, since countries such Burundi do benefit significantly in the short-run in response to expanded WPOP. Increasing labor at a fixed GDP, however, is subject to the law of diminishing marginal returns unless GDP is expanded in the long run. Thus, the negative long run effects of WPOP growth are supported by Chirwa and Odhiambo (2016) in Malawi and Zambia, Shawa (2014) in Malawi, and Matadeen (2015) in Mauritius. For developing countries, the GDP's long run response to WPOP is almost flat and this makes the WPOP effect per GDP negative both in the short and long runs with exceptions of countries such as Burundi.

6. CONCLUSION

Based on our findings, two observations can be made with regard to the long run behavior of the finance-growth nexus: The first relate to Center countries where both M3 and DCPS are detrimental to long run GDP growth. Thus, the H0: 1 that Center countries have a significantly higher FSD-growth effect than periphery countries is rejected. Based on long-run behavior of the variables, this effect is bidirectional meaning that trade Center countries attempting to expand M3 or DCPS will end-up with lower growth and such lower growth will again call for expanded finance. For trade Centers this feedback response in the finance-growth nexus may be associated with the need for liquidity to support the business sector as economies dwindle (Mahawiya, 2015). The second is that the long run behavior among periphery countries means credit to the private sector can contribute positively to growth with a feedback mechanism unlike in Center countries where the effect of FSD in general is negative. In the periphery the feedback is upward in some countries; as DCPS is expanded, GDP growth is realized which again calls for further expansion of credits. The mechanism translating inflationary credit expansion policy into the real economy could be country specific but a good explanation is the mainly economic and physical infrastructure growth to absorb the increased credits.

Data from Center countries within the regions under this study have provided evidence for inflationary shock stabilization effect specifically to external shocks. This inflationary effect of Periphery countries does not spill over to nearby trade Centers within their respective regions. This observation suggests that negative spillover effect of monetary expansion may be expected from trade Center toward the periphery and not the other way around. The higher ability of Center countries to absorb imported shocks could explain this behavior since centers are presumed to have the internal capabilities to translate financial resources from nearby countries into real exportable products thus cushioning off the inflationary environment.

Center countries such as Namibia, Botswana and Seychelles seem to benefit little from GFCF as their respective centrality is not determined by real production rather through trading in merchandise or tourism whose capital investment is relatively light. Periphery countries such as Angola, Tanzania and Zambia are transit route for tradable *en-route* land locked destinations within their regions. As such most of the FSD end up being either inflationary or stimulating

economies elsewhere. Periphery countries, however, achieve higher GDP growth in response to DCPS growth and that leads to an upward GDP growth due to a two-way causality effect. Deeper insight on this indicates that Tanzania is a transit route with a middle lower middle-income status, while the remaining two (Eswatini and Uganda) are landlocked which means that trade volumes could be lower because of the physical constraints they face although internal production structures could be adequate to absorb monetary shocks.

Furthermore, evidence in this study suggests that centrality is manifested via merchandise rather than real production which is a typical characteristic of developing countries. “Merchandise centrality” thus costs “productive centrality” in the finance-growth nexus. This has a negative consequence on productive potential leading to declining GDP growth. For developing countries to reap the highest returns on expanded monetary policies, reliance on merchandise centrality needs to substantially decline. Countries need to build their own productive potentials to bolster employment and expand output. Short of these initiatives, expanded monetary instrument incentives will continue to negatively affect GDP growth.

ENDNOTES

1. East Africa Community
2. South African Development Community
3. The data were downloaded from http://www.cepii.fr/CEPII/en/bdd_modele/presentation.asp?id=6
4. Notes on significance ***, ** and * show significance at the 1%, 5% and 10% levels, respectively.
5. Notes on significance***, ** and * show significance at the 1%, 5% and 10% levels, respectively; mw test assumes cross-section independence; cips test assumes cross-section dependence is in the form of a single unobserved common factor; multipurt function was implemented and uses scott merryman's -xtfisher- and piotr lewandowski's -pescadf-
6. Notes on constants;
 b = consistent under Ho and Ha; obtained from xtpmg
 B = inconsistent under Ha, efficient under Ho; obtained from xtpmg
 The Prob>chi2 = 0.2809 is not significant
7. Notes on optimal lag: Optimal lag length determined by Akaike Information Criterion with a maximum lag length of 2; Width of Bartlett-kernel window set to 3; A constant, but no deterministic trend in the cointegration relationship; and Number of bootstraps to obtain bootstrapped p-values which are robust against cross-sectional dependencies set to 400.

8. Notes on significance ***, ** and * show significance at the 1%, 5% and 10% levels, respectively. transition variable 'centr' is used in the estimation; estimated standard deviation of the residuals is 4.487.
9. Notes on significance***, ** and * show significance at the 1%, 5% and 10% levels, respectively.

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APPENDIX 1
Country Specific Effects

Country	ECT	Sig	M3GDP	Sig	lnCPS GDP	Sig	GFCF GDP	Sig	OPEN	Sig	WPOP	Sig	Ln FMPRV	Sig	CENTR	Sig
Centre																
Botswana	-0.86	***			-1.09	**			14.37	*						
	-0.13				-0.35				-8.69							
Kenya	-0.72	***	-0.36	*			0.65	**								
	-0.14		-0.19				-0.23									
Mauritius	-1.22	***			-0.17	**			17.95	**						
	-0.14				-0.07				-7.05							
Namibia	-0.81	***			-0.46	*									773.23	*
	-0.18				-0.25										-412.3	
Seychelles	-0.62	***	-0.25	**												
	-0.14		-0.1													
South Africa	-1.23	***					1.08	**	35.6	**			7.34	**	-392.4	**
	-0.18						-0.38		-13.44				-3.55		-184.4	
Periphery																
Angola	-0.6	***							-39.37	***	-0.31	**	7.47	**		
	-0.13								-9.22		-0.15	*	-3.82			
Burundi	-0.76	***									0.35	*				
	-0.15										-0.19					
Eswatini	-0.98	***	-0.75	***	0.54	*	-0.37	**			-2.47	*				
	-0.13		-0.19		-0.31		-0.17				-1.38					
Lesotho	-0.88	***											6.04	**		
	-0.14												-2.46			

APPENDIX 1 (continued)

Country	ECT	Sig	M3GDP	Sig	lnCPS GDP	Sig	GFCF GDP	Sig	OPEN	Sig	WPOP	Sig	Ln FMPRV	Sig	CENTR	Sig
Madagascar	-1.13	***	-0.74	**			0.24	***	27.07	***		***	8.59	**		
	-0.11		-0.25				-0.06		-5.16		-		-3.9			
Mozambique	-0.69	***														
	-0.17															
Rwanda	-0.96	***	-1.11	**			1.03	*	-128.4	***	-0.87	***	-18.61	*	-1018	***
	-0.09		-0.56				-0.54		-26.99		-0.2		-10.23		-368.9	
Tanzania	-0.09	**			0.17	**							8.23	**		
	-0.04				-0.07								-2.73			
Uganda	-0.47	***	-0.68	***	1.32	***										
	-0.08		-0.18		-0.37											
Zambia	-0.8	***														
	-0.15															
Zimbabwe	-0.55	***														
	-0.15															

Notes: ***, ** and * show significance at the 1%, 5% and 10% levels, respectively



POTENTIAL OF ISLAMIC FINANCE AS ALTERNATIVE FINANCING OPTION FOR SMEs

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ABSTRACT

This study aims at investigating the potential of *Islāmic* finance as an alternative to the financing problem faced by companies operating as Small and Medium Enterprises (SMEs). *Islāmic* finance is a sector that continues to develop. In addition, finance and markets are important in terms of their impact on the real sector. Addressing the impact of *Islāmic* finance on these two situations not only reveals the basic motivation and necessity of the study but also emphasizes the originality and importance of filling the gap in the literature. Questionnaire forms were applied to 400 randomly selected SMEs operating in the provinces of İstanbul, Kocaeli, Sakarya, Bursa, Yalova, and Çanakkale by face-to-face survey technique. Explanatory and confirmatory factor analyses were applied to the scale within the scope of construct validity. Exploratory factor analysis determined that the scale has a 6-factor structure that explains approximately 76% of the scale. Therefore, it has been determined that the potential of *Islāmic* finance as an alternative to SMEs has six dimensions. These dimensions are determined as Alternatives in terms of Personal Value Judgments, Sectoral Suitability, Financing Policies and Opportunities, Accessibility, Cost, and Access to Finance.

JEL classifications: E02, E22, G21, G32

Keywords: *Islāmic* finance, Participation banking and SME, Alternative finance, SME financing, Scale development

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1. INTRODUCTION

Islāmic finance as a viable financing alternative for Small Medium Enterprises (SMEs) has rarely been investigated. This article looks at *Islāmic* finance as an alternative financial source for SMEs in Turkey. For consumption, production, and investment activities, the equivalent or price of resources received from traditional financial markets is interest. Since *Islām* advocates an interest-free business environment, *Islāmic* finance should be the alternative for financing SMEs especially. Interest is seen as a balancing phenomenon between fund supply and demand, and it has been discussed in all monotheistic religions and many ideologies. *Islām* brings various rules and regulations regarding worldly life of the individual and society, and it is against interest or usury. Hence *Muslims* support prohibition of interest in *Islāmic* commercial and financial activities. This situation, however, left *Muslims* out of the dominant conventional financial system. *Muslims* keep their savings idle, and those who want to invest cannot access the funds needed. Thus, *Muslims'* individual or institutional savings become inert cannot be transferred to real investments, cannot be included in economic processes, and these disrupt production-investment activities. Such problems have led to development of a system that prioritizes the financial concerns of *Muslims* or the institutions they have established.

The *Islāmic* finance sector carries out all kinds of financial transactions in accordance with *Islāmic* law. Today, *Islāmic* financial institutions provide global banking, insurance, and capital market services. The *Islāmic* finance sector offers financial services on an interest-free basis and it is an alternative financial sector for *Muslims* or their institutions. Besides being based on interest-free principle, the Muslim financial system is an alternative for *Muslims*, in terms of being an extra financial sector outside the conventional financial system.

Islāmic finance, as a dynamic finance subsystem, attracts serious global attention. Accordingly, demand exists for the IFSS (*Islāmic* Financial Services Sector) and its activities. This is evident in the growth of IFSS assets. Between 2009 and 2020, the global *Islāmic* financial services industry grew by an average of 11.38% per year (Cambridge Institute of *Islāmic* Finance, 2021). The IFSS expanded by 28.64% in 2008. This is a noteworthy development, especially considering the 2008 financial crisis. *Islāmic* banking is the locomotive of *Islāmic* finance with its 70.0% share (ICD –

Refinitiv *Islāmic* Finance Development Report, 2022). After *Islāmic* banking, *sukūk*, the sub-segment of the *Islāmic* capital market, took the second largest share of the Global IFIs pie. *Islāmic* Funds are in third place with a share of 3.3%. In this case, the *Islāmic* capital market has a significant place in the Global IFSS, although it is relatively smaller than the banking sector. Finally, *takaful* took fourth place in the Global IFSS with a 1.3% share.

Asset size of the Participation Banking sector in Turkey has been rising since 1999. The sector's Asset Size was 1.642 million TL in 1990, and it increased to 425.935 Million TL in 2020 (Türkiye Katılım Bankaları Birliği, 2022). The monetary distribution of the funds by the Participation Banks shows that as of 2020, some 253.001 million TL was disbursed in Turkish currency (Arıcan et al., 2021). In the same year, Foreign Exchange and Foreign Currency Indexed Loans (DEK) amounted to 65,535 million TL. Although funds made available by Participation Banks in Turkish Lira increased by 17.9% compared to the previous year, there was a much higher increase of 55.2% in available foreign currency funds (Katılım Finans Dergisi, 2018). While the share of Participation Banks in the total sector in Turkey was 1.9% in 2002, this increased to 7.3% in 2020 (Arıcan et al., 2021). Finally, while the share of loans extended by Participation Banks to SMEs in the banking sector was 6.8% in 2018, this ratio increased to 8.6% in 2020.

Turkey is in an ambitious position in *Islāmic* finance, although it is experiencing critical turning points in this field. Participation Banks are representative of the *Islāmic* financing method in Turkey because they are the strongest institutions in this field, where the mixed-finance sector is dominant. When *Islāmic* finance is considered in the context of the general financial sector and the real economy, in some cases it is considered as complementing the sector, and in other cases, it is considered as an alternative. The alternative position is often addressed in comparison to the conventional financial sector. The interest on which the conventional financial system bases its relations causes real and legal persons who are sensitive to interest to avoid the financial sector and therefore the general economy. *Islāmic* finance, which adopts interest-free as the basic principle, is also considered an alternative to the conventional banking system for these people.

The alternative position of *Islāmic* finance is not only highlighted by interest sensitivity but also has important claims in terms of the issues it considers in its financing activities and financing policies. The policy of supplying goods or services instead

of providing cash loans in financing activities excludes money trade and has a stimulating effect on the trade of real goods or services. Therefore, *Islāmic* finance supports the real sector. The project-oriented focus on financing policies also increases the real sector power and capacity; direct financing of a new venture or efforts to develop an existing venture brings rational investment results. *Islāmic* financial institutions have partnership in a project they finance in this way. *Islāmic* financial institutions commercially established for profit will thus show due diligence from the first stage to the last stage of the relevant project to create a positive image through both profit maximization and partnership success. This will have a catalytic effect in ensuring success of an enterprise developed by real sector elements. In this respect, Participation Banks use the funds collected and the resources owned within the framework of financing activities; while acting in accordance with commercial logic, they can also contribute positively to the real sector and the economy.

Positive contributions of *Islāmic* finance to the real sector are not fundamentally empirical or deterministic. In other words, the positive contributions to the real sector are not definite judgments but express possible contributions. Therefore, this situation is evaluated as the potential of *Islāmic* finance as an alternative to the conventional financing system in financing the real sector. The necessity of measuring the potential of *Islāmic* finance as an alternative in real sector finance has arisen. In various studies and literature reviews, no data suitable for measurements to be made are available in this regard. For this reason, the measurement should be made directly on the real elements. The real sector has a very broad meaning and also represents a higher dimension within the scope of the study. In the context of the research, SMEs, which can represent the real sector, were directly addressed as the research subject; besides using less capital, SMEs can be expressed as economic enterprises that work more with manual labor, can make quick decisions, operate with low administrative expenses, and perform cheap production (Kendirli and Kendirli, 2015).

Since SMEs are one of the dynamic driving elements of the Turkish economy as well as the rest of the world, they are keys to socioeconomic development (Kutlu and Demirci, 2007). Undoubtedly, the most important determinant of these institutions, where small touches have great effects, is financing opportunity. Today, due to their importance, although the state supports financing through its institutions, there are widespread support opportunities

based on mutual credit by the conventional (traditional) banking system. The fact of interest, which is the main problem of this system, deprives most *Muslims* of these opportunities because of both the interest burden with the principal and the sensitivity of interest. The SMEs are important for national economies, and their selection as the subject of the research was influenced by the financial difficulties they experienced. In this context, the study aimed at evaluating the potential of *Islāmic* finance as an alternative to conventional banking in financing the real sector and solving financing difficulties experienced by SMEs. Clarifying the meaning of *Islāmic* finance, which is offered as an alternative financing option, in terms of being a potential financier for SMEs, strongly increases the need for such research.

This study is structured as follows: After the introduction we present the Literature Review, followed by detailed information on the research methodology and discussion of research findings. In the Conclusion and Evaluation part, we give a general evaluation and discuss the implications of the research.

2. LITERATURE REVIEW

Aligned with the research objectives, scope, and subject matter, a comprehensive review of relevant domestic and international literature was conducted. Literature review found no similar published study related to the purpose, subject and scope of the research. Studies considered to be of close significance, however, were examined and evaluated in detail.

Many studies in the literature on financing, both in Turkey and abroad, are related to the importance of SMEs and financing policies. The shortcoming or weakness seen in all of the studies, in general, however, is the lack of research on approaches to *Islāmic* finance in terms of alternative financing and its contribution to the real economy. Mumani (2014) explores the role played by *Islāmic* banking and *Islāmic* financial institutions in SME financing using data obtained by questionnaire survey of SMEs in Jordan. The study shows that *Islāmic* banking is sufficient for SMEs. In addition, *Islāmic* banking plays an important role in increasing investor profit, reducing inequalities in society, besides increasing the standard of living and social welfare. The study also shows that the loan application evaluation period of *Islāmic* banks are comparable with that of traditional banks. Bank customers choose *Islāmic* banks and financial institutions because these have simple working methods

and work in accordance with *Islāmic* rules. Khaliq et al. (2020) in their study, provide an *Islāmic* entrepreneurship framework for Pakistani SMEs to address their problems from a knowledge-based economic perspective.

Wan Ahmad et al. (2008) found a dominant relationship between religion and bank choice in Malaysia. *Muslims* prefer *Islāmic* banks because these institutions perform activities according to *Islāmic* religious principles. This research shows that people with religious sensitivities choose *Islāmic* banks for their deposit transactions. Bley and Kuehn (2004) found that the preference for *Islāmic* banks is motivated by religious values rather than financial information. Ahmad and Haroon (2002) established that religion is the most influential factor in the preference for *Islāmic* banking, and also concluded that marketing channel management supports the favorability of *Islāmic* banking. Apart from these, other studies conclude that *Islāmic* teachings and principles are prioritized in the preference of *Islāmic* banking (Imtiaz et al., 2013; Okumus and Genc, 2013; Abduh and Omar, 2012; Al-Ajmi, Hussain, and Al-Saleh, 2009; Gait, 2009; Ismah et al., 2009; Gait and Worthington, 2008; Othman and Owen, 2001).

The preference for *Islāmic* finance, however, is not only attributed to religious factors based on customers. Al-Ajmi et al. (2009) concluded that the customer does not choose *Islāmic* banking based only on *Islāmic* values, but also on economic factors such as service and transaction costs, the effect of family and friends, and convenience factors such as parking facilities, which affect their decisions. Similarly, Marimuthu et al. (2010) found that many factors such as ATM and branch network, service quality, and influence of family and friends are effective in the selection of *Islāmic* banking, along with religious values and beliefs. In addition, many studies show that better quality service delivery and customer satisfaction are important factors in choosing an *Islāmic* bank (Dusuki and Abdullah, 2006; Hanson and Kalyanam, 2000; Levesque and McDougall, 1996; Leeds, 1992). Fast and easy banking transactions (Omer, 1992), friend/relative advice (Hegazy, 1995), the approach and interest of the institution personnel in the customer (Ramadan, 2013), the rate of return and low transaction cost (Subhani et al., 2012) were also important. In the study conducted by Kamarudin and Kassim (2022), the relationship between *Islāmic* bank deposits and economic growth was examined. The findings show that in the short run, the link between *Islāmic* bank deposits and economic growth is positively insignificant.

Other studies have indirectly compared *Islāmic* finance with conventional finance. These include Amin and Isa (2008) who investigated the level of awareness among Muslim and non-Muslim customers in Malaysia toward *Islāmic* products and services. They inferred that the awareness level of both groups toward *Islāmic* products and services is quite high and that the majority of *Islāmic* banking customers are satisfied with the service quality in all aspects. Hamid and Nordin (2001) in Malaysia affirmed that many customers know about *Islāmic* banking, but some still do not, and they find that these customers cannot distinguish between *Islāmic* banking and traditional banking. Ahmad et al. (2010) found that the perception levels of male and female customers of *Islāmic* banks differ, but they have the same perception of service quality as the traditional bank customers.

Studies so far have focused on why customers prefer *Islāmic* finance or its components. This study differs from existing studies in that it explores the potential of *Islāmic* finance as an alternative based on SMEs. The absence of such a study in the literature reveals both the necessity of the study and its originality value.

3. RESEARCH DATA AND ANALYSIS METHOD

3.1 RESEARCH DATA

The study is aimed at analyzing the subject based on primary data. For this reason, the face-to-face survey method was chosen. After the research method was determined as a face-to-face survey method, a unique survey form was designed to obtain original appropriate data suitable for the research subject and purpose. At the questionnaire design stage, questions about obtaining statistics that would define the participant group of the questionnaire were included. Later, since the research aimed at measuring potential, it was necessary to include a scale to obtain these data in the questionnaire form. Based on this, a scale for use in the questionnaire form was developed by the authors. A Likert scale was used because it measures the potential of *Islāmic* finance as an alternative for SMEs. Likert scales are based on the fact that the participants give information about their views. The scale development process was carried out according to steps in developing a Likert-type scale as explained by Anderson (1988).

In the first stage of scale development, the literature was searched, and statements that could measure the potential of *Islāmic*

finance as an alternative for SMEs were created. In creating these statements, *Islāmic* financing principles, activities, and policies were considered. The statements were itemized by the characteristics of SMEs. Before creating the items, a pool of 30 items was created following the 5-point Likert scale to measure the responses. Because a unique scale was developed, this item pool, the subject, scope, purpose, and objectives of the study were explained in detail, and a candidate scale consisting of 21 items was created as a result of expert opinion and pilot research. The developed candidate scale was piloted to test the comprehensibility and applicability of the items in the scale on the participant group to detect possible errors in the research phase and to avoid unexpected situations during the actual research. In this way, the 21-item Potential *Islāmic* Finance as an Alternative for SMEs Scale (PIFAS) was developed. The questionnaire forms prepared for obtaining data were applied in the field study to the randomly selected businesses that agreed to participate in the survey.

It was aimed that the study represented Turkey. Since it was impossible to carry out the study throughout Turkey given the time and financial constraints, six cities in the Marmara Region, where there is a density of SMEs that can represent Turkey, were selected. These cities are: Istanbul, Sakarya, Kocaeli, Bursa, Yalova, and Çanakkale. The universe of the study consists of SMEs in these cities.

The universe of the study consists of a total of 681,716 businesses from six locations. Since it was impossible to reach this number within the scope of the study, sample selection was made. The Minimum Sampling Method was used to determine the number of samples as in Equation 1.

$$(1) n = \frac{N \times P \times Q \times Z^2}{[(N - 1) \times d^2 + P \times Q \times Z^2]}$$

P = Probability of Observation of Main Audience X = 0.5

Q = Probability of Not Observing = 0.5

d = Effect Size = 0.05

t = Critical Value of the Distribution

N = Universe Magnitude

z = Distribution Value = 1.96

According to Equation 1, the sample number of the study was determined as approximately 385. Since, sampling errors, were expected in the study, it was aimed at reaching 400 samples, taking into account the issues. Because the universe of the study also represents different regions, the number of samples was distributed to these regions as a percentage, and the number of samples was determined according to the number of SMEs available in each region. The number of samples distributed as a percentage is shown in Table 1. Accordingly, the data of the study was obtained mainly from Istanbul.

TABLE 1
Number of Regionally Distributed Samples

Provinces	Universe	Sample
Çanakkale	14.375	8
İstanbul	515.977	302
Kocaeli	44.937	26
Sakarya	22.453	13
Yalova	6.949	6
Bursa	77.025	45
Total	681.716	400

Source: The authors of the study.

3.2 DATA ANALYSIS METHOD

Reliability and validity analyses were applied to the obtained data in accordance with the research subject and purpose. The reliability analysis was aimed at testing the internal consistency of the scale items and Cronbach's Alpha coefficient was calculated. Exploratory factor analysis (EFA) was done to reveal the dimensions of the alternative potential investigated during the validity analysis phase of the scale; Confirmatory factor analysis (CFA) was used to determine the model validation status of the scale and to evaluate its construct validity.

4. RESEARCH FINDINGS

4.1 DESCRIPTIVE STATISTICS

As seen in Table 2, 301 participants were male (75.3%) and 99 participants were female. The participants are mostly aged between 46-55. Another cluster falls between the ages of 36-45. These two

age groups represent approximately 73% of the total participants. Some 57 participants are below 35 and 51 are over 55.

TABLE 2
Distribution of Participants by Some Demographic Characteristics

Socio-Demographical Feature		Quantity	Percentage (%)
Gender	Male	301	75.2
	Female	99	24.8
Age Groups	35 and Below	57	14.25
	36-45	117	29.25
	46-55	175	43.75
	55 and Above	51	12.75
Educational Status	Primary Education	8	2.0
	High School	115	28.7
	Associate Degree	14	3.5
	Faculty	246	61.5
	Graduate	17	4.3

From Table 2, approximately 61.5% of the participants within the scope of the research received education at the undergraduate level. Some 155 participants received high school level education. Those with high school education represent approximately 29% of the total sample.

Statistical findings regarding the cities in which the businesses operate are given in Table 3. Accordingly, within the scope of the research, approximately 75.5% of the enterprises operate in Istanbul.

TABLE 3
Statistical Findings Regarding the Cities Where the Businesses Operate

Cities	Quantity	%
İstanbul	302	75.5
Bursa	45	11.2
Kocaeli	26	6.5
Sakarya	13	3.3
Çanakkale	8	2.0
Yalova	6	1.5
Total	400	100

4.2 STATISTICS ON SME AWARENESS OF PARTICIPATION BANK OFFERINGS

In order to understand their awareness, the participants were asked whether they had an idea about the Participation Banks themselves and their products (Table 4). Their responses show it is evident that approximately 63% of the enterprises have sufficient knowledge about Participation Banks, and 37% have no idea. In addition, some 47% of the enterprises have information about the products and transactions of Participation Banks, while 53% do not (Table 4). Some 238 of the enterprises work with Participation Banks and 162 of them do not. Although it shows that Participation Banking is in a good position in terms of awareness, the findings suggest that customers lack the same level of awareness in terms of products and services. For this situation, it is possible to say that Participation Banking cannot introduce itself in detail, and/or customer relations are weak.

TABLE 4
Statistical Findings Regarding the Level of Awareness About Participation Banks

Awareness About Participation Banks		Quantity	%
Having Information about Participation Banks	YES	253	63.2
	NO	147	36.8
Status of Participation Banks to have Information about their Products	YES	189	47.2
	NO	211	52.8
Whether or Not to Work with Participation Banks	YES	238	59.5
	NO	162	40.5

4.3 RELIABILITY AND VALIDITY ANALYSIS

There should be a consistent and meaningful relationship between the data to be obtained from the answers given to the scale used in the research. This relationship explains the scale reliability. In this context, before the statements in the scale are analyzed, it is necessary to see whether the statements are reliable. Hence, Cronbach's Alpha test was applied to determine internal reliability among the scale items. Cronbach's Alpha value obtained was 0.831 for the answers given to the scale with a total of 21 statements. Since Cronbach's Alpha value falls between 0.70 and 0.90, the scale has a high level of reliability and can be used in community surveys and in forming scientific judgments (Özdamar, 2016).

Factor analysis was performed to determine the dimensions of meaningful expressions together (Büyüköztürk, 2002). When examined alone, the statements in the scale cannot adequately explain the view and understanding of the research as a whole. In this respect, in the next stage of the research, exploratory and confirmatory factor analyses were performed, respectively, to reveal the implicit structure of the scale and to confirm the structure explained in its original form.

4.3.1 EXPLORATORY FACTOR ANALYSIS

Exploratory factor analysis was applied to measure the dimensions of the potential of *Islāmic* finance as an alternative for SMEs and to determine its factors. Before applying factor analysis, it is necessary to examine the suitability and adequacy of the data and sample for principal component analysis. For this purpose, Kaiser-Meyer-Olkin (KMO) and Bartlett sphericity tests were applied to the expressions in the scale, and the results are shown in Table 5.

TABLE 5
Results of KMO and Bartlett Test of Sphericity

KMO		0.817
Bartlett Test of Sphericity	Chi-Square	6990.007
	SD	210
	Sig.	0.000

Results displayed in the following Table 6 have the necessary values for factor analysis. In addition, the KMO sample adequacy coefficient of the research scale was found to be 0.817. Again, the Bartlett test of sphericity result was also significant, indicating that the data were suitable for factor analysis. After confirming that the results obtained have sufficient value, the data were subjected to factor analysis.

Factor analysis determined 6 factors (Factor 1: Being Alternative in terms of Personal Value Judgments, Factor 2: Alternative in terms of Sectorial Suitability, Factor 3: Being Alternative in terms of Financing Policies and Opportunities, Factor 4: Alternative in terms of Accessibility, Factor 5: Cost Alternative, Factor 6: Alternative for Access to Finance) explained the research scale. The expressions in each of these 6 factors were examined together and it was seen that the expressions complemented each

other semantically. Based on this, the six factors are named in connection with the potential of *Islāmic* finance, which is the subject of the research, to be an alternative for SMEs and are shown in the following Table 6.

TABLE 6
Factors Obtained from the Analysis

Expressions that Construct Factors	Factor Loads	Eigenvalue	Variance %
Factor 1: Being Alternative in terms of Personal Value Judgments			
My customers (and my business partners, if any) expect me to use interest-free financing.	0.914	5.906	19.696
The opinions of my business circle about participation banking influence me to use interest-free financing.	0.900		
The interest of the personnel of the participation banks increases my desire to work with them.	0.894		
I prefer participation banks because of religious obligations.	0.878		
My close environment influences me to use interest-free financing	0.863		
Factor 2: Alternative in terms of Sectorial Suitability			
Participation banks offer a range of products and services to SMEs.	0.894	3.640	16.133
Participation banks are more suitable for the entrepreneurial spirit than interest-bearing banks.	0.890		
Participation banks are more useful for the SME sector as they work with a project focus.	0.886		
Participation banks tend to provide more loans to SMEs.'	0.858		

TABLE 6 (continued)

Expressions that Construct Factors	Factor Loads	Eigenvalue	Variance %
Factor 3: Being Alternative in terms of Financing Policies and Opportunities		2.368	15.024
Participation banks supply the product directly instead of giving money, ensuring the correct use of resources.	0.864		
It is important for the continuation of our activities that participation banks provide extra financing beyond the existing financing opportunities.	0.861		
Participation banks are a successful banking system because they bring the money of people who want to work without interest to the economy.	0.825		
Since participation banks work on a partnership basis, being a partner in the projects we develop increases our competitiveness.	0.820		
Factor 4: Alternative in terms of Accessibility		1.591	9.370
Participation banks offer special communication channels to SMEs.	0.794		
Participation banks communicate with us frequently.	0.772		
Participation banks have many branches and ATMs that we can reach whenever we want.	0.665		
Factor 5: Cost Alternative		1.315	8.897
Participation banks are a good alternative in terms of cost.	0.913		
Participation banks offer loans on more favorable terms than interest-bearing banks.	0.906		
Factor 6: Alternative for Access to Finance		1.157	6.961
Loan approval processes are faster in participation banks.	0.805		
The product variety offered by participation banks facilitates access to financing opportunities.	0.685		
It is possible to get loans with lower collateral from participation banks.	0.543		
Total			76.079672

The factors shown in Table 6 are listed according to their eigenvalues and the variances they explain. It is seen that 6 factors obtained by exploratory factor analysis explain approximately 76.08% of the total variance. This rate is commendable. The 6 factors determined are explanatory for most of the study. The factors obtained will be evaluated in detail under separate headings:

4.3.1.1 FACTOR 1

This factor, which ranks first with its eigenvalue and the percentage of variance it explains, consists of 5 expressions and explains approximately 19.7% of the total variance. Looking at the expressions making up this factor, it is seen that these factors play a role in the preference for interest-free financing. These statements are aimed at measuring the effectiveness of religious obligations, the expectations of customers and partners if any, and the views of their close circle and business environment in the preference of *Islāmic* finance for SMEs. "The interest of the personnel of the participation banks increases my desire to work with them" expression was also included under this factor. All these statements were taken together and the factor was defined as *Islāmic* finance for SMEs as "Alternative in terms of Personal Value Judgments."

When the eigenvalues and variances of the expressions under the factor are examined, it is seen that the expectations of the customers and partners, if any, are the most important factor in the preference for *Islāmic* finance for SMEs. In parallel with this, it is seen that the business environment is very effective in the choice of *Islāmic* financing for SMEs. The most striking element among the findings is the effect of religious obligations on the choice of *Islāmic* finance. While this is expected to be the most important element in the research and scale design phase, the "I prefer participation banks because of my religious obligations" expression ranks fourth under the factor. The interest of the personnel of the Participation Banks ranks third in the *Islāmic* financing preference for SMEs. Although this ranking is a situation brought about by professionalism, the interest of the other party always plays a decisive role not only for SMEs but also for all real and legal persons in general, in an environment where they will be in business or a different kind of relationship. In this regard, "The fact that the personnel of the participation banks is interested increases my desire to work with them." The order of the statement is quite understandable within the scope of the research. In addition, this statement is an important

indicator for authorized decision-makers and policymakers in this field. Looking at the last statement under the factor, this statement is also an expression to measure the effect of the business environment on the preference of *Islāmic* finance for SMEs.

When evaluating in general, saying the potential that SMEs of the entire business environment might prefer *Islāmic* finance is seen in the broader background of one's religious completion and close circle. The attitude of staff in small-scale participation banks is also important.

4.3.1.2 FACTOR 2

This factor consists of 4 statements and explains approximately 16.13% of the total variance, ranking second in terms of subject level by the participants. The expressions making up this factor consist of expressions that measure the suitability of *Islāmic* finance for the SME sector. In this regard, this factor has been defined as *Islāmic* finance as an "Alternative in terms of Sectoral Suitability" for SMEs.

Expressions under this factor aimed at measuring the claim of *Islāmic* finance in terms of financing the real sector, both theoretically and practically, by the SME sector, which is the real sector element. From these expressions; "Participation banks are more suitable for the entrepreneurial spirit than interest-bearing banks." and "Participation banks are more useful for the SME sector as they work project-oriented." While trying to theoretically measure the potential of *Islāmic* finance to be an alternative in terms of sectoral suitability for SMEs, "Participation banks offer product ranges and services for SMEs." and "There is a tendency for participation banks to extend more loans to SMEs." statements were tried to be measured in terms of practical applications.

When evaluated in general, it is considered a successful and meaningful result within the scope of the research that this factor is in second place and that the expressions under the factor that have a meaningful relationship between them are complementary in terms of semantic and conceptual aspects.

4.3.1.3 FACTOR 3

This factor explains approximately 15.02% of the total variance and ranks third in the general factor ranking. The factor consists of 4 statements, and these statements measure the potential of *Islāmic* finance policies, the possible effects that may arise based on this, and

the potential of *Islāmic* finance to be an alternative financing option for SMEs, as an extra financing option in the general finance sector.

The semantic and conceptual aspects of the expressions combined under the factor were evaluated together with the research topic and named "*Islāmic* Finance's Alternative in terms of Financing Policies and Opportunities for SMEs." The emergence of *Islāmic* financing policies and financing opportunities as a dimension within the scope of the research is considered a very meaningful result for the study.

4.3.1.4 FACTOR 4

One of the reasons *Islāmic* finance is preferred especially in the banking sector is accessibility to banks. Both the branch network and the communication channels offered can positively or negatively affect the potential of a bank or institution to be an alternative to others. Considering this issue during the preparation phase of the scale, statements to measure it were included. As a result of the exploratory factor analysis, it was seen that these expressions were combined under a factor.

The conceptual and semantic aspects of the expressions under the factor were evaluated together with the scope of the subject and named "*Islāmic* Finance's Alternative in terms of Accessibility for SMEs". The variance of this factor explains approximately 9.38% of the total variance.

4.3.1.5 FACTOR 5

Interest forms the operational basis of the conventional financial system. In this respect, an additional interest cost is incurred in the real sector financed by the conventional system. Considering SMEs specifically, SMEs that obtain financing from conventional banks at the stage of supporting their enterprises have to pay the interest as well as the principal of this financing. The basic principle of *Islāmic* finance and institutions is interest-free. It is wondered how an interest-free banking activity can affect the costs. In the preparation phase of the scale, it was tried to be measured specifically for SMEs by considering these situations. As a result of the exploratory factor analysis, the statements to measure this showed a significant relationship together and a dimension consisting of two statements emerged.

The semantic and conceptual aspects of the expressions under this factor were evaluated together with the research topic and named "The Potential of *Islāmic* Finance to Become a Cost Alternative for SMEs". This factor explains approximately 9.38% of the total variance. The fact that this factor, which ranks 5th in terms of importance, emerged within the scope of the research and that the expressions under this factor have semantic integrity is considered a successful and understandable result for the study.

4.3.1.6 FACTOR 6

One of the important factors that may affect the potential of choosing one financing option over another is access to that financing. Within the scope of the research, the scale was included in order to measure the speed of loan approval processes, the variety of products offered, and the potential of alternative loan terms, and the answers given to these statements were combined under a factor consisting of 3 statements. In this respect, this factor is named an "Alternative in terms of Access to Finance."

The variance value of this factor explains about 7% of the total variance. The emergence of this factor within the scope of the research is evaluated as a successful and understandable result as a dimension that should be seen in the potential of *Islāmic* finance to be an alternative for SMEs.

4.3.2 CONFIRMATORY FACTOR ANALYSIS

The findings obtained as a result of CFA were examined with the goodness of fit indices. The results are given in Table 7.

TABLE 7
Confirmatory Factor Analysis Findings of Research Data

Compatibility Indexes *	Perfect Fit Criteria *	Acceptable Compliance Criteria *	Study Findings
χ^2 /sd	$0 \leq \chi^2 /sd \leq 2$	$2 \leq \chi^2 /sd \leq 3$	2.86
<i>AGFI</i>	$0,90 \leq AGFI \leq 1,00$	$0,85 \leq AGFI \leq 0,90$	0.86
<i>CFI</i>	$0,95 \leq CFI \leq 1,00$	$0,90 \leq CFI \leq 0,95$	0.95
<i>NFI</i>	$0,95 \leq NFI \leq 1,00$	$0,90 \leq NFI \leq 0,95$	0.92
<i>NNFI</i>	$0,95 \leq NNFI \leq 1,00$	$0,90 \leq NNFI \leq 0,95$	0.95
<i>RFI</i>	$0,95 \leq RFI \leq 1,00$	$0,90 \leq RFI \leq 0,95$	0.91
<i>IFI</i>	$0,95 \leq IFI \leq 1,00$	$0,90 \leq IFI \leq 0,95$	0.95
<i>RMSEA</i>	$0,00 \leq RMSEA \leq 0,05$	$0,05 \leq RMSEA \leq 0,08$	0.068

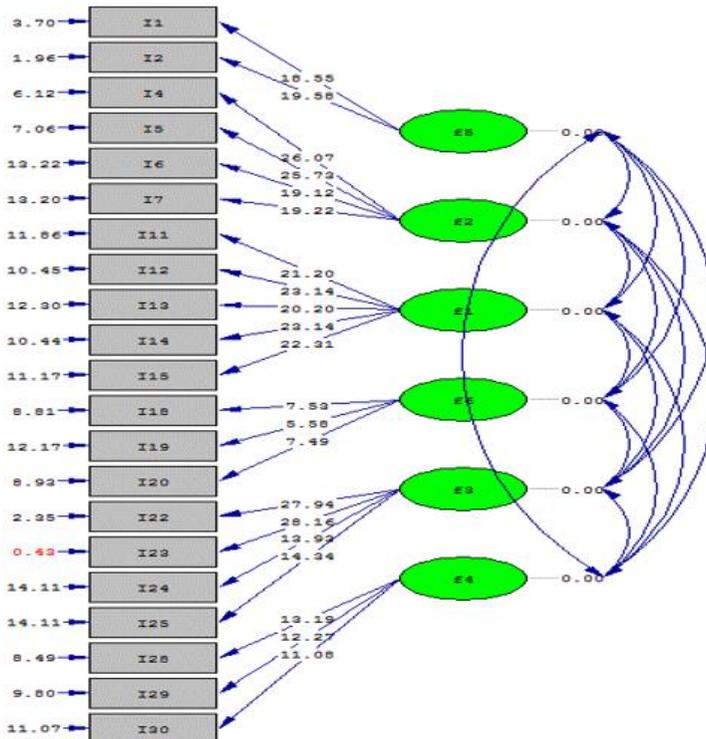
TABLE 7 (continued)

Compatibility Indexes *	Perfect Fit Criteria *	Acceptable Compliance Criteria *	Study Findings
<i>SRMR</i>	$0,00 \leq SRMR \leq 0,05$	$0,05 \leq SRMR \leq 0,10$	0.049
<i>PNFI</i>	$0,95 \leq PNFI \leq 1,00$	$0,50 \leq PNFI \leq 0,95$	0.76
<i>PGFI</i>	$0,95 \leq PGFI \leq 1,00$	$0,50 \leq PGFI \leq 0,95$	0.67

Note: * Perfect Fit Criteria and Acceptable Fit Criteria were prepared by the author of the study, using the study of İlhan and Çetin (2014).

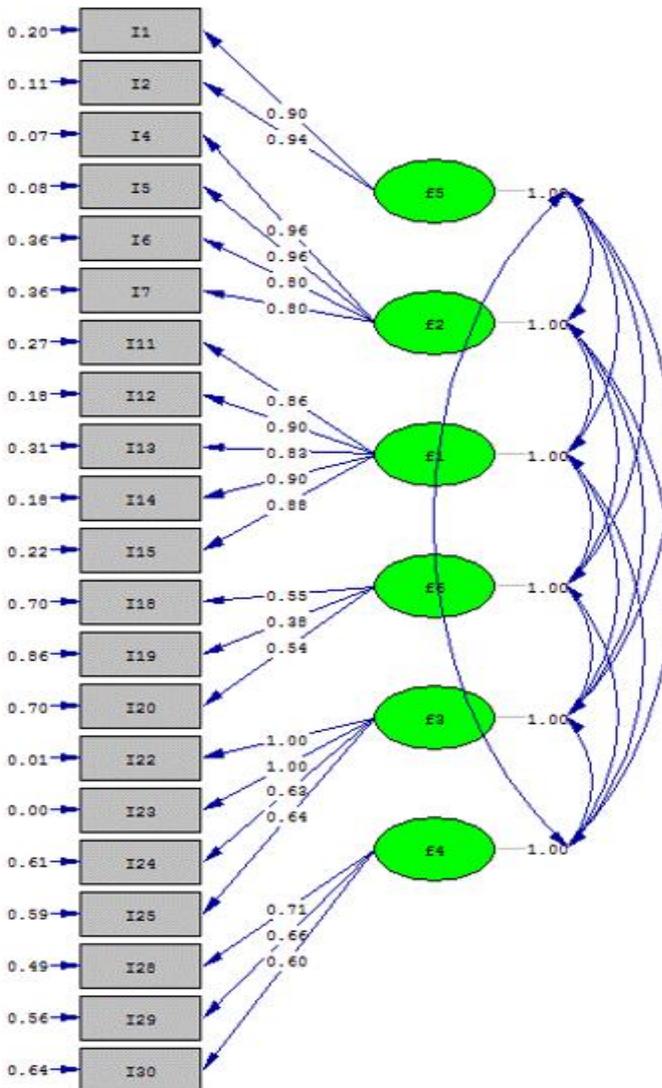
Considering the fit indices obtained as a result of the analysis; It is seen that χ^2 /sd , AGFI, NFI, RFI, RMSEA, PNFI and PGFI indices have acceptable values, CFI, NNFI, IFI, SRMR indices have excellent fit criteria. These fit index values show that the model fits well. The path diagram and t values of the model are shown in Figure 1. Figure 1 provides the standardized values and t-scores.

FIGURE 1
Path Diagram and T Values of the Model



The findings obtained as a result of confirmatory factor analysis and showing the standard distribution of factor loads are illustrated in Figure 2. The standardized values should not exceed '1', as these values provide information about how well each item represents its latent variable. It is also ensured in the measurement model that the error variances of all items are lower than 0.80.

FIGURE 2
Standardized Weights for the Model



5. CONCLUSION

In the study, the Potential of *Islāmic* Finance as an Alternative for SMEs was investigated. The 21-item Potential *Islāmic* Finance as an Alternative Scale for SMEs (PIFAS) was developed by the author of the study. Some 400 SMEs operating in Istanbul, Kocaeli, Sakarya, Bursa, Yalova, and Çanakkale cities participated in the research. Explanatory and confirmatory factor analysis were applied to the scale within the scope of construct validity. As a result of the EFA, it was determined that the scale had a 6-factor structure that explained approximately 76% of the scale.

An *Islāmic* financing model can be considered as an alternative by real and legal persons who have an interest-free attitude due to religious concerns against the interest principle of conventional finance. From the findings obtained, the effect of religious obligations on the potential of *Islāmic* finance as an alternative for SMEs is quite high. In addition, the factor of personal value judgments as a whole explains about 19.7% of the scale.

This situation requires the utmost care and attention from *Islāmic* financial institutions and *Islāmic* finance regulatory authorities. It is necessary to avoid actions and attitudes that will negatively affect personal value judgments when presenting *Islāmic* finance and to prioritize the ethical and moral aspects of *Islāmic* finance. This is especially because religious factors underscore demand for *Islāmic* financing. Participants in this study moderately agreed that *Islāmic* finance is more suitable for the SME sector. This result shows that sectoral suitability is effective in making *Islāmic* finance a potential alternative for SMEs. The extent of participant agreement with this view is especially meaningful for decision-makers and policymakers in this field. The interests and tendencies of individuals and institutions operating in *Islāmic* finance toward SMEs, and the variety of services to be developed for them will strengthen the potential of *Islāmic* finance as an alternative for SMEs.

Islāmic finance, besides being an alternative based on interest-free principle, has the potential as alternative financing alongside existing financing opportunities. This has been confirmed by SMEs in this research, and it was seen that the role of extra financing has a decisive effect on the potential of being an alternative for SMEs. This situation, however, needs to be supported at the access point. Within the scope of the research, the potential of *Islāmic* finance in terms of access to finance for SMEs remains at

very low levels; both the slowness in financing transactions and the difficult conditions for obtaining financing restrict SME access to financing. Hence, we recommend that *Islāmic* financial institutions, authorities, decision-makers, and politicians make arrangements to at least facilitating SMEs in accessing funds. Besides the importance of SMEs for national economies, they are also important for financial institutions and organizations. Successful SMEs, which have a large capital and volume of activity, will reflect positively on the institutions financing them, and the financing will not only be a material transfer but also a spiritual and institutional success for a sector, *Islāmic* finance, that emphasizes its moral and ethical attitude. This success should come before financial gain for the relatively young *Islāmic* finance sector.

Within the framework of the *Islāmic* financing policies of SMEs, the fact that financing provided in the form of goods or services instead of cash financing is more efficient and effective is accepted by the SMEs. Although the need for liquidity and the demand for direct cash financing from time to time to run the SME business are reasons preventing high degree of participation, the results obtained positively reflect potential of *Islāmic* finance as a viable alternative for SMEs. The partnership principle, which is also a financing policy, is a factor strengthening the potential of being an alternative for increasing SME competitiveness. Revealing the real equivalent of this potential can only be achieved if the parties make sufficient efforts in both theoretical and practical aspects of their collaboration.

In the conventional financial system, the parties are in a debtor-creditor relationship and based on interest. The party using the loan is the debtor and is debited in addition to the principal of the loan used, as well as the calculated interest amount. This interest charged creates an additional cost on the principal used. This study investigated the potential of *Islāmic* finance, which carries out financial activities in accordance with the interest-free principle, as alternative financing for SMEs in terms of cost. The findings show that *Islāmic* financing has a potential that cannot be found in real terms in evaluating its cost as an alternative for SMEs. This result means that the cost of interest-free *Islāmic* financing does not differ much from the cost of interest. This finding is important and should be considered by decision-makers and policymakers in *Islāmic* finance. Undoubtedly, the financing cost does not arise only from interest, but also the transaction cost of money itself. Considering the share of Participation Banks in the Turkish banking sector, it is

understandable that *Islāmic* financing costs cannot be very low for SMEs in Turkey. It is appropriate, however, to take steps to reduce this cost to levels compatible with the conceptual dimension and philosophy of *Islāmic* finance. Otherwise, a negative change in personal value judgments will be inevitable.

One determinant in choosing a financial institution as an alternative is accessibility. The inability to reach a financial institution when requested will lower demand for that institution. Especially for a financial sector touted as an alternative, the potential to be an alternative will remain at very low levels. In this research, the potential of *Islāmic* finance as a more accessible alternative for SMEs remained at very low levels. Since no similar study was found at the international level, it is uncertain whether this result is unique to Turkey. In the Turkish context, however, these results are understandable, although unacceptable, for the newly developing *Islāmic* finance sector which has also experienced various difficulties in its historical development. Nevertheless, these results are quite decisive in the potential of *Islāmic* finance as an alternative for SMEs. Hence, necessary steps should be taken with devotion to ensure that SMEs, especially in Turkey, have access to *Islāmic* finance.

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EXAMINING ENTREPRENEURIAL INTENT OF KABUL UNIVERSITY BUSINESS SCHOOL STUDENTS USING THE “TPB MODEL” AND THE ENTREPRENEURIAL INTENTION QUESTIONNAIRE

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ABSTRACT

This study assesses the entrepreneurial intention of business school students, where Ajzen's Theory of Planned Behavior (TPB) is the primary conceptual model combined with data collection using the Liñán and Chen EIQ (Entrepreneurial Intention Questionnaire). Using convenience sampling, a total of 154 students from Kabul University, Afghanistan, were studied. We found that the EIQ psychometric properties were confirmed. Personal attitude, self-efficacy, and subjective norms were all predictors of entrepreneurship intent and thus verified in the study's regression analysis results. Because of the research design limitation, the findings cannot be generalized and may reveal different results over time or by the time students graduate. As one practical implication of the study, it is suggested that universities focus more on independent variables, such as personal attitude and self-efficacy, to build confidence in entrepreneurship among students. Future research can include moderator variables such as family influence, networking and communication, and Islamic values in supporting entrepreneurship intention. The psychometric properties of EIQ were confirmed.

JEL Classification: L26, M13, I23, A23, D91

Keywords: Entrepreneurship intentions, Theory of Planned Behavior, Management, Education, Student entrepreneurship

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1. INTRODUCTION

Entrepreneurship is identified as the process individuals undergo when partaking in opportunities without considering the resources they currently have to generate future products and services (Watson et al., 2016). Countries around the world use Entrepreneurship as an effective instrument for raising economic growth and decreasing extreme unemployment rates, especially in developing countries suffering higher unemployment and lower economic growth.

In recent years, unemployment has become a universal economic problem, especially in developing countries (Taha, Ramlan, and Noor 2017). Countries differ in how they overcome unemployment. An effective policy solution is by enhancing entrepreneurial activities (Nazrl, Aroosha, and Omar, 2016). Consequently, an increasing level of entrepreneurial activities does not only focus on profit generation but also societal well-being (Adham et al., 2013).

Afghanistan, as a developing country, has experienced a rising unemployment rate in recent years; thus, severe economic, political, and cultural hardships afflict it (NSIA 2020). Data published by the Afghanistan National Statistics and Information Authority show that this country experienced an extreme unemployment rate. The 2020 National Statistics yearbook reported unemployment at about 35% in Afghanistan. Limited job opportunities have forced many Afghan youths to leave the country, join terrorist groups, migrate, or suffer serious mental problems. After a change in the political regime of the country and the presidency of Hamid Karzai, the unemployment rate declined. The international and national organizations started job creation, formation of new governmental positions, and growth in entrepreneurship activities as investors launched new enterprises in different sectors in Afghanistan, slowly re-igniting Afghanistan's economic recovery.

In recent years, we witnessed significant improvement in some industries. Still, insecurity and lack of political stability generally discourage foreign investors from supporting entrepreneurship in all sectors of Afghanistan, also resulting in some newly launched businesses dying young. The critical hardships these entrepreneurs face are insecurity, lack of a sound banking system, electricity outage, market instability, and the government's weak support system. A significant step in tackling diminishing employment is to ensure stability for Afghan entrepreneurs. Given all

the abovementioned issues, entrepreneurship is still an excellent option for dealing with unemployment in the country.

Developing entrepreneurship intention or shifting the citizen's mindset toward entrepreneurship is a difficult task for almost all countries. Policymakers have used various methods to increase entrepreneurship, where one formidable strategy is to equip the young generation with proper and practical entrepreneurship education (European Commission 2006). This can provide the exact skills and knowledge necessary to launch a venture (SM, Chang, and Lim 2005). Entrepreneurship education trains students to acquire skills, management abilities, and the capacity to work for themselves and not others (Owosenl, and Akambl, 2010); another objective is to develop affirmative orientations toward entrepreneurship (Fayolle and Gailly, 2008).

Several variables influencing entrepreneurship include the environment, overall economy, and politics. In other words, a large set of external and internal factors support the triumph of a startup, and a dominant characteristic contributing to startup success is entrepreneurship intention. It is generally agreed that, to succeed in a particular endeavor, one must possess a profound interest and passion for it. Thus, assessing an individual's level of intention and interest toward entrepreneurship can provide insight into their potential impact on establishing startups or entrepreneurial activities. Scholars have explored the relationship between entrepreneurial intention and its antecedents. As Krueger, Reilly, and Carsrud (2000) noted, no one enters the entrepreneurial arena on a whim. Rather, it takes a systematic and intentional process of ideation and refinement to transform an idea into a viable business concept. Therefore, investigating intention is imperative as it provides valuable insights and helps determine the level of entrepreneurial activities.

Policymakers and educational institutions must evaluate students' entrepreneurial interests as the intention to pursue entrepreneurship is a vital predictor of entrepreneurial activities or new venture creation (Krueger, Reilly, and Carsrud, 2000). Furthermore, policymakers focus on assessing entrepreneurship intention influence on university students (Iqtidar, Sohial, and Said, 2020). Hence this study has adopted the Theory of Planned Behavior (TPB) model (Ajzen, 1991). This conceptual framework by Ajzen (1991) will be used to investigate the impact of the relationship between the dependent variable (intentions) and independent variables (personal attitude, subjective norms, and self-efficacy).

Key global indicators show that 25% of adolescents intend to initiate a business entity within three years of graduating from university (EI Entrepreneurial Intent). Fifty-four percent think they are equipped with the essential skills and knowledge to conduct a business (SE Self-Efficacy). In addition, 45% consider entrepreneurship opportunities a career choice (GEM, 2016).

Although extensive research has been conducted so far, more empirical studies are needed on entrepreneurial intentions globally. Besides that, fewer researchers have researched the entrepreneurial intention-entrepreneurship axis in developing countries. In Afghanistan, fewer papers have specifically addressed entrepreneurship intentions. This study tries to fill in the research gaps by studying the entrepreneurial intents of business school students at Kabul University and also serves as a basis for conducting further research in this area.

The main goal is to apply Azjen's (1991) Theory of Planned Behavior (TPB) model and test its applicability to university students who are studying business and entrepreneurship subjects. The primary focus of the research is to uncover the theoretical aspects of the TPB model and establish the relationship between independent and dependent variables. The survey questions utilized in this study are contextualized in the context of entrepreneurship. To facilitate this, we have chosen an Entrepreneurial Intention questionnaire developed by Liñán and Chen (2009), which is based on Azjen's TPB. We have formulated the hypotheses and conducted a psychometric evaluation of the EIQ following the investigation.

2. LITERATURE REVIEW

Previous studies indicate that entrepreneurial intentions can be impacted by the variables of the TPB model of Ajzen (1991) because it is the primary model which supports the investigation and presents the primary cognitive approach to studying this connection.

The theory of planned behavior introduces three components (Attitude, subjective norms, and self-efficacy) that predict intention (Ajzen, 1991). Several empirical studies also confirmed that these three components are the main ones for explaining entrepreneurial purpose (Liñán and Chen, 2009). Attitude is the degree of personal valuation of entrepreneurship or simply the negative or positive judgments of individuals toward entrepreneurship (Ajzen 1991), Subjective norms indicate the social influence from family, friends, and close ones (Ajzen 1991), meaning how supportive individual

relatives are regarding one's entrepreneurial intentions or how their expectations affect individual behavior. Finally, Perceived Behavior Control (Self-efficacy) is the perception of realized ability to become self-employed (Ajzen, 1991). It is also called self-efficacy by Bandura (1997).

Liñán and Chen's (2009) study titled "Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions" tested 519 individual samples from two diverse countries, namely Taiwan and Spain, to reveal how cultural values influence individuals' perceived entrepreneurship. Their findings confirm the cognitive process from perception to intention, which is the same in diverse societies. The effect of each factor may vary in different cultures, but three motivational factors (SN, PBC, PA) are always the main determinants of intention (Liñán and Chen, 2009).

Similar study by Lee-Ross (2017) was conducted to evaluate the entrepreneurial intentions of MBA students in Australia. Lee-Ross employed Liñán and Chen's (2009) Entrepreneurial Intentions Questionnaire (EIQ), which is partly based on Azjen's (1991) TPB. The sample involved 249 graduate students from an Australian university; the study identified attitude and perceived behavioral control as main predictors of entrepreneurship intentions among Australian university students.

Another recent study by Sharahiley (2020) studied entrepreneurial intentions of Saudi Arabia University students by combining the TPB model and entrepreneurship event model to evaluate how desirable and feasible factors are perceived, as predictors of entrepreneurial intentions. The study examined the suggested integrated model by incorporating other relevant variables, including innovativeness and the business environment. This study, however, is focused on the theory of TPB that is highly regarded to examine entrepreneurship intentions and proves that the TPB model is the main predictor of entrepreneurship intentions.

3. CONCEPTUAL MODEL AND HYPOTHESIS

The present study aims at investigating whether student intention to pursue entrepreneurship can be predicted by three independent variables, namely Personal Attitude, Subjective Norms, and Perceived Behavioral Control. The evaluation of an entrepreneurial opportunity's attractiveness relies on an individual's Attitude toward it, which is shaped by beliefs, experiences, and emotions. Additionally, Subjective Norms, which reflect the perceived social pressure to

engage in entrepreneurship, can influence one's entrepreneurial intent, although the extent of this effect is debatable. Notably, a study by Liñán and Chen (2009) has reported that Subjective Norms may not be a significant predictor of entrepreneurial intent. Finally, Perceived Behavioral Control, or Self Efficacy, which captures an individual's self-perceived ability and resources to undertake entrepreneurial activities, has been shown to be a crucial determinant of entrepreneurial intent. The following Hypotheses were constructed for this study:

- H1: Students' intentions toward entrepreneurship are significantly impacted by personal attitudes.
- H2: Students' intentions toward entrepreneurship are significantly impacted by perceived behavioral control.
- H3: Students' intentions toward entrepreneurship are significantly impacted by subjective norms.

3.1 ENTREPRENEURIAL INTENT QUESTIONNAIRE (EIQ)

Linan and Chen (2009) initially created the EIQ; they tested 519 students from two universities based on Ajzen's (1991) TPB model. Linan and Chen found the questionnaire's psychometric properties robust. We also witness this in other articles such as Malebana (2014). The EIQ, like other models, uses Likert scales (Autio et al., 2001; Krueger et al., 2000).

The section related to personal attitude has five questions, and respondents indicated their consent using a scale of 1 (for total disagreement) and 5 (for complete agreement).

- “An entrepreneur career is attractive to me.” (Liñán and Chen, 2009).
- “I would initiate a business if I had the chance and resources.” (Liñán and Chen, 2009).

The same scales were used for subjective norms. It poses six questions such as:

- “My closest family members believe that I have to follow a career as an entrepreneur.” (Liñán and Chen, 2009).
- “My closest friends believe that I should follow a career as an entrepreneur.” (Liñán and Chen, 2009).

For perceived behavioral control, again, we have used the same scales, and this section consists of six questions, for example:

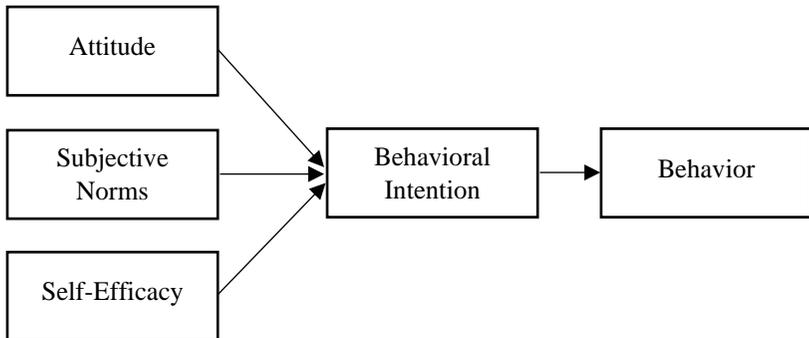
- “Launching a business and administering it would not be difficult for me.” (Liñán and Chen, 2009).
- “I am able to initiate a viable business.” (Liñán and Chen, 2009).

For entrepreneurship intentions, we have also used the same scales, and this section contains seven questions such as:

- “I am prepared to do everything to start my own firm.” (Liñán and Chen, 2009).
- “My professional goal is to start my own business entity.” (Liñán and Chen, 2009).

We have used a standpoint of pragmatism where subjective meaning and observable phenomena can jointly result in valuable knowledge (Sekaran, Borgia, and Schoenfeld, 2013). The questionnaires have been sent to Kabul University for data gathering. From a total of 170 convenience samples, only 154 were usable. To validate the data's robustness, a PCA or principal component analysis is conducted to find a number of predictors that explain the observed variables mathematically. This study has developed the following model to explain the impact of entrepreneurship education on entrepreneurship intention:

FIGURE 1
Conceptual Model of the study



4. METHODOLOGY AND DATA ANALYSIS

We believe that the social world can be understood objectively, known as positivist research philosophy. Therefore, this study assumes a positivist research philosophy and takes a quantitative approach.

Data were collected from public and private universities of Afghanistan where students are studying entrepreneurship courses as a mandatory subject at the undergraduate level in business schools, regulated by the Ministry of Higher Education of Afghanistan. The unit of study for this article is a student of the public or private university of business schools or equivalent. We used the questionnaire created by Liñán and Chen (2009) for data collection. The questionnaire has questions related to attitudes toward entrepreneurship, self-efficacy, and subjective norms, the three independent variables of this study. The questionnaire's reliability and validity have been tested by Liñán and Chen (2009) and by the author during the factor analysis process to ensure that each question relates to the same subject while each subject corresponds to the measures required.

4.1 PSYCHOMETRIC PROPERTIES OF THE EIQ

The collected data were subjected to PCA (Principal Component Analysis) to verify the robustness of the Theory of Planned Behavior (Ajzen 1991) through the Entrepreneurial Intention Questionnaire. The goal is to derive the number of factors (latent variables) that can explain the information of total variables.

In Table 1, the result of Kaiser-Meyer-Olkin test with the value of 0.828 indicates there were adequate items for each factor. Moreover, Bartlett's test of sphericity is significant at 0.05 which indicates the adequacy of items for each factor.

TABLE 1
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.828
Bartlett's Test of Sphericity	Approx. Chi-Square	1579.647
	df	153
	Sig.	0.000

In addition, the initial communalities displayed in Table 2 for the extraction for all variables are above 0.3, whereas anything below

that is highly likely to control the results of principal component analysis.

TABLE 2
Communalities

Factors	Initial	Extraction
Intentions Towards Entrepreneurship 1	1.000	0.545
Intentions Towards Entrepreneurship 2	1.000	0.695
Intentions Towards Entrepreneurship 3	1.000	0.772
Intentions Towards Entrepreneurship 4	1.000	0.677
Intentions Towards Entrepreneurship 5	1.000	0.598
Intentions Towards Entrepreneurship 6	1.000	0.423
Intentions Towards Entrepreneurship 7	1.000	0.432
Self Efficacy 1	1.000	0.563
Self Efficacy 2	1.000	0.590
Self Efficacy 3	1.000	0.671
Self Efficacy 4	1.000	0.627
Self Efficacy 5	1.000	0.622
Subjective Norms 1	1.000	0.686
Subjective Norms 2	1.000	0.752
Subjective Norms 3	1.000	0.707
Attitude Towards Entrepreneurship 1	1.000	0.689
Attitude Towards Entrepreneurship 2	1.000	0.602
Attitude Towards Entrepreneurship 3	1.000	0.696

Table 3 indicates that four factors with Eigenvalues greater than one were extracted. The first factor explains 33.5% of the variance, which is higher than the rest. As researchers (e.g., Garson 2010) agree, the four factors extracted can explain 63% of the total variance within an acceptance range.

TABLE 3
Initial Eigenvalues

Component	Initial Eigenvalues		
	Total	% of variance	Cumulative %
1	6.031	33.506	33.506
2	2.236	12.420	45.927
3	1.698	9.432	55.358
4	1.382	7.680	63.038
5	0.991	5.508	68.546
6	0.958	5.323	73.869
7	0.636	3.533	77.402

TABLE 3 (continued)

Component	Initial Eigenvalues		
	Total	% of variance	Cumulative %
8	0.592	3.287	80.689
9	0.546	3.032	83.721
10	0.501	2.781	86.502
11	0.411	2.285	88.787
12	0.399	2.216	91.003
13	0.372	2.069	93.072
14	0.332	1.847	94.918
15	0.296	1.643	96.561
16	0.242	1.343	97.904
17	0.218	1.212	99.116
18	0.159	.884	100.000

Table 4 represents the factors and how each item was loaded in each factor with the respective Cronbach's Alpha value.

TABLE 4
Rotated Component Matrix

	Component				Cronbach's Alpha
	1	2	3	4	
Intentions Towards Entrepreneurship 1	0.633				0.85
Intentions Towards Entrepreneurship 2	0.804				
Intentions Towards Entrepreneurship 3	0.804				
Intentions Towards Entrepreneurship 4	0.677				
Intentions Towards Entrepreneurship 5	0.838				
Intentions Towards Entrepreneurship 6	0.615				
Intentions Towards Entrepreneurship 7	0.481				

TABLE 4
Rotated Component Matrix

	Component				Cronbach's Alpha
	1	2	3	4	
Self Efficacy 1		0.747			0.82
Self Efficacy 2		0.713			
Self Efficacy 3		0.787			
Self Efficacy 4		0.747			
Self Efficacy 5		0.749			
Subjective Norms 1			0.782		0.83
Subjective Norms 2			0.830		
Subjective Norms 3			0.786		
Attitude Towards Entrepreneurship 1				0.768	0.71
Attitude Towards Entrepreneurship 2				0.636	
Attitude Towards Entrepreneurship 3				0.785	
Principal Component Analysis is used for extraction.					
Varimax with Kaiser Normalization is used for rotation.					
Rotation converged in 5 iterations.					

The Cronbach's Alpha for all constructs is above 0.70 in Table 4; thus, reliability is confirmed as in Nunnally (1967). The EIQ items were loaded perfectly on the TPB model that Ajzen (1991) determined. This study also requires excluding items less than 0.4 revealing that factor one has strong loadings on Entrepreneurship Intentions. Similarly, factor two has significant loadings on self-efficacy, where factor three describes the loadings for Subjective Norms, and factor four explains the loadings of Personal Attitude. Finally, we have used multiple regression to test the TPB theory. Similar studies were done before (e.g., Segal, Borgia, and Schoenfeld 2005; Engle, Andresson, and Wennberg 2014; Kim-Soon, Ahmad, and Ibrahim 2014).

5. RESULTS

A linear regression analysis has been performed to reveal the relationship between independent variables and Entrepreneurship Intentions as the dependent variable. Table 5 reveals the coefficients upon which the entrepreneurial intent estimation is based. As the significant p -values in Table 5 show, all three variables significantly influence entrepreneurship intentions.

TABLE 5
Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
(Constant)	1.104	0.402		2.746	0.007
Attitude Toward Entrepreneurship	0.339	0.089	0.248	3.820	0.000
Subjective Norms	0.229	0.047	0.320	4.829	0.000
Self Efficacy	0.195	0.057	0.219	3.460	0.001

Notes: Regression analysis for the dependent variable (Intentions Toward Entrepreneurship)

Table 6 shows the Pearson correlation matrix for all the variables studied. The coefficients in Table 6 show no strong correlation among variables; therefore, the regression results are unbiased.

TABLE 6
Pearson Correlation Matrix for All Variables

	Total Intentions Towards Entrepreneurship	Total Attitude Towards Entrepreneurship	Total Subjective Norms	Total Self Efficacy
Total Intentions Toward Entrepreneurship	1.000			
Total Attitude Toward Entrepreneurship	0.407	1.000		
Total Subjective Norms	0.471	0.356	1.000	
Total Self Efficacy	0.361	0.205	0.285	1.000

6. CONCLUSION

This study was concerned with two primary goals. The first was to confirm the appropriateness of the item's clean loading on the factors specified by the model. The second goal was to prove how well the three independent variables (attitude, self-efficacy, subjective norms) are able to predict entrepreneurship intentions.

Results for factor loading reveal that the whole model accounts for 63% of the variance in entrepreneurial intent, or the other 47% of the variance is not explained mainly because of factors not accounted for in the TPB. Thus, significant evidence exceeds the results of studies by other scholars (Segal, Borgia, and Schoenfeld, 2005). Therefore, the cognitive-based TPB is appealing as a reliable theory in the entrepreneurship context.

Family support is more substantial in non-western countries; however, in Western countries, family support is less apparent and influential in entrepreneurs (Hofstede 1980). We have found supporting results; while Afghanistan is a non-western country, SN is a significant predictor of entrepreneurship intent. The subjective norm is significant and reliable because the sample was drawn from business school students. Therefore, it is a predictor of entrepreneurship intent.

Based on the abovementioned results, the EIQ is a reliable instrument for investigating entrepreneurship intentions, given the appearance of neat factor loading.

7. RECOMMENDATIONS

In the Afghanistan context, several avenues for further expansion of the Theory of Planned Behavior (TPB) need exploration.

First, it is recommended that the influence of family members and elders on entrepreneurial intentions be studied as moderator variables. In Afghanistan, family members and elders hold considerable power over individuals' decisions and actions, including decisions related to entrepreneurial pursuits. Therefore, it would be interesting to understand the extent of their influence.

Second, how far networking and communication influence entrepreneurial intentions should be studied. Afghanistan is a collectivistic society, and personal relationships play a crucial role in business dealings. Therefore, it would be beneficial to investigate how networking and communication affect the TPB constructs and, in turn, influence entrepreneurial intentions.

Third, the moderating role of entrepreneurship education must be explored. Entrepreneurship education is still in its infant stages in Afghanistan, and its influence on entrepreneurial intentions has not been studied extensively. Investigating entrepreneurship education as a moderator variable would provide valuable insights into how it affects the relationship between the TPB constructs and entrepreneurial intentions. It would also help policymakers and educators understand the efficacy of current entrepreneurship education programs and guide future program development.

To further develop the Theory of Planned Behavior (TPB) in the Afghan context it is recommended to investigate how Islamic beliefs influence the desire for entrepreneurship. A similar research has been done by Fozia, Rehman, and Farooq (2016) in Pakistan but not in Afghanistan which is a culturally diverse country with a rich heritage, and unique values and beliefs. The concept of Halal and Haram which has been studied thoroughly in the context of Pakistan (Khalique et al., 2020) may shape how people view entrepreneurship. By studying how cultural factors affect attitudes, subjective norms, and perceived control over starting a business, researchers could gain valuable insights into the underlying drivers of entrepreneurship in Afghanistan.

Overall, expanding the TPB theory in the context of Afghanistan by studying the influence of family members and elders, networking and communication, entrepreneurship education and Islamic values as moderator variables would provide a more nuanced understanding of the factors driving entrepreneurial intentions in Afghanistan.

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ISLĀMIC INTELLECTUAL STIMULATION LEADERSHIP: CONCEPTUALISATION, SCALE DEVELOPMENT, AND VALIDATION

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ABSTRACT

This study aims at developing a new leadership concept as result of transformational leadership intervention with *Islāmic* values, namely *Islāmic* intellectual stimulation leadership, and develop a measurement scale. We collected data from 119 respondents among university leaders in Indonesia. Using exploratory tests and confirmatory factor analysis, we tested the validity and reliability of the proposed measurement scales. The findings of this study reveal 23 indicators that reflect *Islāmic* Intellectual stimulation leadership in the Indonesian context. This research contributes to development of the human resources literature especially on the concept of workplace leadership. This research is limited only to Indonesian institutions; to apply these indicators in a broader and global context, future researchers need to conduct similar research at several different institutions or contexts around the world. Professionals can use these findings as a basis for designing and developing leadership qualities in the workplace that can broadly stimulate employees to improve organizational performance.

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1. INTRODUCTION

Leaders play a strategic role, namely empowering and collaborating on the potential of organizational human resources by providing guidance, support, and appreciation so that these resources can ensure effective organizational performance (Gazi, 2020; Karadağ et al., 2015; Schriesheim and Neider, 1996). Several leadership studies based on transformational leadership in stimulating and encouraging organizational creativity have been carried out (e.g., Thuan, 2019; Sánchez-Cardona et al., 2018; Sandvik et al., 2018; Yasin et al., 2014; Zhou et al., 2011). Studies show that Intellectual Stimulation Leadership is able to stimulate employees to think critically and creatively in solving new problems innovatively. Leaders stimulate the intrinsic motivation of employees and promote their creativity to achieve organizational performance.

Based on the results of the literature review on Intellectual Stimulation Leadership, some deficiencies still exist. First, the target of achieving creativity is still limited to the organizational orientation and interests and it has not been expanded to include long-term interests in the afterlife. Second, stimulation in encouraging creativity is built in transactional relationships in the form of employee promotions, not yet driven through broader expectations for the happiness of life in the hereafter. This means that the success of achieving human creativity in a Western perspective is only measured from the physical aspect and productivity capabilities (Mahyudi, 2021; Saniff and Hanapi, 2014; Otsuka, 2005). It has not involved personal religious values in stimulating and motivating employee creativity. Therefore, we explore intellectual stimulation leadership with *Islāmic* religious values. Involving religious values in leaders is important because several studies on spirituality confirm that internalization of religious values in organizational management can encourage a broader work orientation (Markow and Klenke, 2005), enhance intelligent leader behavior in decision-making

(Vasconcelos, 2009), and trigger organizational effectiveness (Septianingsih and Fachrunnisa, 2021; Chen et al., 2012).

From an *Islāmic* perspective, leadership is rooted in spiritual values based on monotheism connection between individuals and Allāh ‘azza wa jalla in every activity (*QS. 21: 73*): “And We made them as leaders who guide with Our orders and We revealed to them to do good, carry out prayers and pay *zakāt*, and only to Us they worship”, and the orientation of the Hereafter becomes the main goal (*HQ. 87: 17*): “Meanwhile, the Hereafter is better and more eternal.” This implies that every personal activity, both worship and *muamalah* must follow the *Sharī‘ah* and the *Qur‘ān* (Zandi et al., 2013; el Garah et al., 2012). Studies (McCormack et al., 2014) also confirm that leaders with capacity and religiosity encourage better decision-making, create organizational goals providing broad meaning, and show the importance of religious values in leadership.

Based on the literature review, we introduce a new leadership model of intellectual stimulation leadership based on *Islāmic* religious values, namely the value of *mahmudah* to fill the gaps in previous studies. *Mahmudah* is a commendable moral value in Islam. The forms of *mahmudah* moral values encouraged in this study are *ikhlas* (non-transactional and confident of receiving a better reward from God), *qana‘ah* (grateful for God's gift, avoiding greed), *istiqomah* (consistency in carrying out good deeds based on *Islāmic* values), *murāqabah* (believing that God always pays attention to human activities, thus encouraging to carry out the best activities on the basis of God's command), and *tawakkul* (believe in God's power and surrender all the results of efforts to God).

We involve *mahmudah* because it is a commendable character in *Islāmic* value. Morals are interpreted as good deeds, morality, character, and behavior in *Islāmic* value. So, someone who has good morals is a person who behaves and has good and commendable character. The reference for a commendable moral example in Islam is the Prophet Muhammad (*ṣal-Allāhu ‘alayhi wa sallam*). This is in accordance with *QS Al Qalam: 4*, namely: “And indeed you (*Muhammad*) are truly virtuous and noble”, showing that the Prophet Muhammad (*ṣal-Allāhu ‘alayhi wa sallam*) had noble and high morals and must be an example for all *Muslims* in all aspects of his life, included in managing the organization. “Indeed, there has been in (self) Rasulullah a good role model for you (namely) for those who hope (grace) Allāh ‘azza wa jalla and (arrival) Day of Judgment and who remember Allāh ‘azza wa jalla much” (*QS Al Ahzab: 21*).

2. LITERATURE REVIEW

2.1 TRANSFORMATIONAL LEADERSHIP

Transformational leadership refers to leaders who move followers beyond direct self-interest through idealized influence (charisma), inspiration, intellectual stimulation, or individual judgment (Bass, 1999). Transformational leadership is more effective than transactional leadership (Tyssen et al., 2014). Transformational leaders who implement high performance expectations and individual support play an important role in close relationships with employees who have a high work ethic (Morkevičiūtė et al., 2019). Intellectual stimulation involves leaders increasing and challenging employees' awareness of problems and their capacity to solve them (Bono and Judge, 2004). Here, leaders question organizational assumptions and beliefs and encourage followers to be innovative and creative, thereby approaching old problems in new ways (Barbuto, 2005). Leaders empower followers by persuading them to propose new and controversial ideas without fear of punishment or ridicule (Gregory Stone et al., 2004).

2.2 AKHLAQ MAHMUDAH

Moral quality is the main mission that will be perfected by Rasulullah SAW because it is a reflection of superior morals (*QS. 68, Al Qalam: 4*). The essence of the meaning of morality itself is a description of the human mind so that it concerns the spirit, heart, and human mind. Morals controlled by a good heart are called easy morals because the heart is the main determinant of whether the other members of the body are good or not.

The practice of worship is divided into *zahir* and mental practice or heart practice. If the practice of *zahir* affects the heart, it can be said that the heart rests on the practice of *zahir*. If the actions of the heart also affect the heart, it is also said that the heart rests on mental actions. A heart that is separated from relying on practice is a heart that faces Allāh *'azza wa jalla* completely. Worship is like an outward physical form, while the spirit is a sincere form hidden in it. *Ikhlas* is the secret of Allāh *'azza wa jalla* that is placed in the hearts of His servants. *Ikhlas* is divided into three levels, *Ikhlasul 'ubad*, *Ikhlasul Muhibbin*, and *Ikhlasul'arifin*. At the first level, actions

without *riya'* and self-interest, both visible and subtle, but still hoping for a reward from Allāh *'azza wa jalla*, for example hoping to go to heaven. Worship at the second level is based on the love and majesty of Allāh *'azza wa jalla*, not out of fear of hell or hoping to go to heaven, but at the second level, it still cannot eliminate the word “I” in worship. The third level reflects the totality of a servant's devotion to his Lord, at this level a servant admits that it is impossible for someone to do something except because of Allāh *'azza wa jalla*.

Qona'ah according to the language is to accept, while in the sense of moral science is to accept with the heart all the gifts given by Allāh *'azza wa jalla* and be patient with His provisions, but do not leave effort, endeavor, and outward activities. *Qona'ah* is a treasure that will not be lost and a treasure that will not be destroyed (*HR Ath Thabrani*). *Qona'ah* contains five things, accepting sincerely as it is, asking Allāh *'azza wa jalla* for additional gifts that are appropriate and endeavoring, patiently accepting Allāh *'azza wa jalla* provisions, trusting Allāh *'azza wa jalla*, and not being interested in deceptions of the world. It is not being rich just because of the abundance of wealth, but actually, those who are rich in soul (*HR Abu Hurairah*). The key to survival is to never feel deprived. Indeed, those who say, “Our Lord is Allāh” then they remain *istiqomah* (consistent in their stance) then angels will come down to them (say), “Don't be afraid, and don't be sad. On the contrary, be happy with the good news heaven has promised you.” (*Surah 41, Fushilat: 30*).

Murāqabah is a form of strong belief that a person is always supervised by Allāh *'azza wa jalla* in all activities in all aspects. This awareness arises because of a strong belief that Allāh *'azza wa jalla* has the *sami' nature* (hearing), *bashar* (seeing), and *knowledge* (knowing). Apart from getting closer to Allāh *'azza wa jalla*, *murāqabah* also means that *Muslims* always pay attention to themselves, their actions, and ways to improve themselves (*Adawiyah and Scouts, 2017*). Allāh *'azza wa jalla* knows what people are doing, anytime and anywhere. He knows what persons are thinking and feeling. Nothing escapes His supervision following the Word of Allāh *'azza wa jalla QS Al-An'aam* verse 59, “With Him are the unseen keys—no one knows them except Him. And He knows what is on the land and in the sea. Not a leaf falls without His knowledge, or a seed in the darkness of the earth or anything else—green or dry—but is written in a perfect Record (*Lauh Mahfudz*).

Tawakkul is complete submission to Allāh *'azza wa jalla*. *Tawakkul* has the same root word as surrender, but cannot be interpreted as absolute surrender to Allāh *'azza wa jalla* without any

effort from the man himself, in other words this surrender must begin with human endeavor (Shihab, 2006). This means that all human beings must actively try to fulfill their life needs by realizing their limitations and understanding that Allāh ‘azza wa jalla is almighty. *Tawakkul* has three degrees. First, the *tawakkul* of one who hands over his affairs to his deputy, the second *tawakkul* of the child who entrusts his affairs to his mother, and the third *tawakkul* of the dead who entrust their affairs to the persons who bathes them. People who put their trust after making the maximum effort that can be done as humans, will not complain, because everything has been submitted to Allāh ‘azza wa jalla, as Allāh ‘azza wa jalla said in *Surah At-Taubah* verse 51, Saying: “Nothing will happen to us except what Allāh ‘azza wa jalla has ordained. for us. He is our Protector. And in Allāh ‘azza wa jalla then the believers must put their trust.”

2.3 ISLĀMIC INTELLECTUAL STIMULATION LEADERSHIP

Apart from *Mahmudah* character values described before, we propose a new leadership concept, namely *mahmudah* intellectual stimulation leadership (Figure 1) as a leadership model that can stimulate employees with their minds and hearts so that they become creative, innovative, think critically, by instilling the qualities of *qana'ah*, *istiqomah* and *tawakkul* to get closer to Allāh ‘azza wa jalla (*murāqabah*).

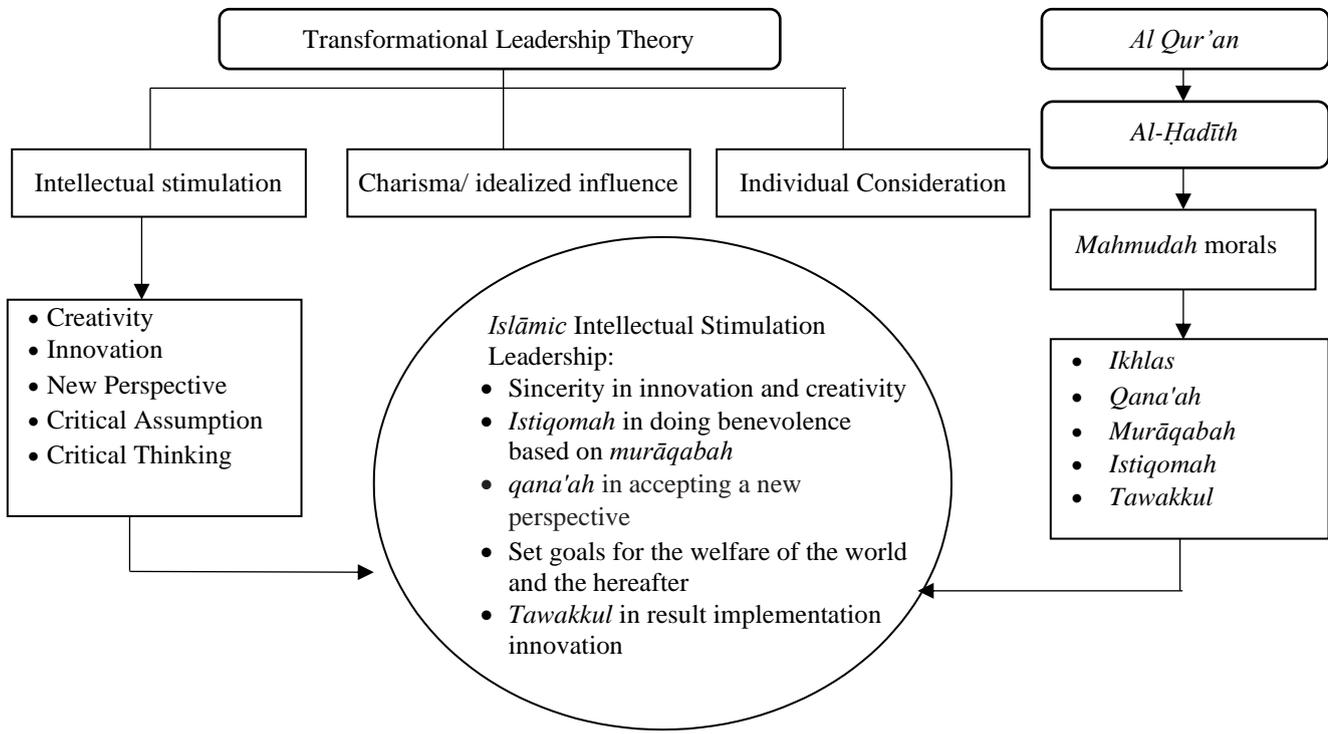
We need to develop the measurement scale of this new concept and ensure the validity and reliability of the measurement scale.

3. METHODS

3.1 QUALITATIVE METHOD

At this stage, a literature review is carried out on existing research on Transformational leadership, especially on the theme of Intellectual Stimulation. This was done to find out and as a basis for urgency the need to develop a new concept, namely Easy Intellectual Stimulation Leadership. At this stage, we also conducted a Focus Group Discussion (FGD) on the meaning, preparation of measurement scales, and content validity of the proposed new concept (Sekaran and Bougie, 2016; Kidder and Judd, 1986). In this FGD we involved 5 experts consisting of *Muslim* scholars, university leaders, university lecturers, and the management of LPP *Al Irsyad Al Islamiyyah*. These experts were asked to provide a review of the proposed measurement scale for *Islāmic* Intellectual Stimulation Leadership.

FIGURE 1
Integration of Transformational Leadership and *Mahmudah* Morals



3.2 QUANTITATIVE METHOD

At this stage, we tested the validity and reliability of the measurement scale of the *Mahmudah* Intellectual Stimulation Leadership concept which had obtained content validity from the FGD results. We collected data from 119 respondents consisting of heads of study programs, heads of departments, deans of faculties, vice-chancellors, chancellors, and heads of higher education foundations in Indonesia. We used a questionnaire with reference to the principles of good questionnaire design (Sekaran and Bougie, 2016), with clear and understandable language, consideration for cultural characteristics factors, to avoid misperceptions and biased answers. To test construct validity and reliability we used the Exploratory Factor Analysis (EFA) Test through the SPSS 16.0 program and the Confirmatory Factor Analysis (CFA) Test using AMOS 20.

4. RESULTS

4.1 RESULTS FROM QUALITATIVE STUDY

At this stage, we have conducted a meta-analysis of previous studies related to transformational leadership, especially studies on intellectual stimulation leadership. The result of the meta-analysis is presented in the following Table 1.

Based on the meta-analysis results, we propose a new concept, namely *Islāmic* Intellectual Stimulation Leadership. *Islāmic* Intellectual Stimulation Leadership is interpreted as leadership that stimulates organization members through their minds and hearts to be creative, innovative, think critically, based on the characteristics of *qana'ah*, *istiqomah*, *murāqabah* and resignation to get God's grace.

Furthermore, as a new concept, we propose a measurement scale for *Mahmudah* Intellectual Stimulation Leadership. We developed a scale of measurement based on the literature and values contained in the *Qur'ān*. For this reason, we have conducted in-depth discussions in a focused group discussion (FGD) involving 5 experts consisting of *Muslim* scholars, university leaders, university lecturers, and LPP *Al Ersyad Al Islamiyyah* management. The results of this FGD found a proposed MISL measurement scale that met the face validity of these experts. The proposed scale for measuring the results of the FGD is presented in Table 2.

TABLE 1
Meta-Analysis Results of Intellectual Stimulation

No.	Writer	Draft	Analysis
1.	(Sánchez-Cardona et al., 2018)	Through intellectual stimulation, leaders continually encourage team members to think and work in new ways by challenging their own beliefs and supporting new and innovative ways of acting.	Intellectual encouragement is still focused on exploring thinking abilities and knowledge. Reason is an important instrument for gaining knowledge. Reason, however, is only capable of capturing phenomenal things, not existential experiences that concern emotional life (Kartanegara, 2003). Therefore, it is necessary to involve the heart (<i>qalb</i>) which is able to capture spiritual emotional values as a means of building human connectivity with God.
2.	(Thuan, 2019)	Leader intellectual stimulation refers to increasing employees' interest in, and awareness of problems, and enhancing their ability to think about problems in new ways; leader intellectual stimulation increases creativity in followers.	On the one hand, employees are required to have creative abilities, on the other hand, they are given autonomy at work. Freedom of work requires the presence of the Supreme Being, the quality of <i>muraqobah</i> as a character that forms a responsible personality when given autonomy in work because they feel closeness to God and fear wrongdoing.

TABLE 1 (continued)

No.	Writer	Draft	Analysis
3.	(Zhou et al., 2011)	The intellectual stimulation of high leaders affects the creativity of promotion-oriented employees, through increasing decision freedom and promoting employee creativity.	Intellectual stimulation is able to develop employee creativity but is still transactional with promotional rewards. Need to include sincerity and <i>qana'ah</i> in the sense of creative work because of worship to Allāh <i>'azza wa jalla</i> . Morals make it easy to believe that there is a better reward from Allāh <i>'azza wa jalla</i> (QS. 87: 17).
4.	(Sandvik et al., 2018)	Intellectually stimulating leadership behaviors will impact employee team autonomy and intrinsic motivation, which can impact creative team climates.	Team creativity is stimulated by leadership which stimulates employee intelligence. Material intrinsic motivation dominates research. The true spiritual motivation has not been implanted, namely <i>tawakkul</i> , surrender whatever the result is because of Allāh <i>'azza wa jalla</i> .
5.	(Yasin et al., 2014)	Intellectual stimulation and innovation can simultaneously improve organizational performance.	The characteristics of <i>istiqomah</i> in employee innovative behavior has not been prioritized for the sustainability of innovation results.

TABLE 2
Proposed *Islāmic* Intellectual Stimulation Leadership Measurement Scale

Indications of Intellectually Stimulating Leadership (Bass, 1999; Sandvik et al., 2017)	Indication of <i>Mahmudah</i> morals (Mustofa and Kurniasari, 2020)	Source in the <i>Qur'ān</i>	No.	Item Indicator of <i>Islāmic</i> Intellectual Stimulation Leadership
Creative	Sincere	<i>QS. Ar Rahman: 33;</i>	1	Encourage employee creativity with no other perks for leaders
Creative	<i>Qona'ah</i>	<i>QS. Az Zumar: 3;</i>	2	Accepting the work of employees even though it is not entirely as expected
Creative	<i>Istiqomah</i>	<i>QS. Al Bayyinah: 5</i>	3	Always encourage employees to behave creatively.
Creative	<i>Muroqobah</i>	<i>QS. Al Maidah: 23</i>	4	Creative behavior that is carried out aims at worship of Allāh.
Creative	Resignation		5	Whatever the results of employee creativity, I leave everything to Allāh.
Innovation	Sincere	<i>QS. Ar Ra'd: 4;</i>	6	Do not scold employees when the innovations carried out do not meet expectations.
Innovation	<i>Qana'ah</i>	<i>QS. Al Baqarah: 155;</i>	7	Encourage employees to innovate.
Innovation	<i>Istiqomah</i>		8	Always provide opportunities for employees to innovate for the good of the organization and the hereafter

TABLE 2 (continued)

Indications of Intellectually Stimulating Leadership (Bass, 1999; Sandvik et al., 2017)	Indication of ____ <i>Mahmudah</i> morals (Mustofa and Kurniasari, 2020)	Source in the <i>Qur'an</i>	No.	Item Indicator of <i>Islāmic</i> Intellectual Stimulation Leadership
Innovation	<i>Muqoroba</i>		9	Instill innovative behavior by employees solely for worship.
Innovation	Resignation		10	Whatever the results of employee innovation, I leave everything to Allāh.
New perspective	Sincere	<i>QS. Ar Ra'd: 4</i>	11	Encouraging the mindset of employees in the way they work for the wider interests of the world and the hereafter
New perspective	<i>Qana'ah</i>	<i>QS. Az Zumar: 3</i>	12	Able to accept new perspectives from employees.
New perspective	<i>Istiqomah</i>		13	Work with new perspectives for sustainable organizational progress.
New perspective	<i>Muroqobah</i>		14	Instill new perspective behavior that employees do solely for worship.

TABLE 2 (continued)

Indications of Intellectually Stimulating Leadership (Bass, 1999; Sandvik et al., 2017)	Indication of <i>Mahmudah</i> morals (Mustofa and Kurniasari, 2020)	Source in the <i>Qur'ān</i>	No.	Item Indicator of <i>Islāmic</i> Intellectual Stimulation Leadership
Critical Assumptions	Sincere	<i>QS. Ar Rum: 21</i> <i>QS. Az Zumar: 3</i>	15	Believing that working hard will get good in this world and the hereafter as a form of strong faith
Critical Assumptions	<i>Qana'ah</i>		16	Each employee's work is assessed in detail while still receiving the results of his or her work.
Critical Assumptions	<i>Istiqomah</i>		17	Providing opportunities for employees to worship and work in a balanced and sustainable manner.
Critical Assumptions	<i>Murāqabah</i>		18	Trust that Allāh is always watching over me at work.
Critical Assumptions	Resignation		19	Continue to improve our capacities and abilities through further education, training, or seminars so that we can properly carry out our responsibilities as leaders, before humans and God.

TABLE 2 (continued)

Indications of Intellectually Stimulating Leadership (Bass, 1999; Sandvik et al., 2017)	Indication of <i>Mahmudah</i> morals (Mustofa and Kurniasari, 2020)	Source in the <i>Qur'ān</i>	No.	Item Indicator of <i>Islāmic</i> Intellectual Stimulation Leadership
Critical thinking	Sincere	<i>QS. Ar Ra'd: 4</i>	20	Always confirm with your conscience when setting policies.
Critical thinking	<i>Istiqomah</i>	<i>QS. Ali Imron: 191</i>	21	Always encourage employees to do good for the sake of sustainable organizational progress.
Critical thinking	<i>Murāqabah</i>		22	My institution is well organized when employees work for the purpose to worship Allāh.
Critical thinking	Resignation		23	Encouraging employees to always think critically and the results of critical thinking are left to God.

4.2 RESULTS FROM QUANTITATIVE STUDY

At this stage, we used Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) tests to ensure the validity and reliability of the measurement scales developed. This study uses Kaiser criteria which requires an eigenvalue of more than 1 and component analysis with orthogonal rotation as a general criterion for determining retention factors (Adawiyah and Pramuka, 2017).

Based on the EFA test results, it was found that 23 indicator items from *Islāmic* Intellectual Stimulation Leadership were successfully loaded into the general factor with their respective eigenvalues 9.231 and 1.154. The total variance explained by the five factors is 6.7.3%, which is higher than the recommended value of 60% in social science research. (Hair et al., 2009). The *Islāmic* Intellectual Stimulation Leadership instrument developed has a Kaiser-Meyer-Olkin (KMO) value of 0.844 and Bartlett's Test of Sphericity with a p-value of 0.000, indicating sufficient data for factor analysis (Hair et al., 2009). After going through the rotation of the matrix components, the question items are grouped into 5 factors with 23 items that meet the requirements with a loading factor equal to or more than 0.5. The EFA results are presented in Table 3:

Furthermore, to obtain construct validity, we carried out a confirmatory factor analysis (CFA) test. Based on the results of the CFA test (Figure 2), the fit index TLI = 0.850, CFI = 0.843 and CMIN/df = 2.11 and the recommended limit is ≤ 3 so that χ^2/df reflects a good fit (Hair, Black, Babin, Anderson, and Tatham, 2009). The results of the reliability test showed that the construct reliability variable MIS11 was 0.944, MISL2 was 0.814, MISL3 was 0.772, MISL4 was 0.857 and MISL5 was 0.770. For testing, it meets the criteria for the cut off value > 0.70 (Cronbach, 1946), thus showing the measurement scale developed has good internal consistency.

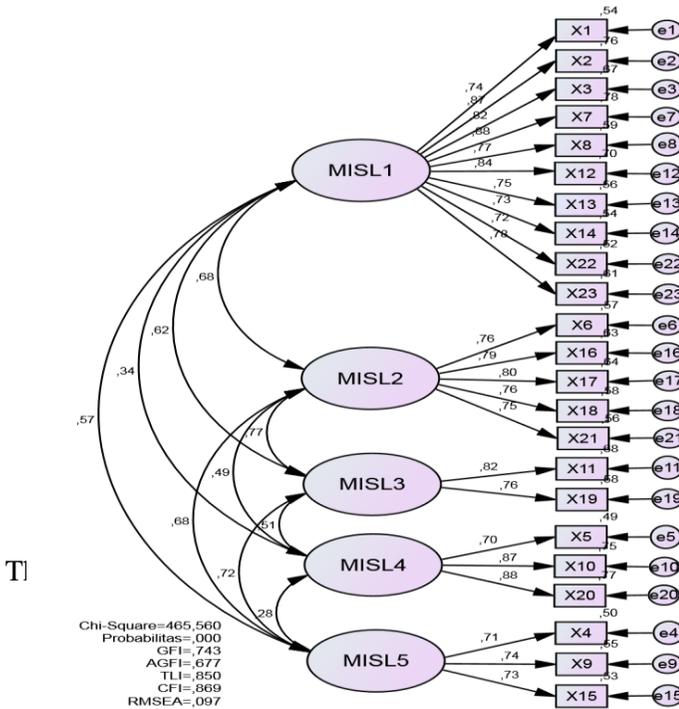
TABLE 3
Exploratory Factor Analysis Test Results

Indicator	Components				
	1	2	3	4	5
Encourage employees to behave creatively.	0.848				
Encouraging employees to innovate.	0.831				
Providing opportunities for employees to innovate for the good of the organization and the hereafter	0.824				
Want to accept new perspectives from employees	0.806				
Accepting the work of employees even though it is not entirely as expected	0.755				
Encouraging employees to always think critically and leave the results to Allāh.	0.755				
Work with new perspectives for sustainable organizational progress	0.741				
Instill new perspective behavior that employees do solely for worship	0.589				
My institution is well organized when employees work for the purpose of worshipping Allāh.	0.587				
Encouraging employee creativity sincerely	0.511				
Do not scold employees when the innovations carried out do not meet expectations.		0.752			
Believing that Allāh is always watching over me at work.		0.695			
Always encourage good employees for sustainable organizational progress.		0.688			
Each employee's work is assessed in detail while still receiving the results of his or her work.		0.617			

TABLE 3 (continued)

Indicator	Components				
	1	2	3	4	5
Providing opportunities for employees to worship and work in a balanced and sustainable manner.		0.605			
Encouraging the mindset of employees in the way they work for the wider interests of the world and the hereafter			0.669		
Continue to improve our capacity and abilities so that we can carry out our responsibilities as leaders well, before humans and God.			0.642		
When submitting the results of employee innovation, I leave everything to Allāh				0.741	
Always confirm with your conscience when setting policies.				0.661	
Whatever the results of employee creativity				0.632	
Creative behavior that is carried out aims at worship of Allāh.					0.725
Instill innovative behavior by employees solely for worship.					0.654
Believing that working hard will get good in this world and the hereafter as a form of strong faith					0.554
Extraction Method: Principal Component Analysis.					
Rotation Method: Varimax with Kaiser Normalization. Rotated Component Matrix ^a					
Kaiser-Meyer-Olkin Measures of Sampling Adequacy.					0.844
Bartlett's Test of Sphericity	approx. Chi-Square		1679,68		
			7		
		df	300		
		Sig.	0.000		

FIGURE 2
MISL CFA Test Results



5. DISCUSSION

The findings of the new concept of *Islāmic (Mahmudah)* Intellectual Stimulation Leadership will encourage leaders to have the spirit of *Tawheed* values by implementing *mahmudah* moral values in managing and encouraging the potential of organizational members to improve personal quality and organizational performance. *Mahmudah* morals, which are based on the monotheism value paradigm, are the main basis for the *Islāmic* Intellectual Stimulation Leadership concept, which is an important point in developing quality of leaders, with values different from the basic concept of intellectual stimulation leadership based on the existing conventional secular paradigm (Aydin, 2020). That is because leadership is one of the main points in social relations with organizational members (Patwary,n.d.).

TABLE 4
The Recapitulation of CFA results

Factor	Item
Encourage employee creativity sincerely (MISL 1)	<p>Encourage employees to behave creatively.</p> <p>Encouraging employees to innovate.</p> <p>Providing opportunities for employees to innovate for the good of the organization and the hereafter</p> <p>Want to accept new perspectives from employees</p> <p>Accepting the work of employees even though it is not entirely as expected</p> <p>Encouraging employees to always think critically and leave the results to Allāh.</p> <p>Work with new perspectives for sustainable organizational progress</p> <p>Instill new perspective behavior that employees do solely for worship</p> <p>My institution is well organized when employees work for the purpose to worship Allāh.</p> <p>Encouraging employee creativity sincerely</p>
Istiqomah in doing benevolen based on <i>murāqabah</i> (MISL 2)	<p>Do not scold employees when the innovations carried out do not meet expectations.</p> <p>Believing that Allāh is always watching over me at work.</p> <p>Always encourage good employees for sustainable organizational progress.</p> <p>Each employee's work is assessed in detail while still receiving the results of his or her work.</p> <p>Providing opportunities for employees to worship and work in a balanced and sustainable manner.</p>

TABLE 4 (continued)

Factor	Item
Set goals for the welfare of the world and the hereafter (MISL 3)	Encouraging the mindset of employees in the way they work for the wider interests of the world and the hereafter Continue to improve our capacity and abilities so that we can carry out our responsibilities as leaders well, before humans and God.
Surrender the results of endeavor to the power and decree of God (MISL 4)	When submitting the results of employee innovation, I leave everything to Allāh. Always confirm with your conscience when setting policies. Whatever the results of employee creativity, I leave everything to Allāh.
Accept the results of Allāh's decree with <i>qana'ah</i> (MISL 5)	Creative behavior that is carried out aims to worship Allāh. Instill innovative behavior by employees solely for worship. Believing that working hard will get good in this world and the hereafter as a form of strong faith

This shows that leadership practices in stimulating and inviting others to work enthusiastically and creatively are key factors for organizational success (Gazi, 2020). Therefore, we consider it important to present *Islāmic* moral values based on monotheism, namely *mahmudah* morals in the form of sincerity, trustworthiness, *istiqomah*, *murāqabah*, and *qana'ah* values. These values serve as guidelines for leaders in carrying out leadership and stimulate organizational members to carry out their duties creatively and innovatively with the spirit of morality and a broad work orientation, namely goodness in the world and the hereafter.

The findings of this study are 23 indicators reflecting the *Islāmic* Intellectual Stimulation Leadership concept which are grouped into five factors, namely sincerity in innovating and being creative, *istiqomah* in doing sustainable good based on *murāqabah*, *qana'ah* in accepting new perspectives, achievement orientation for the welfare of life in this world and the hereafter, and resignation on the results of employee innovation. Hence, leadership in an *Islāmic* perspective must be rooted in belief and surrender to Allāh *‘azza wa jalla* (Gazi, 2020).

This finding also aligns with that of Sodikin et al. (2022) showing that leaders need to succeed in four important dimensions, namely the horizontal dimension by maintaining the quality of harmonious relationships with the environment inside and outside the organization, the vertical dimension, namely always maintaining connectivity with Allāh *‘azza wa jalla* in every leadership activity, the subjective dimension is continuing to strive to improve the quality of personal spiritual maturity, and the objective dimension is implementing spiritual values from that spiritual maturity in real life. This is in accordance with QS. 21: 73, namely: “And We made them as leaders who guide with Our orders and We revealed to them to do good, perform prayers and pay *zakāt*, and only to Us they worship”. This means that the encouragement of leaders to employees to do good work is always based on transcendental values and relationship with God. Here there is a belief that Allāh *‘azza wa jalla* has provided good moral guidance to mankind for carrying out activities and will always supervise (*murāqabah*) work activities, and the belief that the best results of work are to earn the pleasure of Allāh *‘azza wa jalla*.

Results of this study differ from that of existing studies (e.g., Sánchez-Cardona et al., 2018; Thuan, 2019; Zhou et al., 2011; Sandvik et al., 2018; Yasin et al., 2014). In existing studies, the intellectual drive is still focused on exploring thinking abilities and

knowledge. Reason is an important instrument for gaining knowledge; however, it is only able to capture the phenomenal, not existential experiences that concern transcendental emotional life (Kartanegara, 2003). This study contributes to the novelty that leader efforts in encouraging employee quality are not only limited to intellectual stimulation focused solely on work creativity and innovation. Instead, there is a strengthening of quality employee behavior based on morals. The MISL characteristics encourage employees with a motivational foundation based on a transcendental relationship with Allāh *'azza wa jalla* not entirely based on transactional relationships; this is a unique characteristic not shared by conventional leadership concepts (Wahab and Ismail, 2019) .

Leaders can inculcate these moral values in the organization's members (Al-Faruqi, 1982). This morality becomes important to connect us to Allāh *'azza wa jalla* so that we get the glory to reach *ma'rifah* to Allāh *'azza wa jalla*. Strengthening the morals of being easy for leaders is very basic and important because leaders play a strategic role in developing the potential of organizational resources (Gazi, 2020; Karadağ et al., 2015), and can build and stimulate employee creativity with moral guidance. Internalization of these moral values is very important because the absence of *adab* or morals is a source of problems and destruction of life in the world (Al-Attas, 1995) .

6. CONCLUSION

This study aims at reviewing the concept of intellectual stimulation leadership that has been developed by several previous researchers and propose a new concept, namely *Islāmic* Intellectual Stimulation Leadership (IISL). IISL is defined as leadership that stimulates organization members through their minds and hearts to be creative, innovative, and critical thinkers, based on the characteristics of *qana'ah*, *istiqomah*, *murāqabah*, and trust in Allāh's mercy. After the research and validation procedures, we found 23 indicator items that reflected the IISL. The findings of this study have implications for the development of leadership literature by involving religious values in stimulating the creativity of organizational members, Human resource management professionals can use this scale to measure *Islāmic* Intellectual Stimulation Leadership for organizational leaders. The results of this study can be used by professionals in planning and

developing the quality of organizational leaders to achieve superior performance.

This research is still limited in the context of institutions in Indonesia. In order to use this measurement scale in a global and broad context, future researchers can conduct similar studies on a bigger scale and compare its use in both services and manufacturing or compare its effective use in the private sector and public sector leadership.

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DESIRED COMPETENCES IN TECHNICAL UNIVERSITY STUDENT MARKETABILITY BASED ON SYSTEMATIC LITERATURE REVIEW (SLR)

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ABSTRACT

“Marketability” refers to securing career opportunities that align with one’s educational background. It highlights that job prospects are influenced by the knowledge, skills, and capabilities that graduates acquire during their university studies. Challenges may emerge when organizations impose competency constraints on their hiring criteria. Research has identified several critical competencies for job seekers, including intrapersonal skills, planning abilities, problem identification and problem-solving skills, effective communication, logical thinking, teamwork, and a proactive attitude. These competencies are grounded in prior research on marketability and supported by various theories, such as the McClelland Competency Theory, the Dunning-Kruger Competency Theory, and the Boyatzis Competency Theory. This study utilizes a comprehensive literature review to demonstrate how competencies impact graduates’ marketability. Therefore, graduates must remain aware of organizations’ specific skill requirements to capitalize on job opportunities that correspond with their educational qualifications. A lack of employability can result in inefficiencies in the job market and contribute to many unemployed graduates.

JEL Classification: D83, E24, O00, Z13

Keywords: Marketability, Competence, McClelland Competency Theory, Dunning-Kruger Competency Theory, Boyatzis Competency Theory

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1. INTRODUCTION

As modern education has progressed, human civilization has evolved by overcoming various challenges. Education plays a crucial role in the development of socioeconomic systems. Mohd Izwan et al. (2016) and Amiruddin et al. (2016) argue that higher education empowers individuals to cultivate human capital, preparing them to become professionals, influential figures, and leaders. Human capital is strengthened by developing initiatives in human capital education. To boost marketability, skills ought to be cultivated (Maclean and Pavlova, 2011). Nevertheless, various issues need to be tackled, primarily related to the significance of individual competence. Higher education's impact on human capital formation may aid in the future development of the national economy. The government's current education initiative is the Malaysia Education Blueprint 2013–2025. It aims to have Malaysia's educational system rank in the top third worldwide in the Programme for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS) assessments by 2025. Studies conducted abroad further illustrate how technical skill characteristics significantly impact graduate marketability. The expansion of organizations, people, and communities relies on technical abilities to generate and retain jobs (Abd Samad et al., 2018; Hilal, 2017). Therefore, all parties must collaborate with the government to implement this education policy and generate elevated human capital in all sectors.

Yusof and Jamaluddin (2017) highlight the vital role of education in cultivating intelligent human capital. Such education empowers individuals with the competencies to make informed decisions, engage in strategic planning, and generate meaningful opportunities for themselves, their families, society, and the global community. The benefits of early schooling demonstrate increased student development (Saleh et al., 2022). Higher education institutions (HEIs) are crucial in developing quality human capital to fulfill labor force demand. Involvement in industry through pragmatic or professional training can equip graduates with soft skills. Industry priorities are increasingly centered on technological capabilities, viewed as creating numerous opportunities for globalization, and are embraced by diverse nationalities (Wheeler, 2017). Communication skills have become a valuable asset and an essential component of marketability (Claire, 2020). Furthermore, families' life choices and attitudes toward education significantly influence children's

development.

While recruiting new staff today, businesses prioritize applicants who can apply the system, which is the basis of innovative trends. Data confirms that the Internet opens new business options (Omar, Abdul Rahim, and Othman, 2017). Soft skills, such as perseverance, impulse stability, sophistication in dealings, demonstrating superior etiquette and morality, and having an educated and spiritual outlook, are also required for graduates to establish themselves in the workplace, according to Md Sabil et al. (2021). Marketability is a critical element in securing employment. According to Judge et al. (2001), evaluating and articulating employability presents challenges for employers and organizations. Conversely, Van Ours and Ridder (1995) suggest that employability reflects graduates' capacity to secure and sustain employment. This notion is particularly significant in the digital sector, especially in the context of the COVID-19 pandemic.

1.1 PROBLEM STATEMENT

The most considerable difficulty most graduates encounter, not only in Malaysia but globally, is unemployment. Various efforts have been made to reduce unemployment, such as holding training programs to develop student skills. As a result, students improve their problem-solving, logical thinking, and intrapersonal skills when confronted with problems. According to Hasnan (2021), the work mismatch problem is caused by students' competence limitations. This is crucial because a January 11, 2021, report puts the number of unemployed Malaysians at approximately 705,000. Employment has risen over time because of an imbalanced supply and demand for labor. Because of cross-cultural concerns, multinational organizations face obstacles in staff selection, particularly regarding communication abilities (Saniuk, Caganova, and Saniuk, 2021; Kim, 2014). The mismatch of work in international corporations stems from graduates needing more communication skills. Hence, students must develop communication skills to compete for jobs and ensure marketability. Students must become acquainted with interpersonal communication by giving presentations on work assignments, participating in public speaking, and attending social activities.

Marketability necessitates a combination of theory and practice. The theoretical and practical disparity influences marketability (Artess, Hooley, and Mellors-Bourne, 2017). A good

theory must be followed by skillful actions relevant to today's industry (Norman et al., 2017). Che Alias and Radin A. Rahman (2019) state that students' talents contribute to their industrial marketability. As a result, cultural ties are critical for increasing student marketability. Syed Mohamed, Saptari, and Nor Ma'arof (2018) stated that a culture of collectivism and low power distance could result in long-term success. Furthermore, communication skills in a power-distance culture are interconnected to improve work quality (Chien Jie, Munshid Harun, and Djubair, 2020). Teamwork skills are also essential to creating a positive environment in a multinational corporation. Choo (2021) explained that regulatory control can reduce conflict and uncertainty in task performance. Hence, before entering the workforce, students must foster a culture of avoiding uncertainty by honing their problem-solving skills.

The government also intends to implement an HEI student marketability plan to reduce student unemployment. The purpose of the Higher Education Institute (HEI) Graduate Employability Strategic Plan 2021–2025, according to Parzi (2021), is to boost student employability to cope with challenges arising from the COVID-19 pandemic. Several initiatives were carried out, including a program with Shopee whereby 5,000 students were allowed to open shops and be guided by experts for free. Furthermore, the government will work with the Perodua company to provide 164 students with guaranteed job opportunities after training. Following that, Perbadanan Usahawan Nasional Bhd (PUNB) and Tekun Nasional will target 1,000 students in an entrepreneurship program.

1.2 RESEARCH GAPS

Based on the above justification, research focusing on competency still needs to be empirically understated. We concentrate on competency among technical university graduates in the framework of the study. This is because technical universities demand knowledge and skills that combine to increase competency. This research gap focuses on the study's relevance to students because students still need to be convinced about empowering their work culture and technical learning. Priority will encourage students to be aware of the latest industry sectors through this study to stay caught up in the current modernization. Furthermore, students can investigate the most recent marketability requirements of industry, which are heavily influenced by specific cultures because of the competitive job market. In the

context of Malaysian technical universities, the research gap also focuses on industrial needs. Zainal (2018) stated that the Department of Higher Education (JPT) had cancelled 38 academic programs in public universities because they are unrelated to future job growth. According to the Fourth Industrial Revolution, programs must be relevant and aligned with industry needs, particularly those at technical universities. Researchers consider this study essential, but it still needs to be more detailed because the factors and needs of a field still need to be thoroughly studied. Cost reduction also affects technical universities (Aziz, 2019).

Industry researchers highlight the importance of aligning human capital with the strategic objectives of the industry. Organizations need to attract skilled professionals to reduce employee training and development costs. The significance of this study lies in its potential to enhance organizational productivity and reputation by recruiting qualified individuals. This is particularly relevant given the rapid advancements in digital technology, data analytics, and manufacturing technologies that support national development (Schaffar et al., 2021). Furthermore, researchers can significantly contribute to establishing career programs in Malaysia, particularly about various initiatives to foster economic growth.

2. COMPETENCE

The ability of an individual to navigate workplace demands, including knowledge, skills, attitudes, and talents, is described as competence. Jaafar, Ab Halim and Junoh (2015) state that technical and vocational graduates must stand out in their competency skills to enhance relevant career opportunities. University education is a philosophical and intellectual endeavor. The capacity to accomplish a task with the practical information learned is alluded to as a skill. This describes how well the idea and method synthesize psychological-behavioral mechanisms that go through a synergistic phase to yield comprehensive and holistic competence qualities. According to previous studies, notably Boyatzis (1982), prospective graduates should exhibit seven main competencies: intrapersonal skills, planning skills, problem identification, and problem-solving skills, communication, logical thinking skills, teamwork, and a proactive attitude. These competencies and skills are essential, especially for technical graduates, as they enhance marketability and provide quality

(Hojeij and Al Marzouqi, 2022; Okolie et al., 2020; Lai, Hamisu and Mohd Salleh, 2019).

2.1 INTRAPERSONAL SKILLS

Individual ability to collaborate with others, formally or informally, belongs to the category of intrapersonal abilities. Rashidi (2018) contends that knowledge, talents, and distinctive personal characteristics -- three elements of intrapersonal intelligence -- are present in aspirational graduates. Madlan et al. (2015) assert that intrapersonal abilities influence organizational progress. Hence, prospective employers prioritize these skills to ensure that more efficient and superior work is produced. To effectively adapt and endure any friction or job pressure, graduates must learn to manage their intrapersonal talents (Mohd Zubir et al., 2021). In technical terms, intrapersonal talents refer to the aptitude, assurance, and dependability to structure what will be performed, according to Legusov et al. (2022). Through the project's consequences, it indirectly operates as an identified and managed risk.

2.1.1 IMPORTANCE OF INTRAPERSONAL SKILLS

Intrapersonal abilities are those associated with communication within oneself. According to Aizenkot and David (2022), intrapersonal skills are an individual's ability to accurately absorb and follow work instructions. Furthermore, intrapersonal skills allow a person to demonstrate self-sufficiency in achieving goals. Ali (2021) stated that intrapersonal abilities significantly impact success or failure. This skill is a process in which information, memory, and thinking are processed (Rahman, 2010). Intrapersonal talents enable a person to recognize good value and self-confidence. According to Abbas (2018), aspirational graduates possess knowledge, talents, and distinct personal characteristics, which are three elements that constitute intrapersonal intelligence. According to Madlan et al. (2015), intrapersonal qualities influence organizational growth. Aspirant graduates must learn to manage their intrapersonal abilities to effectively adapt in the workplace and embrace any challenges or job pressure (Mohd Zubir et al., 2021). Research by Legusov et al. (2022) shows that intrapersonal talents are aptitude, absolute certainty, and trustworthiness for organizing what would be accomplished.

2.2 PLANNING SKILLS

Planning ability is defined as managing, coordinating, and executing all organizational activities. According to Mansor et al. (2015), planning attributes are the ability to manage and recognize the actions the practitioner must follow to control things efficiently and minimize errors. A study by Osman, Mohd Nor, and Ujang (2020) shows that individuals lacking planning usually fail and perpetrate the same blunders. A sensible option can consider the likely aspects and mistakes when executing work and producing beneficial outcomes. A study by Legusov et al. (2022) at a technical institution highlighted the importance of construction as an essential soft skill for fostering skill development among technical students. It emphasized that effective planning is crucial for monitoring and enhancing safe work systems. When flaws are identified during the process, components can be modified and activities corrected, as Gambo et al. (2021) noted.

2.2.1 IMPORTANCE OF IMPLEMENTING PLANNING SKILLS

Planning abilities are organizing steps and actions to attain organizational goals. According to Mohd Azri, Sahid, and A. Hamid (2019), proper planning can help solve difficulties while ensuring the quality of work under regulated conditions within the given time frame. Planning abilities can prevent something undesirable from occurring (Arifin et al., 2021), leading to more effective and efficient work performance. Thus, this skill should be nurtured in elementary school to boost self-confidence in making sound decisions. According to Mansor et al. (2015), management traits are the ability to organize and recognize the steps professionals need to regulate things efficiently and reduce mishaps. According to Osman et al. (2020), individuals who fail to plan regularly tend to underperform by repeating the same mistakes. Legusov et al. (2022) discovered that construction skills are vital for fostering skill development among technical students at a college in Kenya. Practical planning abilities can help prevent undesirable outcomes. Musa et al. (2021) emphasize that project managers with solid planning skills can mitigate challenges that cause project delays, such as personnel shortages, delayed payments to suppliers, and holdups in obtaining raw materials. Thus, these skills are essential for achieving work objectives.

2.3 PROBLEM-IDENTIFYING AND PROBLEM-SOLVING SKILLS

According to Salim (2012), discovering and solving problems is an individual talent for leveraging common sense to critically and analytically resolve an emerging issue. Mohd Azri et al. (2019) interpret problem-solving abilities as the individual's capability to cope with the associated anxiety, search for solutions, and develop fresh alternative ideas. It is also possible to comprehend the mechanism of inventiveness in problem-solving and effectively select approaches (Kanwar, Balasubramaniam, and Alexis, 2019; Kiong et al., 2019). Moreover, as stated by Nor Wajihah (2018), these qualities are essential for bringing about shifts, innovations, and paradigms in the quality of work to be created following current developments more geared to the digital-based, online, and remote work paradigm.

2.3.1 IMPORTANCE OF PROBLEM-IDENTIFYING AND PROBLEM-SOLVING SKILLS

Salim (2012) states that a willingness to recognize and overcome challenges is a personality trait for using logic to think critically and analytically about problems. In contrast, Mohd Azri et al. (2019) define problem-solving as the individual's ability to search for solutions and generate inventive concepts for alternatives when encountering anxiety. It is also crucial to comprehend the mechanism of uniqueness in issue-solving and select techniques effectively (Kanwar et al., 2019; Kiong et al., 2019; Nor Wajihah, 2018). The ability to detect and solve problems is a skill that involves common sense to solve problems. The issue must be investigated, and its causes and factors must be determined. The research findings will then aid in the ideal deal completion of the problem-solving process. Furthermore, this skill must be applied creatively and critically to produce quality and effective problem-solving (Mohd Azri et al., 2019). Wahab and Saud (2021) state that employers value problem-solving abilities and technical skills when hiring. Mustapha (2012) stated that Malaysia has a robust workforce of technical graduates, but employers want skilled problem-solvers. This is because problem-solving abilities result in a high-quality workforce. These skills are essential for students when facing problem-solving (Hamdan et al., 2021). This will also occur in the workplace; a person must be intelligent at problem-solving to tackle workplace challenges.

2.4 COMMUNICATION SKILLS

Their communication skills can effectively highlight technical graduates' strengths (Ramamurthy, Alias, and DeWitt, 2020; Badenhorst and Radile, 2018). In essence, it is a leadership quality that can increase graduate marketability. Communication is the leading workplace activity; hence, Saleh (2021) contends that this ability merits priority. A person's capacity to effectively communicate with others is classified as having communication skills by Mahbob, Sulaiman, and Mahmud (2019). How much the presenter and recipient comprehend the information may also be used to determine communication success. Abd Samad et al. (2014) cite many verbal and nonverbal communication systems. The challenge with communication skills for ambitious graduates is that they need to be more proficient at achieving this goal. Future graduates adapt communication skills through conversations conducted to express ideas through communication better (Husain et al., 2015). Various communication skill challenges also crop up (Ibrahim and Mahbob, 2022). Prospective graduates struggle to control their nervousness, stress, and self-doubt while speaking in front of massive gatherings.

2.4.1 IMPORTANCE OF COMMUNICATION SKILLS

The ability to interact with others is referred to as communication skills. These abilities include writing, reading, arguing, listening, and providing instructions. These abilities are utilized to share opinions, ideas, or facts accurately and effectively. According to Mohd Ishar et al. (2020), practical communication skills might influence an individual's professionalism. Employees appear more mature and cleverer if they are wise to express thoughts and properly convey information. Furthermore, communication skills, according to Ibrahim and Mahbob (2021), are a two-way process in communicating information and influencing the understanding and actions of the other party, whether they agree or disagree with an issue presented. Since communication is the most significant workplace endeavor, Saleh (2021) believes this ability should be prioritized.

The communication capabilities of technical graduates can successfully highlight their unique abilities (Ramamurthy et al., 2020; Mahbob et al., 2019; Bedenhorst and Radile, 2018). In addition, Abd Samad et al. (2014) mentions several verbal and nonverbal communication mechanisms. It is as if future graduates adapt communication skills through exchanges to express notions better

(Hussin et al., 2021; Husain et al., 2015). Mastering communication skills poses several difficulties (Ibrahim and Mahbob, 2022). Prospective graduates often struggle to regulate their apprehension, stress, and lack of self-assurance while speaking in front of people. Communication skills are essential for students to answer employer inquiries during the interview. Students must demonstrate their communication skills to gain employer trust. Mikkelson, Sloan, and Tietsort (2021) explained that good communication can achieve goals and targets besides reducing planning errors. Communication is critical in an organization to channel reliable information. Hussin et al. (2021) argue that strengthening communication skills through presentation, ethnography, written assignments, seminar preparation, and new platform use can assist learners to concentrate less on final examinations only.

2.5 LOGICAL THINKING SKILLS

Junoh and Mohamad (2019) affirm that individuals who have analytical reasoning can debate, assess factual reliability, generate assumptions, and complete tasks. This reveals how the development of logical thinking abilities results in improved professionalism. Boyatzis (1982) held that logical reasoning should be employed in responding to convictions. Evaluation and cognitive mobility are necessary for the scope, specification, and description of the job and obligations so that graduate students can react coherently and complete tasks consistent with their vocational appropriateness (Lamb, 2011).

2.5.1 IMPORTANCE OF LOGICAL THINKING SKILLS

Rationality is the ability to examine anything using the reality the human mind acknowledges. This talent is applied while doing something based on the reasoning process, as witnessed during the thinking phase. This thinking process will also evaluate feelings to analyze the mind and heart to generate thoughtful and quality responses (Awang et al., 2012). This talent is essential to company organizational practices to ensure employee creativity and critical thinking skills. According to Abu Bakar et al. (2020), creative, necessary, and inventive thinking skills are a degree of competency that involves the individual's mental abilities. According to Junoh and Mohamad (2019), individuals with analytical reasoning can participate in argumentation, assess the reliability of facts, generate assumptions, and complete a task. The evaluation and cognitive

mobility processes must describe employment and graduate duties following their occupational suitability (Lamb, 2011). This is significant because it reinforces the potential for nurturing technical skills to create a sustainable economic sector (Karim, 2019).

Hence, logical thinking skills must be honed in school. Mohamad Sulaiman et al. (2021) discussed the logical thinking skill development process essential for technical students. This is because individuals who fail to apply logical thinking skills when problem-solving expose themselves to significant risks. Determining the optimal course of action and company strategy requires rational thought. Graduates ought to consider decisions being made at work comprehensively. This is significant because it reinforces urban and rural area growth and the potential of technical skills to create a sustainable economic sector (Abbas, 2019).

2.6 TEAMWORK SKILLS

Nasrin and Morshidi (2015) mention the importance of cooperation abilities, particularly in work-related fields necessitating high levels of energy and technological needs. Halijah and Faizal (2019) regard cooperation as producing better work results than working individually since it involves merging individual efforts, knowledge, capabilities, and competencies with those of others. Synergy and collaboration refer to the process of working together effectively. Hamdan et al. (2021) assert that engaging industry and community is crucial for socioeconomic development. Collaborations and partnerships are essential for expanding opportunities, especially among international investors. Pavlova (2019) notes that for technical employees to build trust and collaborate effectively within their organization, the government and various educational sectors must be actively involved. Furthermore, Krijgsheld, Tummers, and Scheepers (2022) indicate that industrial and academic institutions should collaborate to implement technical initiatives. This underscores the importance of nurturing cooperation and collaboration to prepare for successful teamwork (Affandi et al., 2020).

2.6.1 IMPORTANCE OF TEAMWORK SKILLS

Teamwork abilities encompass mental, physical, and emotional collaboration, which is vital for achieving organizational goals. Each group member works together to complete tasks assigned to reach a specific objective. Ngadiman and Jamaludin (2019) state that

employers value cooperation skills when evaluating potential candidates. Employees are often assigned collaborative responsibilities when assessed using a team rubric. Okolie et al. (2020) explain that teamwork abilities represent a cognitive process in which group members combine their ideas to generate superior solutions for completing job assignments. Following that, Mohd Azlan, Hasnah, and Irdayanti (2021) defined team skills as a combination of individual ability with others regarding ability, knowledge, existing skills, and commitment to completing tasks. This talent emphasizes teamwork to attain team goals. The ability to collaborate, particularly at work, demands a high level of technological expertise and energy (Nasrin and Morshidi, 2015). Furthermore, Noorajamsha and Azizana (2015) argue that collaboration produces more effective results than laboring alone since it involves integrating individual knowledge, skills, and other competencies (Halijah and Faizal, 2019). For example, Ibrahim and Mahbon (2021) emphasize the significance of socioeconomic growth, industry, and community engagement in their research. Pavlova (2019) contends that for technical professionals to collaborate effectively and value their organizations, it is crucial for both the government and various educational sectors to be involved. Consequently, a partnership between industry and academic institutions is essential to enhance job market stability and provide employment opportunities that meet industry demands (Krijgsheld et al., 2022; Affandi et al., 2020).

2.7 PROACTIVE ATTITUDE SKILLS

Ismail et al. (2018) state that a proactive mentality and social networks affect proactive attitude development. Prospective graduates must always be proactive to improve their competence and alleviate stress while completing projects. They must also be intelligent and capable of averting hazards and considering workplace health and safety concerns while on duty. Proactive individuals enjoy more excellent opportunities for both personal and professional growth. They always stay abreast of the latest news and any labor force adjustments. Digital requirements are one of the priorities and essential requirements, so this should be considered (Mohd Azri et al., 2019). To keep pace with technological advances, graduates must continuously develop their abilities. According to McGrath (2002), proactive personnel must be developed by creating new ideas and skills in parallel.

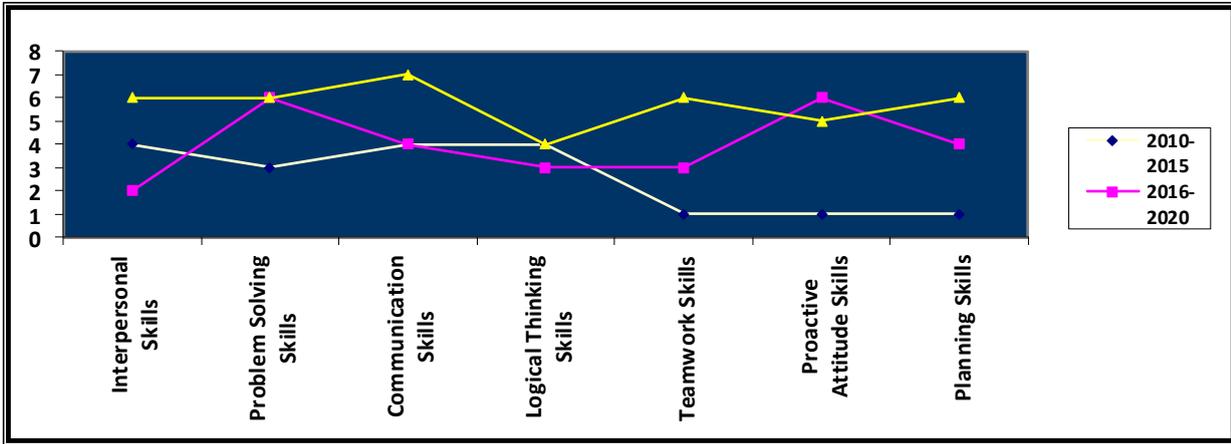
2.7.1 IMPORTANCE OF PROACTIVE ATTITUDE SKILLS

The ability to anticipate future events is known as a “proactive mindset.” Proactive employee behavior is a dynamic process that enhances the current situation in anticipation of something that may damage the career (Ismail et al., 2018). As one of the goals and critical requirements, digital standards should be considered (Mohd Azri et al., 2019). Graduates must continuously expand their abilities to keep up with technological advances implemented since the 1990s. According to McGrath (2002), developing enthusiastic staff members involves simultaneously cultivating innovative ideas and skills. Wan Abdullah et al. (2022) underscore that cognitive and attitudinal growth are the two most essential aspects of professional development, enhancing overall marketability. Ibrahim and Mahbob (2021) note that proactive individuals can generate creative and original ideas. Ismail et al. (2018) define proactive skills as an individual’s ability to prepare for potential future opportunities. Furthermore, Veronika, Veronika, and Beate (2016) emphasize that proactive abilities are vital for individuals and organizations seeking to adapt and successfully achieve their objectives.

3. RESEARCH METHODOLOGY: ANALYZING DISCUSSION OF SYSTEMATIC LITERATURE REVIEW (SLR) FOR PERSPECTIVE ON COMPETENCE

Table 1 in Section 3.4 displays the SLR analysis, which presents the perspectives of previous researchers scrutinized critically in the study. According to competence scholar Boyatzis, the discussion's findings demonstrate that the primary stance on competence is focused on aspects of ongoing development that need some essential abilities (Boyatzis, 1982). Completing competencies will summarise the requirements for taking advantage of marketability chances. Intrapersonal skills, planning skills, problem-solving skills, communication skills, logical thinking skills, teamwork skills, and proactive attitude skills are a selection of the competency qualities researchers have highlighted as fundamental to marketability. Table 1 lists each research resource. Figure 1 gives the overall distribution of this SLR approach; it depicts the continuity of all the skills discussed, which are still relevant today. The analysis is based on previous research and the study's theoretical foundation, spanning 2015 to 2022. This demonstrates that the study's identified competencies are still relevant and should be improved in the future following the opinions of previous researchers.

FIGURE 1
Based on Research Studies From 2015 to 2022, SLR Findings for Future Planning Competence of
Technical University Students



3.1 JOB-RELEVANT EDUCATION

According to 2021 higher education figures, 14,595 of Malaysia's 123,362 public university graduates are still unemployed. Out of 93,238 private university graduates, 18,391 are still unemployed. Private university graduate unemployment is rated at 19.7%, whereas public university graduate unemployment is 11.8%. Graduates still unemployed are seeking work; the work available is unsuitable, and they are awaiting offers to continue their studies. According to a study by Hanapia et al. (2014), most community college technical graduates need help finding jobs matching their acquired skills. Female technical graduates experience moderate employability levels, according to Judge et al. (2021). Yusuf and Umar (2018) observed that many graduates face unemployment primarily because they have unrealistic expectations regarding salaries and benefits. Many of these individuals enter the job market believing they should receive high compensation and extensive perks right out of university, which may not align with the typical entry-level positions. This disconnect between their expectations and the reality of the job market contributes to their prolonged unemployment, as they often need to pay more attention to suitable job opportunities that may not initially meet their financial expectations. This concern was echoed in a report by Zainal (2019), which pointed out that securing employment contributes to an employment mismatch. Consequently, some graduates with technical degrees are compelled to work as food deliverers to support their families while earning a reasonable income. Furthermore, Rene and Michael (2022) noted that shifts in job demand exert pressure on industrialized nations.

3.2 COMPETENCE ENCOMPASSES A VARIETY OF COMPREHENSIVE COMPETENCIES

Malaysia's employment scenario still needs to be improved. Job offers still need to be expanded, affecting student marketability. According to a report published in Berita Harian Online by Aziz (2021), Malaysia's unemployment rate is rising. Statistics from the Department of Statistics Malaysia show that unemployment in Malaysia grew to 772,900 individuals at a rate of 4.8% in December 2020. The global health crisis significantly contributed to the rise in the unemployment rate in 2020.

This illustrates why labor and economic growth are critical for a country or family. The economic growth rate is directly proportional to the employment rate. According to Abu Bakar et al. (2020), work-life balance is vital in reaching desired goals. The rising cost of living and the varied daily cost demands have caused many people to encounter job placement challenges, particularly when combined with their educational background. This conclusion is backed by Mohd Aqmin et al. (2018), who discovered that increased spending is the primary source of rising living costs. This influences job insecurity. This is because someone still not accepted for a job based on their qualifications will hunt for any job to meet their living expenses. Some people are eager to accept jobs even for lower pay. For example, starting pay in engineering can be as low as 2,000 ringgit per month (Muhammad Yusri, 2022). The consequences may discourage young people from pursuing the engineering profession and lower the trained workforce in future.

3.3 PERSISTENT COMPETENCY ENHANCEMENT IS ESSENTIAL

Marketability skills are defined as a person's abilities, skills, and expertise in executing jobs efficiently (Abd Aziz, 2020). According to Mohd Izwan et al. (2016), marketability skills enable businesses to pick employees. Omar et al. (2017) state that individual abilities will determine success. The principal criterion the organization requires throughout the job selection process is the advantage of a competent employee. Employers are likelier to hire excellent and competent workers based on available positions (Wahab and Saud, 2021). This is related to saving money, energy, and time. Competent individuals do not require much training and direction from supervisors or superiors. Specialists indirectly contribute to organizational productivity in the long run. Outstanding academic accomplishment is not the primary element in today's graduate marketability (Zakaria and Daud, 2021).

According to Mohd Makhbul, Yussof, and Awang (2015), graduates find it challenging to get work if their abilities are lacking. Employers are very selective in vetting job candidates and place a high value on communication and interpersonal skills within an organization. According to Zakaria et al. (2020), a company's primary goal in workforce selection is mastery of high-level skills. Students must prepare themselves with marketable abilities; the inference is that individuals lacking talent will face limited work options.

3.4 ESTABLISHING MARKETABILITY REQUIRES VARIETY OF COMPETENCIES

Marketability is the ability of people in the industrial sector to find work or keep their current position. According to Mohd Azri et al. (2019), marketability is a talent graduates need to find a job by applying skills-based learning under employer, job market, and organization needs. Marketability is also a talent students must possess to obtain a job that matches their qualifications and skills as demanded by employers or the industry (Mohd Azri et al., 2019). Student marketability is determined by the professional study program and other talents demonstrated, such as communication, problem-solving, logical thinking, and collaborative skills (Yusof and Jamaluddin, 2017). Furthermore, according to Fatima (2016), marketability is a person's ability to find and keep a job and perform tasks following industry and employer requirements. Ghani et al. (2018) define marketability as the readiness to meet employment demands based on industry demand.

Table 1 lists the SLR findings of this study on competence from the marketability perspective.

TABLE 1
SLR Competence in Marketability Perspective

Previous Researchers (Sources)	A Competency Perspective in Employability
Van Ours and Ridder (1995), Fisher (2009), David (2019), Hanapia et al. (2014), Mohd Izwan et al. (2016), Yusof and Jamaluddin (2017), Anttila and Jussila (2017), Yusuf and Umar (2018), Misbah et al. (2020), Halim and Sahid (2020), Sullivan, Ragogna, and Dithurbide (2019), Martin et al. (2021), Judge et al. (2021), Rene et al. (2022).	Education relevant to the job
McClelland (1962), Boyatzis (1982), Cecil and Christo (2003), Omar et al. (2017), Radin and Yasin (2018), Mohd Aqmin et al. (2018), Ali and Marwan (2019), Abu Bakar et al. (2020), Md Sabil et al. (2021), Saleh et al. (2022), Muhammad Yusri (2022), Mohd Hamid and Ewan (2022).	Competence encompasses a variety of comprehensive competencies.

TABLE 1 (continued)

Previous Researchers (Sources)	A Competency Perspective in Employability
<p>Arnolds and Boshoff (2022), David (2014), Jaafar et al. (2015), Mohd Makhbul et al. (2015), Mohd Izwan et al. (2016), Hilal (2017), Wheeler (2017), Omar et al. (2017), Rashidi (2018), Philip, Matthew and Lori (2019), Okolie et al. (2020), Fairuz (2020), Abd Aziz (2020), Zakaria et al. (2020), Rosli et al. (2021), Wahab and Saud (2021).</p>	<p>Persistent competency enhancement is essential.</p>
<p>Judge et al. (2001), Maclean and Pavlova (2011), Yusof and Jamaluddin (2015), Jaafar et al. (2015), Yusof and Jamaluddin (2017), Ghani et al. (2018), Mohd Azri et al. (2019), Okolie et al. (2020), Misbah et al. (2020), Saleh et al. (2020), Asri (2020), Hojeij and Al Marzouqi (2022).</p>	<p>Establishing marketability opportunities requires a variety of competencies.</p>
<p>Ali (2021), Rahman (2010), Madlan et al. (2015), Ma'sa (2017), Karim (2019), Ismail, Mohd Nopiah and Rasul (2018), Leman, Kurinec, and Rowatt (2023), Yahaya et al. (2021), Shirandula (2021), Md Sabil et al. (2021), Legusov et al. (2022), Aizenkot and David (2022).</p>	<p>The importance of intrapersonal skills</p>
<p>Rahman (2010), Salim (2012), Mustapha (2012), Ismail (2017), Nor Wajihah (2018), Mohd Azri et al. (2019), Kanwar et al. (2019), Kiong et al. (2019), Mohd Azri (2019), Hakan and Erdogan (2021), Waskito, Wulansari, and Kyaw (2021), Wahab and Saud (2021), Hamdan et al. (2021), Wan Abdullah et al. (2022), Adri et al. (2022).</p>	<p>The importance of identifying and problem-solving skills</p>
<p>Winter (1998), Salim et al. (2012), Abd Samad et al. (2014), Husain et al. (2015), Badenhorst and Radile (2018), Mahbob et al. (2019), Lai et al. (2019), Che Fazila and Shaffie (2020), Ramamurthy, Alias and DeWitt (2020), Mohd Ishar et al. (2020), Saleh et al. (2021), Hussin et al. (2021), Ibrahim and Mahbob (2021), Mikkelson et al. (2021), Ibrahim and Mahbob (2022)</p>	<p>The importance of communication skills</p>

TABLE 1 (*continued*)

Previous Researchers (Sources)	A Competency Perspective in Employability
Boyatzis (1982), Lamb (2011), Awang et al. (2012), Suarta et al. (2018), Junoh and Mohamad (2019), Abbas (2019), Abu Bakar et al. (2020), Mohd Zubir et al. (2021), Mohamad Sulaiman et al. (2021), Yamamoto and Yang (2022).	The importance of logical thinking skills
Nasrin and Morshidi (2015), Ngadiman and Jamaluddin (2018), Halijah and Faizal (2019), Pavlova (2019), Affandi et al. (2020), Misbah et al. (2020), Schaffar et al. (2021), Birhan and Merso (2021), Mohd Azlan et al. (2021), Krijgsheld et al. (2022).	The importance of putting teamwork skills
McGrath (2002), Amiruddin et al. (2016), Veronika et al. (2016), Ismail et al. (2018), Ismail et al. (2018), Mohd Azri et al. (2019), David (2019), Schaffar et al. (2021), Yahaya et al. (2020), Abdul Hamid and Ismail (2021), Tremayne et al. (2022), Rodzalan et al. (2022).	The importance of putting proactive attitude skills

4. COMPETENCY THEORY

Competency theory centres on the essential elements of idea development and their relevance to problem-solving perspectives. Mohd Hamid and Ewan (2022) note that showcasing competency theory can be challenging. The outcomes produced within this framework can reveal an individual's level of knowledge, leading to classifications of competence or incompetence (Schaffar et al., 2021; Nurtanto et al., 2020). In general, competence is vital for attaining greater desirability. Previous research has emphasized both the significance and pitfalls associated with competency. Key issues include competence serving as a barrier to marketability, its influence on the quality of individuals and organizations, and its role in mastering skills and information—topics that generate considerable discussion (Martin et al., 2021; Misbah et al., 2020; Anttila and Jussila, 2017). Investigations into competency commonly reference three principal theories: McClelland's, Dunning-Kruger's, and Boyatzis's theories.

4.1 McCLELLAND'S THEORY OF COMPETENCE

According to this theory, everyone requires particular abilities, characteristics, motivations, and social and personal roles to do their jobs more professionally and with higher quality. This approach strongly emphasizes the value of observing workers in action as they complete tasks. A person's motivation would be strengthened if given motivation with understanding and active self-involvement in the endeavors performed, contends McClelland in Aziz (1997). According to McClelland's theory, there are three desires: affiliation needs, power needs, and achievement needs (refer to Figure 2). Cooperative task performance refers to possessing affiliation demands to accomplish work objectives. A person who desires power will do anything to exert influence and impact over others. Recognizing the importance of rewarding achievement when tasks are completed is essential. This would enhance each person's enthusiasm for completing tasks adequately.

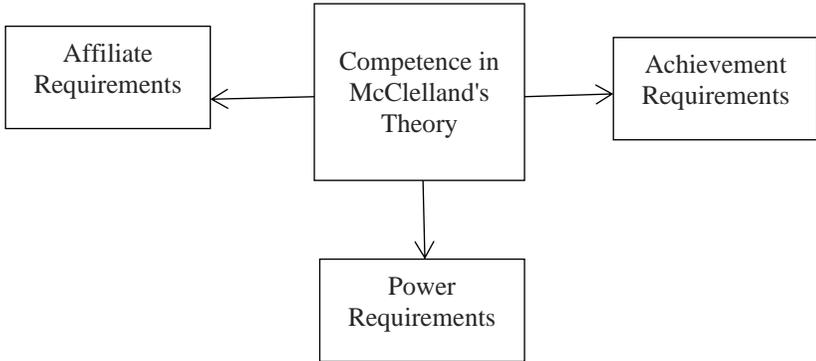
McClelland's theory has been the basis for several prior studies. It considers an individual's capability. This theory, however, is inapplicable to the latest economic development competence model, according to Finison (1976). The data used to estimate economic progress is imprecise and erroneous. The circumstances were appropriate for career growth in 1976, while exposure to economic development and marketability was still insufficient. Additional research, however, demonstrates that McClelland's hypothesis contributes to assessing a person's personality.

Personality evaluation enhances a worker's employability (Yahaya et al., 2021; Fisher, 2009). To apply these theories into practice and determine an employee's aptitude through their inherent personality, assessing applicants through interviews is essential. Notably, during the interviews conducted by the panels of interviewers during the recruiting process, the responses and feedback presented may indicate the efficiency, intellect, rationality, and talent attainment among candidates through their competency (Winter, 1998).

Cecil and Christo (2023) outline the link between McClelland's theory and human resources, stating that this notion is essential to maintaining productive human capital. Entrepreneurship is a result of activity that involves human resources. McClelland (1962) contends that the organization's destiny hinges on its desire for accomplishments. Employees must be provided with opportunities for stimulation to increase their energy and enthusiasm at work. Indirectly,

it promotes the firm's ability to a higher degree by providing products and deliverables (Ismail et al., 2018; Cecil and Christo, 2003).

FIGURE 2
Competence in McClelland's Theory



4.2 DUNNING KRUGER'S THEORY OF COMPETENCE

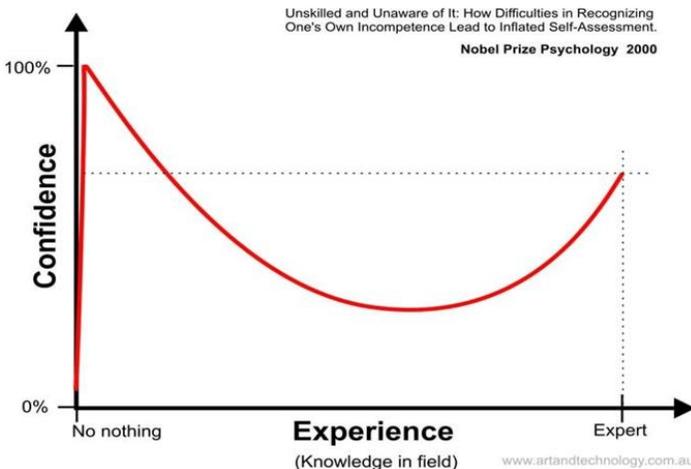
According to Dunning Kruger's hypothesis of competence, individuals who lack competence will suffer from meta-cognitive difficulties because they do not understand to the same extent as others. This perspective mainly explores ways in which distinctions are depicted. Ismail (2017) contends that when performing the prescribed activity, competent people exhibit a limited level of confidence in their skills in daily life, while others have misplaced confidence in their limited abilities. The latter are regularly alluded to as "arrogant fools." People with this substantial cognitive impairment are unaware of their knowledge gaps and skill levels. Nonetheless, they perceive that their level of self-knowledge is higher than others. Competent people, on the other hand, will regard themselves as ordinary and far less brilliant and think that those around them are extremely capable compared to themselves. Incompetent people also have poor skills in executing a specific duty (Yamamoto and Yang, 2022; Yahaya et al., 2020; Ma'sa, 2017). This paradigm emphasizes mentoring in appraising someone else's competency (Birhan and Merso, 2021; Philip et al., 2019).

According to Dunning Kruger's theory of competence, the judgment of relatively stupid and talented people differs. However, this theory's consequences frequently urge weak people to perform duties beyond their capabilities (Tremayne et al., 2022; Adri et al., 2022). According to this theory, unskilled people might experience

meta-cognitive difficulties since they possess less information than others. This theory commonly refers to the concept of cognitive awareness in humanity; unaware people usually feel capable and intelligent, even though they lack knowledge and have made several missteps (Hakan and Erdogan, 2021). Such individuals are regarded as "arrogant fools" in civic life. They are unconscious of their knowledge inadequacies and limitations. Instead, they regard their brilliance as better than others (Leman et al., 2023; Waskito et al., 2021). In contrast, competent people regard themselves as ordinary and far less brilliant than those around them. Incompetent people also perform poorly in a particular task (Yamamoto and Yang, 2022; Yahaya et al., 2020; Ma'sa, 2017).

A graph analysis of confidence levels against individual expertise is presented in Figure 3. With a high degree of confidence, individuals think of themselves as having an even superior degree of knowledge, making it difficult to appraise their actual abilities realistically. David (2019) contends that confronting such individuals requires altering their thought patterns. A person's confidence level does not assure that they will proceed appropriately with the task. According to David (2019), estimating one's abilities from being accurate is problematic because those with solid confidence perceive that they have a much deeper understanding. Such people require intervention by modifying their thoughts and behavioral tendencies (David, 2019). This underlines that a person's level of self-assurance is not a reliable indicator of their aptitude for task completion.

FIGURE 3
Dunning Kruger Effect

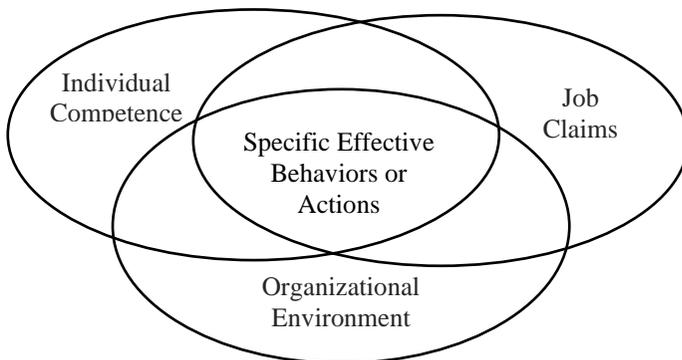


4.3 BOYATZIS'S COMPETENCY THEORY

According to competency theory, a person's personality or personal attributes will determine whether they perform at a high level throughout their career (Boyatzis, 1982). This perspective suggests that competency is viewed as a component of organizational performance rather than individual achievement. The competency view based on Boyatzis's theory is the primary core of the framework development model utilized in this study. Boyatzis's theory was applied in this study because a rigorous instrument or inventory could be employed to explore relative competence among potential graduates influenced by consequences. Previous research that effectively addressed the competency of medical graduates verified the reference guide regarding competence. However, little research has applied Boyatzis's competency dimensions (Boyatzis, 1982). Different competency theories, such as McClelland's Theory, Spencer and Spencer's Theory, Dunning Kruger's Theory, and Boyatzis's Theory, also have pieces that inform and educate.

Beram, Awang, and Ismail (2020) suggest that a manager exhibits three competencies according to Boyatzis's competency theory. To adequately initiate change, leaders should first acquire their competence, anticipate the ability of work requirements, and possess organizational environmental competence. An efficient work performance model is shown in Figure 4. Employers value an employee's performance more than the actual career outcome. Figure 4 illustrates the activities or behaviors as employee prerequisites to increase their performance—in terms of competence, demands of their jobs, and the working structure.

FIGURE 4
Effective Work Performance Model



5. MARKETABILITY

In this globalization era, companies emphasize technical skills and examine marketability skills when making employment decisions to ensure employees can adapt to diverse job demands. Despite the region's limited geographic and demographic resources, many Asian countries have achieved significant economic growth by focusing on developing their human capital, workforce, and personal skills (Ali and Marwan, 2019). Most contemporary human resources perspectives emphasize various issues relating to Malaysia's marketability movement, such as the significance of sharing relevant information, digital work readiness, skills, and knowledge management capability (Wan Abdullah et al., 2022).

The capacity to communicate effectively is undoubtedly one of Malaysia's market value qualities (Rodzalan et al., 2022). This demonstrates that correspondence is a core component in securing a position commensurate with a prospective graduate's credentials. Employers favor practical communication skills, mainly English fluency, in employees (Ismail, 2012). Employers have great expectations for workers who can communicate in multiple languages. Many multinational clients or investors will be embraced as strategic partners. To compete with other graduates in the job market in a dynamic, comprehensive, and innovative way, aspiring graduates must also enhance their abilities (Ibrahim and Mahbob, 2021; Radin and Yasin, 2018). According to Ibrahim and Mahbob (2021), communicating effectively might allow people to develop their confidence. Furthermore, with globalization, technological expertise is essential in an organization. Fairuz (2020) suggests that digital skills foster high-quality productivity equivalent to efficiency in developed economies. Even during the pandemic, beginning in March 2020, technology expertise was increasingly applied in various economic strata clusters, encompassing education, medical, business, industries, and so on (Saleh et al., 2020). The scope of anthropogenic activities online has significantly evolved because of society's digitalization paradigm shift (Rosli et al., 2021; Shirandula, 2021).

Among the criteria determining graduate marketability are work readiness skills. Halim and Sahid (2020) assert that future graduates with work readiness skills have the power to meet company demands since they can save expenses, exert effort, and capitalize on organizational time for individual development. Prospective graduates should actively demonstrate their interest and commitment to enhancing their job readiness as early as their time in higher education

to align with employer expectations. Participation in extracurricular activities focused on personal development, self-management, and motivation can significantly boost self-esteem and foster valuable social connections (Che et al., 2020). Nevertheless, the success of these initiatives largely depends on how potential graduates perceive and respond to their daily experiences (Sullivan et al., 2020; Suarta et al., 2018).

A key aspect of marketability is problem-solving and problem-identification capability. Rahman (2010) asserts that an organization finds it attractive whenever a worker recognizes and resolves difficulties. This is because someone with this competence has a much greater level of reasoning. In Malaysia, knowledge following the cognitive and affective reconstruction philosophy in building artificial capital aligned with the work environment toward the Shared Prosperity Vision Policy or *Wawasan Kemakmuran Bersama* (WKB 2030) is another marketability factor.

Malaysia has taken steps to facilitate graduate employment. According to Amir and Mahaizura (2021), as published in *Harian Metro*, the Ministry of Higher Education (KPT) is committed to tackling the graduate employability issue. KPT is working with the sector to design various programs. The KPT-Medac Program, a collaboration between *Siswapreneurs* and the National Tekun with a budget allocation of RM5 million in 2021, is one of the initiatives highlighted. The KPT developed the Graduates Reference Hub for Employment and Training (GREaT) portal as a platform for prospective and recent graduates to acquire preliminary information about job opportunities. The KPT has also relaunched the National Higher Education Entrepreneurship Council (MKPTN) to encourage and assist entrepreneurship at the HEI level. Graduates and ambitious students who have taken the GREaT training have discovered the online employment requirements standards.

Besides that, the government has also launched three work guarantee initiatives, namely the Employment Guarantee Incentive, the Malaysia Short-Term Employment Program (MySTEP), and the Training and Skills Improvement Program, to create 600,000 career opportunities. Hence, graduates should seize the opportunity that the government provides to obtain a job. In the December 2021 report, the Department of Statistics Malaysia said 190,436 positions were available, with 69% in Technical Education and Vocational Training (TVET) and 19% in the industrial sector.

The government is devoted to assisting graduates to reduce unemployment because of the COVID-19 pandemic that has

devastated the nation, as seen by all these initiatives. According to Asri (2020), one of the primary programs that could boost graduate marketability potential, especially in the technical domain, was designed to help graduates strengthen their work abilities and competitiveness for employment. Other sectors, especially industry, are impeded by the continual pandemics in society. Only some firms can rectify the economic imbalance and have implemented regulated organizational downsizing. Existing employees have been unceremoniously terminated. Job offers are shrinking, yet many contract-level positions are now being offered.

6. CONCLUSION

The essential talents one must possess are interpersonal skills, planning abilities, problem identification and resolution skills, communication proficiency, logical thinking, teamwork, a proactive attitude, and technological competency. These seven skills are derived from earlier research, particularly the work of Boyatzis (1982), who initially identified 19 competency factors that were subsequently organized into seven categories through a systematic literature review. This competency framework was also referenced in Haron (2006) study. As highlighted by previous scholars, it is crucial to understand the synergy and integration between marketability and capabilities.

Employers value exceptional employees with advanced technological knowledge in today's globalized economy. Job competition is fierce, as organisations seek candidates with marketable skills, particularly those contributing to revenue generation. According to Omar et al. (2017), the Internet is a vital platform for creating new business opportunities and is essential for the growth of emerging enterprises. Proficiency in internet skills can significantly drive economic development.

In addition to technical skills, soft skills are equally important in enabling graduates to thrive in diverse professional environments. Qualities such as discipline, emotional intelligence, strong ethics, and high intellect are highly regarded (Adri et al., 2022; Md Sabil et al., 2021; Abd Samad et al., 2018). Since the criteria for employability can differ across various employers and organizations, possessing the right combination of skills is crucial for graduates seeking job opportunities. The unique attributes and diversity of graduates will also impact their employment prospects. Ultimately, employers and organizations will continue emphasizing the importance of creative and innovative competencies.

Personal qualities are commonly referred to as marketable skills. According to Rashidi (2018), these skills are crucial for individuals looking to enhance their job knowledge and abilities, thereby aiding businesses in achieving their defined vision and purpose. However, without emphasizing marketable skills, graduates face limited opportunities to secure jobs aligned with their degrees. Graduate marketability is a critical requirement for students before entering the job market. Insufficient preparation, particularly in mental and physical readiness, can weaken students' chances of impressing potential employers, resulting in missed opportunities for desired positions. The increasing number of graduates has heightened competition for available jobs (Gambo et al., 2021; Mohd Zubir et al., 2021; Yusof and Jamaluddin, 2015). As a result, aspiring graduates must thoroughly understand and adhere to industry qualification requirements while also being mindful of organizational cultural dynamics.

Competency theory is a practical framework for designing and researching competencies across various domains. Previous studies emphasize the importance of competence in the workplace, as organizations actively seek skilled and capable personnel in all sectors to enhance work quality and significantly contribute to overall organizational growth. An individual's ability to perform responsibilities effectively can improve job quality and enhance personal performance (Saleh et al., 2022; Rasul, Mohd Nor and Amat, 2021). Future research on competencies intends to identify and measure various factors associated with competence to assess the extent of individuals' abilities. The average annual graduate enrollment increase has intensified labor market competition. Consequently, employers now place a premium on competence when hiring new staff to improve job productivity. As a result, everyone must maintain high standards of competence.

The findings of this research aim to assist students in preparing for the labor market and enhancing their skills to meet current industry competency demands. This study explored the qualities students should develop to improve their marketability (Rodzalan et al., 2022) and identified four primary areas of focus: graduates, universities, industry, and the economy. The skills required of incoming graduates will continue to evolve. To succeed, graduates must stay informed about the most critical sectors within the industry. They should examine the current marketability requirements, significantly shaped by qualifications in a competitive job market. Universities must make qualitative adjustments to their curriculum

content to enhance its relevance. This research is valuable because it can help institutions avoid offering courses misaligned with industry requirements. In light of its findings, universities may choose to discontinue courses that do not align with the current needs of the labor market and human capital (Wan Abdullah et al., 2022).

This research assists organizations in attracting talented employees and enables industries to save costs by minimizing training expenditures. It aims to enhance organizational efficiency and strengthen its competitive position by recruiting qualified personnel. Employees must acquire data analytics and technology skills in light of the rapid digital and technological advancements affecting the nation. Additionally, this study contributes to reducing unemployment in Malaysia by highlighting the competencies that should be prioritized to strengthen institutional capacity, thereby producing graduates who can meet the high standards of the industrial sector.

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EFFECTS OF BOARD AND AUDIT COMMITTEE ATTRIBUTES ON BANK PERFORMANCE IN BANGLADESH

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ABSTRACT

This paper explores the impacts of board and audit committee (AC) features on the financial performance of DSE-listed banks in Bangladesh from 2016 to 2022 because concern arose from a growing number of banking scandals, a huge number of money laundering incidents, and a growing amount of non-performing loans in this industry. Descriptive and inferential statistics have gauged the impacts of explanatory variables on bank performance. Generalized Method of Moments (GMM) reveals that board size, board autonomy, AC size, and AC meetings are linked positively with return on assets (ROA), but in an insignificant way. Yet, directors' ownership, AC freedom, and AC financial and accounting knowledge are inversely associated with bank financial performance, where AC freedom is significant at the 10% level. Also, firm size and age are linked positively with ROA, but the linkages are inconsequential. Non-performing assets, however, are inversely associated with ROA, and the tie is significant. The current study found that the existing corporate governance (CG) code efficacy needs enhancement and suggests reforming this code based on social, political, economic, and cultural priorities. This study especially urges a review of the selection strategies of some key personnel (CEO, AC head, and independent directors) and the role of regulatory bodies, such as Bangladesh Bank and the Ministry of Finance. In addition, the study suggests to include at least one independent board director on behalf of the depositors.

JEL Classification: M41, M42

Keywords: Corporate governance, Board attributes, Financial performance, Bangladesh

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1. INTRODUCTION

The banking industry is an essential segment of the financial sector because of its involvement in financial intermediation and contribution to the economy, society, and ecology (Maniruzzaman, 2023; Zheng et al., 2022). This sector creates value for society through boosted earnings from its services and by handling the banking needs of unbanked people, ensuring client comfort, trustworthiness, safety, fast service, and low-cost dealings, reimbursing expatriates' money, boosting savings culture, and creating income options for agents (Islam and Hossain, 2018). This sector has many challenges, however, such as weak supervision, feeble governance, inept leadership, and disobedience to ethical norms, which lead to numerous banking scams, including money laundering and non-performing loans (Li et al., 2021; Alam et al., 2024; Aliyu, 2014; Alam, Haq and Kader, 2015). Technological progress and deregulation have intensified competition in the banking industry to improve its services in recent years (Bos, Kolari, and van Lamoen, 2013). Most Bangladeshi banks have flawed loan cultures, leading to high Non-Performing Loans (NPL), putting the banks at default risk and adversely impacting the overall economy. The banks in Bangladesh have also suffered from weak political culture and high interference. A sound corporate governance (CG) system is essential to improve sectorial efficiency (Dalwai, Chinnasamy, and Mohammadi, 2021). Because of its enormous leverage and complex regulatory framework, bank governance is unique (Adams and Mehran, 2003).

The board and its sub-committees are often required to find opportunities for the firm's growth by making an allowance for performance impacting hazards. The distinction between a board and its role in good governance implies that a bank board influences its risk-taking and performance. Industry efficiency depends on CG (Dalwai et al., 2021). As sound bank governance may support a stable financial system by boosting the monitoring function, the Basel Committee on Bank Supervision (BCBS) has underlined the need to improve bank governance (Nguyen and Dang, 2022). CG is now one of the most pressing issues debated globally, which is required to enhance firm performance (Maniruzzaman and Hossain, 2019b). The death of Enron, WorldCom, AIG, Lehman Brothers, Tyco, and so many others have raised the need for sound CG mechanisms and provide signals to diverse stakeholders, such as investors, stockholders, corporate managers, and others, on how to improve firm performance.

Yasser and Mamun (2017) noted that the board, among the CG devices, is essential to protect the rights of different stakeholders. Also, the board decides how to eliminate agency costs by limiting the opportunistic attitudes of managers, harmonizing manager and stockholder benefits, hiring and firing managers, and observing the CEO's behavior. Boards are patrons of businesses that formulate policies and strategies to achieve firm financial and strategic objectives (Jensen and Meckling, 1976). The CG norms aim at strengthening bank competitiveness and improving the board's qualitative features.

Besides, an Audit Committee (AC) ensures financial and economic transparency and informs different levels of stakeholders of the magnitude of risks the company faces. As a subcommittee, the AC performs a catalytic role in monetary control. Its functions are significant as it increases precision of bank financial statements and reduces compliance risk (Al-Jalahma, 2022).

Several studies have shown how CG decisions impact corporate financial performance in different contexts. Against this backdrop, this research examines the effects of AC and board features on bank financial performance because there is a knowledge gap. It is the first attempt to see how the board and AC traits jointly impact bank performance using a reasonably broader and newer data set in the Bangladesh context.

1.1 WHY BANGLADESH?

As stated earlier, a robust banking system is essential for attaining sustainable development goals (Ahmed et al., 2015). Bangladesh is one of the fastest-growing economies, whose finance and banking sectors have been harshly affected by the COVID-19 Pandemic (Ghosh and Saima, 2021). Moreover, a lack of trust and confidence in this industry has resulted from high levels of non-performing loans (NPLs) because of the absence of good governance within the banking and non-banking firms. The increasing trend of NPLs (see Table 1) is reflected in the decreasing trend of bank financial performance.

Table 1 reveals the amount of non-performing loans (NPLs) of different categories of Bangladeshi banks from 2016 to 2021. The amount of NPLs of state-owned commercial banks (SCBs) shows an increasing trend from 2016 to 2021. Likewise, the other categories of banks, except for specialized banks (SBs), show a growing trend of

NPLs from 2016 to 2021, leading to the decreasing financial performance trend of most Bangladeshi banks.

TABLE 1
Amount (in billion BDT) of NPLs by the Types of Banks

Bank Types	2016	2017	2018	2019	2020	2021
SCBs	310.3	373.3	487.0	439.9	422.7	438.4
SBs	56.8	54.3	47.9	40.6	40.6	36.9
PCBs	230.6	294.0	381.4	441.7	403.6	491.9
FCBs	24.1	21.5	22.9	21.0	20.4	24.9
Total	621.8	743.1	939.2	943.2	887.3	992.1

Source: The Off-site Supervision Department of the Central Bank of Bangladesh (<https://www.bb.org.bd/pub/annual/anreport/ar2021/chap5.pdf>)

In 2019, the failure of People's Leasing and Financial Services Limited (PLFS) due to the eroding financial health over the years raised governance concerns. Also, the “Hallmark Scam” involving the default of BDT 3.547 billion from the state-owned Sonali Bank in 2012, the theft of BDT 4.5 billion from Basic Bank in 2013, and the sharp increase of default loans to BDT 10 billion by AnonTex and Crescent from Janata Bank in 2018 have boosted concerns for the rightfulness of credit assessment, credit oversight, board and AC independence, and management efficacy (Mustafa, 2023). Moreover, because of the growing NPL trend, banks are under tremendous stress over their operations, liquidity, investments, managerial efficacy, and financial performance. The NPL issue is the biggest challenge facing the banking industry in Bangladesh (Ghosh and Saima, 2021).

The banking sector in Bangladesh is currently struggling. It requires a strong, resilient, and well-guided banking culture and strategy. These include the law governing loan approval, loan recovery from defaulting clients, and actions against corrupt officials. It is time to use the newest FinTech to transform traditional banking systems into customer-centric, digital, mobile, and online banking systems (Kamaruddin et al., 2023). No country will achieve the SDGs and economic solvency unless it overcomes the crises in its banking sector, according to the lessons learned from economic and financial history (Kamarudin and Kassim, 2022). To protect this sector from economic and financial shockwaves and make it robust and efficient, policymakers, especially the Central Bank and other regulators, must adopt proactive, quick, and corrective measures. Bangladeshi banks

operate within the legal framework of the Bank Companies (Amendment) Act, 2013, the Corporate Governance guidelines of the Bangladesh Securities and Exchange Commission (BSEC), and the Companies Act, 1994. In 2006, the BSEC, the capital market regulator of Bangladesh, issued CG guidelines on a comply or explain basis, which was amended in 2012 with some changes, and made it obligated to comply in 2018 through another amendment. Banks disclose CG information related to the notification no. BSEC/CMRRCD/2006/158/207/Admin/80, Dhaka, Dated: 03 June 2018 of BSEC.

According to BSEC CG code, the number of members on the Corporate Board must be between five and 20, but at least five. However, in some Bangladeshi banks, board sizes have seen more than 20 members. The number of Independent Directors on the Board of the Company shall be at least one-fifth (1/5) of the total number of Directors, which in some cases are/or not complied. It is also mandatory that different persons hold the roles of Managing Director (MD)/ Chief Executive Officer (CEO) of the company and Chairperson of the Board. The Nomination and Remuneration Committee and Audit Committee members must be present at the Board meetings except for due reason to confirm sound CG. Except for the chairperson of the Board, the Board shall nominate members of the Audit Committee who shall be the firm's non-executive directors and include at least one independent director. The Audit Committee must hold at least four meetings in a fiscal year. All audit committee members should be "financially literate," and at least one member must have a background in accounting or a similar field of financial management and ten years of relevant experience.

Hence, current literature highlighted CG as the most pressing issue confronting emerging countries such as Bangladesh. In the remainder of this paper, Section 2 presents the literature review and hypothesis development. Section 3 talks about the data and the research approach, followed by results in section 4. Section 5 presents a discussion of the findings. The paper ends with a conclusion in Section 6.

2. LITERATURE REVIEW AND HYPOTHESIS FORMULATION

A lower level of board ownership improves enterprise performance and decreases agency issues (Jensen and Meckling, 1976). Ownership

patterns influence the firm operational strategies (Maniruzzaman and Hossain, 2019a). Family members may be appointed to vital executive roles when the ownership structure is related to internal owners, regardless of their talent and experience (Maniruzzaman and Hossain, 2019b). In Bangladesh, most publicly traded companies are single-man shows. It is a red flag for good governance as most decisions are taken from a personal perspective (Hasan, Rahman, and Hossain, 2014). The family-based system with ownership discourages innovation as decision-makers exert little executive authority (Amrah, Hashim, and Ariff, 2015). Prior literature confirmed that a board having controlling ownership affects firm performance adversely. Hence, low board ownership impacts corporate economic performance positively. Hermalin and Weisbach (1991), however, suggested that as the board ownership grows, the business performance also initially grows and then drops. Bhabra (2007) also pointed out that board ownership and performance move in different directions. Im and Chung (2017) found that board ownership and firm performance have a low correlation. Based on the agency theory, board shareholding has an adverse effect on profitability. Given these findings, this research proposes that:

H1: Board shareholding has an adverse impact on bank profitability.

Board size influences firm performance. The perfect size is a big challenge because many factors restrict the choice of skilled directors. Florackis and Ozkan (2009) argued that a large board rarely does well due because of the lack of good contact among the members and slow decision-making, which depends on the will of the CEO. Musallam (2020) found that small boards are more effective in containing executives as they might face a few communication issues with executives and state bureaucrats and have fewer issues with free riders among their directors. Kutum (2015) revealed that firm performance is associated with board size. Lipton and Lorsch (1992) observed that a perfect board size for ensuring sound governance is between seven and nine members. Moreover, the right board size allows a firm to combine skills and wisdom to make more informed decisions and make it hard for CEOs to exploit. Hence, the study set the following hypothesis:

H2: Board size has an impact on bank financial performance.

The forward-thinking of Jensen and Meckling (1976) indicates that self-controlling board members oversee the agency's activities and enhance firm value. The agency theory predicts that corporate boards handle managerial affairs to limit agents' self-interested behaviors (Hasan et al., 2014). The principal drive behind choosing independent members on boards of publicly held firms is to resist any misdeed of the mainstream members while exposing information that can defend stakeholder interests (Rashid and Hossain, 2022). As a result, by having more self-governing board members, companies can lower agency costs and improve financial success. The main feature of CG is board freedom, which requires an appropriate number of independent directors on the board. In Malaysia, if a firm has only three directors on the board, two must be independent (Hasan et al., 2014). The board members should have a specific level of freedom to monitor managerial affairs (Jahid et al., 2020). Many studies indicate that board independence positively impacts corporate success, but others reveal negative impacts (Syed Fuzi, Halim, and Julizaerma, 2016). The outside members cannot control the behavior of the CEO as they report to the CEO (Merendino and Melville, 2019). The observed effects of board composition and economic performance have been inconclusive. Hence, the study assumed that:

H3: Board freedom has a substantial impact on bank profitability.

The AC monitors and examines monetary dealings that help maintain the excellence and accuracy of corporate financial information, and as such, it is an influential element of CG (Mat Yasin and Nelson, 2012). AC, as the standing committee of a board, facilitates relevant, faithful, and timely information disclosure based on accounting principles (Song and Windram, 2004). Musallam (2020) observed that the size of an AC is a ratio of the total directors of a board. Pearce and Zahra (1992) observed that a suitable AC size permits members to apply their skills and knowledge to ensure stockholder rights. Existing literature could not furnish conclusive evidence on the affinity between AC size and firm profitability. It is useless if the size of the AC is too small or too large (Musallam, 2020). If the AC is too small, it lacks skills and expertise (Abdul Rahman and Mohamed Ali, 2006). Conversely, a too-large AC tends to be less participative than a too small one (Kamarudin, Wan Ismail, and Alwi, 2014). No study, however, has yet talked about the suitable size of an

AC. It depends on several conditions, such as cultural cognitive view, economic structure, legal structure, board member skills and knowledge, and the nature of firm operations. The resource dependency theory supports that an AC with more numbers should increase financial performance because more members increase the monitoring efficacy based on their shared skills and expertise (Sultana, Singh, and Van der Zahn, 2015). Thus, this study proposes that:

H4: AC size has a considerable impact on bank profitability

AC freedom has a role in confirming proper control in the audit process. Mohid Rahmat, Mohd Iskandar, and Mohd Saleh (2009) observed that an AC with a high ratio of non-manager members is more independent than one with a higher proportion of executives. Abdullah, Uli, and José Tarí (2008) found that committee formation relies on the balance between free and elected directors. Autonomy of an AC helps remove agency issues (Musallam, 2020). The agency and resource dependence hypotheses argued that freedom encourages AC members to make decisions without hindrances. Abdullah, Uli, and José Tarí (2008) found that a firm with many executive members on the board and non-autonomous AC may promote financial fraud. The freedom of an AC can influence business performance. Musallam (2020) observed that the ratio of autonomous members in the AC to its total number of members affects abnormal accruals. Thus, the study proposes that:

H5: AC freedom has a substantial positive impact on bank profitability.

Frequent AC meetings foster the use of accounting practices that, in turn, boost firm performance (Abbott, Parker, and Peters 2004). Musallam (2020) argued that AC meetings assist a board in reviewing the progress and fixing problems faced by accountants and auditors. According to Jackling and Johl (2009) and Musallam (2020), board meeting frequency helps improve business monitoring performance. Abdul Rahman and Mohamed Ali (2006) found that more AC sessions help boost the firm performance. Also, Kyereboah-Coleman (2007) observed that AC meetings have a positive and consequential effect on performance. However, Bansal and Sharma (2016) found that AC meetings have an insignificant influence on firm performance. The AC financial expertise has a positive and considerable impact on firm performance, as Sultana et al. (2015)

argued. Lipton and Lorsch (1992) noted that infrequent board meetings might prevent directors from wasting too much time debating petty issues. Hence, the study develops the following hypothesis:

H6: AC meeting frequency has a significant influence on bank profitability.

The AC members should be competent to monitor internal control and compliance for outstanding financial reporting, and as such, it is essential to check the finance, governance, and company-specific knowledge while selecting the AC members (Mansour et al. 2022). The most influential factor is to confirm the background and qualifications of AC members in finance and accounting. Giacomino, Akers, and Wall, (2009) argued that schooling and skills are essential for a finance and accounting professional. Academicians, however, remain silent while noting the skills of Audit Committee (AC) members in accounting and finance. There is limited research on the affinity between AC expertise and firm profitability. Sultana et al. (2015) observed that AC skills in accounting and finance have a positive and consequential impact on a bank profitability. Based on the preceding discussion, it is assumed that:

H7: AC finance and accounting expertise have a substantial impact on bank profitability.

3. METHODOLOGY

This study is quantitative since it aims at quantifying social phenomena and analyzing how a small number of attributes relate to one another over a large sample. It used the positivist paradigm-based deductive research methodology. The DSE-listed Bangladeshi banks constituted the sample. As of December 31, 2022, 32 banks were listed with DSE. Out of these 32 banks, the annual reports of two banks were inaccessible for some years of the study. As such, the final sample size was 30 listed banks. Based on data from 2016 to 2022, the study considered annual reports from all 30 sample banks, producing a total of $(30 \times 7) = 210$ sample-year observations (Mehedi, Kuddus, and Maniruzzaman, 2017). The narratives of the study variables are in Table 2.

TABLE 2
Variable Measurement

Dependent variable	
Return on Asset (ROA)	Ratio of operating profit and total assets
Independent variables	
Board Characteristics	
Ownership concentration (OC)	Percentage of share capital owned by directors
Board size (BS)	Total number of members in company <i>i</i> in year <i>t</i> .
Board Independence (ID)	Total independent members on the board
Audit Committee(AC) attributes	
AC size (ACS)	Total members in the AC
AC independence (ACIND)	Total independent members in the AC
AC meetings (ACM)	Total AC meetings held throughout the accounting year
AC's financial expertise (ACFE)	Total accounting and financial experts in the AC.
Control variables	
Firm age (FAGE)	Total operating experiences since listing at DSE
Firm size (FAGE)	Natural log of entire assets of the sample banks

3.1 MODEL'S SPECIFICATIONS

The current study develops the following regression model to measure the hypothesized relationships:

$$\begin{aligned}
 Y_{it} = & \alpha + \beta_1 \times OC_{it} \\
 & + \beta_2 \times BS_{it} + \beta_3 \times ID_{it} + \beta_4 \times ACS_{it} \\
 & + \beta_5 \times ACIND_{it} + \beta_6 \times ACM_{it} + \beta_7 \times ACFE_{it} \\
 & + \beta_8 \times FAGE_{it} + \beta_9 \times LOGFSIZE_{it} + \beta_j Con_{it} + \varepsilon_{it}
 \end{aligned}$$

Where:

- Y_{it} : to firm performance, which is assessed as ROA, i.e., return on assets.
- OC: the percentage of board members' shareholding.

- BS: the board size, which is the figure of the total board members.
- ID: the board freedom assessed as the sum of non-administrative members on the bank's board.
- ACS: the extent of the AC, which is the sum of the total memberships of AC.
- ACIND: the sum of the self-governing directors of AC.
- ACM: the sum of board meetings of the AC held in a year.
- ACFE: the sum of AC members having financial expertise (see Table 2).
- FAGE: the total operating experiences since listing at DSE.
- LOGFSIZE: the natural log of the entire assets of the sample banks.
- Con: the control variables used in this study.

4. RESULTS AND ANALYSIS

The current study plans to observe the effects of board qualities and characteristics of the AC on banks' financial success. In order to get a holistic view, this study has used both descriptive and inferential statistics. Descriptive statistics clarifies the general pattern of the phenomena (see Table 3), while inferential statistics enable us to catch the effects of repressors on the regressed variable.

Table 3 reports the descriptive statistics for the sample variable. The average value of return on assets (ROA) is 0.00669, with a minimum and maximum value of -4.25% and 2.45%, respectively. The mean ownership concentration (OC) value is 0.3928, ranging from 0% to 87%. The average board size (BS) is 13.9111, from six to 22. In some Bangladeshi banks, the extent of the board is too high. The descriptive statistics also show that the number of independent directors (ID) varies from one to eight, with a mean value of 2.5. In this case, this paper finds a compliance crisis to the mandatory CG guidelines 2012 and 2018, where there is a provision to retain the independent directors in the ratio of 5:1. The audit committee size (ACS) spans from three to six, with an average of 4.2833. Audit committee independence (ACIND) shows that some banks have minimum CG requirements.

In contrast, others ensure more freedom in the board audit committee, as in Table 3, where some banks set only one independent director in the audit committee while others appoint more. The presence of experts in connection to the business and financial expertise (ACFE) in the audit committee ranges from one to five,

following the CG guidelines for banks in Bangladesh. In addition, the number of board meetings of the audit committee spans from four to 19.

TABLE 3
Descriptive Statistics for All Variables

Variables	N	Minimum	Maximum	Mean	Std. Deviation
ROA	210	-0.0425	0.0245	0.00669	0.008096
OC	210	0.00	0.87	0.3928	0.14938
BS	210	6.00	22.00	13.9111	4.30965
ID	210	1.00	8.00	2.5000	1.06493
ACS	210	3.00	6.00	4.2833	0.95294
ACIND	210	1.00	3.00	1.8444	0.57724
ACFE	210	1.00	5.00	1.5419	0.94345
ACM	210	4.00	19.00	8.3944	3.21918
FAGE	210	9.00	49.00	22.4460	9.44833
FSIZE	210	9.33	14.16	12.4530	0.78803

Correlation aids in determining the strength or depth of the relationship between variables since high levels of correlation among independent variables can cause multicollinearity that can produce false conclusions. Multicollinearity is present when the correlation is more than 0.8 or 0.9 (Rahman and Hossain, 2022). Table 4 shows that VIFs that do not exceed the threshold of 10 suggest the multicollinearity problem is absent.

TABLE 4
Correlation Matrix for All Variables

	ROA	OC	BS	ID	ACS	ACIND	ACFE	ACM	OC	FAGE	FSIZE
ROA	1										
OC	-0.075	1									
BS	0.129	-0.120	1								
ID	0.297**	0.061	0.407**	1							
ACS	-0.104	-0.208	0.530**	0.161*	1						
ACIND	-0.120	0.090	0.138	0.236**	0.247**	1					
ACFE	0.039	-0.117	0.399**	0.124	0.402**	0.249**	1				
ACM	0.050	-0.297	0.274**	0.040	0.185*	-0.039	0.183*	1			
FAGE	-0.144	0.024	-0.271	-0.091	-0.236	-0.075	-0.164	-0.030	0.024	1	
FSIZE	0.586	0.160	0.032	0.364	0.439	-0.061	-0.033	0.128	0.160	0.152	1

4.1 REGRESSION RESULTS

To gain an insight into the affinity between the dependent and independent variables, a pooled regression model is used in this research. The Durbin-Watson statistics (see Table 5) of the pooled regression model, however, show the presence of autocorrelation in the data set. The Durbin-Watson test score spans from 0 to four and stays between 1.5 and 2.5 if observations are assumed to be independent (Husaeni, 2018), but in this case, the Durbin-Watson test score is 0.605143 (see Table 5). In addition, The Breusch-Pagan Godfrey test (p -value = 0.0732) reveals that the data distribution is heteroscedastic, which can be eliminated by using the generalized method of moments (GMM) for panel data analysis (Lajmi and Yab, 2022). Therefore, this paper adopts GMM for regression analysis; OLS regression results are presented for reader understanding only.

Table 5 presents the outcomes of the GMM estimator. The hypotheses developed in this study have found both positive and negative affinities, but most are statistically insignificant. The GMM estimator (see Table 5) reveals that some explanatory variables (such as board size, boardroom autonomy, AC size, and the number of AC meetings) and ROA are positively associated, but none are statistically significant.

On the other hand, other CG variables (OC, ACIND, and ACFE) are associated inversely with ROA, where only ACIND is connected substantially at 10%. In addition, among the control variables, both FS and FA are related positively to ROA, and NPA is negatively associated with ROA. The association between NPA and ROA is statistically significant at the 1% level.

5. DISCUSSIONS

The regression results imply that the OC is inversely related to ROA, but the relationship is not significant. This affinity indicates that controlling shareholders fail to influence bank performance. Such a negative relationship could be the potential practice of "tunneling," which is the transfer of properties and revenues out of a firm for controlling stockholders (Yoon and Jin, 2021). Tunneling is straightforward when the dominant shareholders also serve as board members. In addition, through self-dealing or related party transactions, controlling stockholders may redirect their one firm's income to other firms (Yoon and Jin, 2021).

TABLE 5
Regression Results for ROA

Variables	GMM		OLS		Collinearity Statistics	
	t-value	P-value	t-value	P-value	VIF	Tolerance
OC	-1.342790	0.1816	-0.968061	0.3344	1.420	0.704
BS	0.598764	0.5503	-1.627489	0.1055	2.422	0.413
ID	0.890663	0.3747	2.119922	0.0355	1.764	0.567
ACS	1.293627	0.1980	-1.230368	0.2203	1.953	0.512
ACIND	-1.683233	0.0947	-0.475374	0.6351	1.324	0.755
ACFE	-0.166818	0.8678	0.557704	0.5778	1.527	0.655
ACM	0.188574	0.8507	-1.019938	0.3092	1.425	0.702
LOGTA	0.401177	0.6889	-1.239331	0.2170	5.944	0.168
LOGLA	0.680234	0.4975	-1.369842	0.1726	1.949	0.513
NPA	-2.296274	0.0232	-10.92891	0.0000	5.259	0.190
R ²	0.880267		0.711940			
Adj. R ²	0.839755		0.692966			
F Statistics			37.52181			
Prob.			Sig.			
Durbin-Watson stat.	1.556785		0.605143			
J-Statistic	1.88E-15					

Through minority-disadvantaged operations such as dilutive share offerings or freeze-outs (bulk shareholders pressure minority shareholders to sell their shares), the dominant shareholders can enhance their ownership stakes without relocating assets (Choi, Han, and Lee, 2014). Also, by fixing their compensation beyond the market level and without considering their efforts, leading stockholders who are also board members can manipulate minority stockholders. These issues are obvious despite a negative link between the board shareholdings and bank performance.

The link between board size and ROA is positive but insignificant, suggesting that the board of almost all Bangladeshi banks hardly influences corporate financial performance. The findings corroborate earlier research by Ferrer (2012). In addition, some concepts, such as the agency assumption and resource dependence viewpoint, have confirmed that a large-size board does not agree with the study outcome (Tukur and Balkisu, 2014). The results are also against the findings of some researchers such as Black and Kim (2012) who noted that a diverse group of individuals with various specialties matters more. The findings imply that the absence of a variety of expertise and knowledge may make a board unproductive. In Bangladesh, because of a highly concentrated shareholding pattern, family members are appointed as board members, disregarding the level of education and expertise in a different context, which may account for such a low affinity between corporate board composition and financial performance.

In addition, the relationship between boardroom autonomy and ROA (see Table 4) is positive but inconsequential, which further signals that boardroom freedom in most of the listed banks in Bangladesh has failed to reinforce corporate financial performance. The results agree with earlier research by Ferrer (2012). But the results are incompatible with a few other studies, for example, Malik and Makhdoom (2016). The findings refute the entitlement of the agency theory that a substantial number of autonomous board members is required to oversee the company administration to reduce principal-agent problems (Jensen and Meckling, 1976). In Bangladesh, outside directors are appointed based on family relationships ignoring the skill and expertise levels, which may cause an insignificant association between boardroom freedom and corporate financial success.

This result also misrepresented the view of resource dependence theory as it portrays that a more lavish AC size renders more power and resources to the members to complete their jobs

successfully (Salehi, Tahervafaei, and Tarighi, 2018; Jensen and Meckling, 1976). However, a committee with more members would likely take more time to coordinate and make decisions than one with fewer members. In Bangladesh, AC members are appointed based on the will of sponsor directors because they hold significant boardroom control. The representation from institutional investors and blockholders in the corporate boardroom is negligible, which makes the sponsor directors more powerful in corporate decision-making. So, the extent of the AC size becomes irrelevant in modifying corporate financial performance.

The AC autonomy is inversely associated with ROA, and the affiliation is statistically significant at the 10% level. The association signifies that AC autonomy in most of the listed commercial banks in Bangladesh reduces firm performance. It may be related to the idea that independent directors are not heavily involved in corporate affairs, which might hinder their holding of relevant information about such activities. Audit procedures may have a detrimental influence on the firm development and performance if the AC lacks full understanding of the business and its operations. Besides, instances are available where board chairs or CEOs held the AC chairs, which could have reduced the degree of freedom (Sharma and Lawrence 2009). A board chair or CEO on the AC, according to Beasley and Salterio (2001), reduces the AC's effectiveness; they concluded that a CEO on the AC undermines its freedom and results in less adequate monitoring.

Accounting knowledge of the AC members is negatively associated with ROA, but the association is insignificant. This relationship reveals that the knowledge and expertise of the AC members failed to add value to most of the listed banks in Bangladesh. The inverse relationship could be the outcomes from sub-standard CG devices in the banks in Bangladesh. Based on the literature, boards with effectual control tend to have more qualified accountants, which enhances the AC oversight and promotes conservatism (Krishnan and Visvanathan 2008). In Bangladesh, the adoption of CG gadgets depends on the desire of founding family members. In this case, knowledge and skills are given low consideration.

Again, it is debatable whether experience influences AC member efficacy if the members hold several directorships and may become overburdened and less able to perform their fiduciary duties. Vafeas (2003) found that the more directorships the AC members have, the more unproductive AC becomes. Experience alone is not

enough to confirm financial expertise. One needs training and education to become a finance and accounting expert (Giacomino et al., 2009). As such, regulators should require that every AC member is able to read and understand the financial reports.

This research also finds that bank size and bank age are positively linked but not statistically significant. This situation implies that large and old banks fail to contribute to value addition in Bangladesh. The affinity between non-performing assets and ROA is negative, and the relationship is statistically significant. This reveals that the greater the amount of NPA, the lower the corporate financial performance in most banks in Bangladesh. Thus, the policy planners in the money market, particularly bankers, recognized the services, products, demands, and value chains that help expand the ability to produce upscale shared value for all stakeholders in an emerging country context, especially Bangladesh (Islam and Hossain 2019).

6. CONCLUSIONS

This study aimed at determining the effect of the board and AC characteristics on bank financial performance measured as return on assets (ROA) in an emerging economy. The study collected data from annual reports of the sample banks covering the period from 2016 to 2022. In total, 30 banks remain in the scope of the study based on the data availability criteria. For panel data analysis, the study used GMM as the pooled regression model is inappropriate for the study because of some autocorrelation problems in the dataset. An influential BOD is a basis for sound CG because the former strengthens the latter. Most significant business failures and financial scandals have arisen because of agency issues created by inadequate boards (Black and Kim, 2012).

The leading CG theory, known as the agency theory, asserts that an efficient Board is a vital element of CG that helps minimize agency issues. To increase board effectiveness, reforms in CG codes, rules, and laws should be appropriately enforced (Ujunwa 2012). Most CG studies offer insights into the alliance between the board and financial performance in developed nations; still, there is little knowledge regarding the same in emerging economies (Ararat, Claessens, and Yurtoglu, 2021), particularly in Bangladesh. As such, this study examined the affinity between board attributes (board size, board independence, and ownership concentration), and AC characteristics (size, freedom, financial expertise, and corporate

financial performance) signifying that this study is unique in Bangladesh.

The outcomes of this study reveal that board features (for example, size, freedom, and ownership concentration) and AC attributes (such as AC size, AC freedom, AC meetings, and AC financial expertise) fail to enhance bank performance in Bangladeshi banks. The question arises: what variables matter for bank performance, and what variables do not help maximize bank value? This study thought that the appointment procedures of some key personnel in some vital positions follow the classic CG guidelines, which need to be reviewed and revised, particularly for banks that do business by collecting money mostly from depositors. In Bangladesh the CEOs, CFOs, outside directors, and the head of the AC are appointed by the BOD, mainly by the dominant shareholding directors, based on, in most cases, family connections, favors, and choices, ignoring the level of skills and expertise (Rashid and Hossain 2022). CG of Bangladeshi banks has become a family-based governance practice, where most bank board members are from controlling families. Thus, the regulatory body should rethink the selection strategy of these key leadership personnel.

This research recommends that the central bank and the ministry of finance should retain the power to nominate some key personnel, such as CEOs, CFOs, and the head of the AC, based on a pre-established level of talent and expertise, particularly for the Bangladeshi banks; otherwise, public money holds no guarantee. Besides, there should be at least one independent director on the bank board from the depositors to oversee their interests, and the central bank or the Ministry of Finance should develop such an appointment strategy. The effect of institutional or founding family members on the bank board is assertive in most cases. The excess controlling power of the founding families/ institutional directors enables them to tunnel the resources from one company to another through related party transactions or other forms, which reduces the bank value (Al-Jalahma, 2022). In addition, the head of the AC, in some cases, is the board chair or CEO. In those cases, the AC cannot work freely and, as such, leads to a decrease in bank value. This paper recommends rectifying CG gadgets, especially in the banking sector, when Bangladesh aspires to ensure morality and transparency in business.

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BOOK REVIEW

COVID-19 AND ISLĀMIC SOCIAL FINANCE

by M. Kabir Hassan, Aishath Muneeza, and Adel M. Sarea, Routledge, 1st Edition, 2021, 264 pp, ISBN978-1-003-12171-8

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The United Nations (UN) 2030 Agenda seeks to accomplish 17 Sustainable Development Goals (SDGs) for a sustainable, equitable world (United Nations 2020). However, the COVID-19 pandemic has significantly hindered progress, reversing poverty reduction efforts for the first time in decades (United Nations 2021b). This reversal has driven millions into poverty, reaching levels not seen in over thirty years (United Nations, 2021; World Bank, 2020). Data indicates that extreme poverty rose from 8.23% in 2019 to 8.82%, with a worst-case scenario forecasting 9.18%, marking the first increase in global extreme poverty since 1998 (World Bank 2020).

Islāmic Social Finance (ISF) mechanisms, particularly *zakat* and *waqf*, have the potential to ease the burdens experienced by impacted communities (United Nations 2021a). Historically, ISF has contributed significantly to alleviating poverty and promoting development in *Islāmic* society (AbdulKareem et al. 2021). *Zakat*, with rapid disbursement capabilities, offers immediate financial aid to those in need (Qistina and Sim 2021). On the other hand, *waqf* supports long-term development goals, especially in education and agriculture, to address evolving socio-economic challenges (Sapuan and Zeni 2021). Together, these mechanisms build a robust framework that addresses urgent crises and fosters sustainable socio-economic stability.

COVID-19 and *Islāmic Social Finance* is the first book of its sort that aims at filling in gaps in the literature on this subject. The editors, M. Kabir Hassan, Aishath Muneeza, and Adel M. Sarea did a great job of presenting the different nations' experiences and ISF

strategies in mitigating the COVID-19 impact. The book is divided into three parts; the impact of COVID-19 on the poverty level and the role of ISF in response to the pandemic; the ISF innovations; and COVID-19 influence on *Islāmic* microfinance.

The first part of the book deliberates on how COVID-19 affects the economy, social life, as well as environment. Governments worldwide reacted by offering stimulus packages such as subsidies, unemployment benefits, tax reliefs, and handing out cash aid packages as well as basic necessities in kind to those badly impacted by lockdowns and job loss. Some countries even banned exports of food, medical, and hygiene goods to ensure enough local supply.

Nonetheless, the crisis has unlocked the full potential of ISF, especially *zakāt*, *sadaqah*, *wāqf*, *takaful*, and microfinance (*qarḍul-ḥasan*). Countries' success stories on how *zakāt* and *sadaqah* assisted in mobilizing funds to reach those in need in that critical period, were shared. The book includes articles discussing the new emergence of other ISF tools such as Sustainable Development Goals (SDGs)-linked *sukūk* such as green *sukūk* and *Ṣukūk Ihsan*, that have been introduced in Malaysia. It was also proposed that a 'pandemic *sukūk*' be issued to overcome the financial struggles due to COVID-19. Turkey, additionally, suggested a Refugee *Ṣukūk* as an appeal to the world, to assist the country to fund the rising cost of handling refugee camps.

Part I also incorporates two articles that study country-level financial inclusion and financial capacity indicators. The findings showed that low-income groups were excluded, and the authorities in 121 countries were not in favor of the low-income groups. Based on the findings, the gaps in inequality and poverty will not be reduced; hence providing opportunities for ISF to address the gaps.

The first part also includes Iran's alternative crisis management as an example of how a country may adopt a different approach and succeed. Despite the economic and medical sanctions faced, Iran has managed to overcome the virus spread. This success is credited to the bottom-up *Islāmic* social finance and faith-based civic engagement implemented that centers on *jihād*, defense, and martyrdom which is unique to Iran.

In Part II of the book, chapters show that despite its adverse effects, COVID-19 has become a catalyst for new priorities, values, and lifestyle habits in society. This part discusses ISF participation in disruptive technology such as digitalization, automation, supply chain consolidation, and inventions of exciting new models. Fintech-based solutions such as the *zakāt* management system, blockchain, Internet of things (IoT), *Islāmic* P2P lending, crowdfunding, and artificial

intelligence (AI) are the new ISF models. It is suggested that ISF's role in this disruptive technology will ensure ISF stability and sustainability, therefore confirming the future of ISF as an alternative financial system.

The book further illustrated how technological advancement created benefits for both *zakāt* donors and recipients. Donors can easily locate, analyze, and finance charity projects using e-wallets, online banking, and so on. Organizations can save time and money when reaching out to contributors, and this will also improve transparency because of increased reporting and communication. Project management, processes, and monitoring can all be enhanced using technology. Most crucially, digital technology may assist social finance beneficiaries and their communities by improving accessibility and distribution.

This part of the book proposes that the *wāqf* model of *Al-Rajhi* be replicated and adapted by *Muslim* philanthropists to reduce poverty caused by COVID-19. I find it odd, however, that the Al-Rajhi Foundation model was included in this part of the book as an ISF innovation to combat the COVID-19 effect since the foundation has long been established and the model has existed for some time. Nevertheless, it was proven that the model has helped many in need.

The third and final part of the book deliberates on how COVID-19 impacted *Islāmic* microfinance, a subcategory of *Islāmic* finance targeted at community welfare and financial inclusion of the poorest in society who are excluded from bank financing. This part starts by discussing the lack of funds faced by the main cooperative institution in Indonesia, *Bait Maal Wat Tamwil* (BMWT) due to COVID-19. Members' activities have been disrupted, resulting in deferred loan repayment besides withdrawal of savings for immediate survival needs. The article authors offered several proposals to resolve BMWT liquidity problems which can also be adopted by other *Islāmic* cooperatives.

In Brunei *Islāmic* microfinance had assisted the Micro, Small, and Medium Enterprises (MSME), which are more vulnerable than SMEs, especially during the COVID-19 pandemic. Similarly in Nigeria, the interest-free loan provision to SMEs enabled them to access more loans and survive the pandemic. An interesting point in the article on Nigeria is that understanding of *Islāmic* microfinance benefits was high among customers of all microfinance, although the number of *Islāmic* microfinance institutions is very small. This shows that *Islāmic* microfinance has a very promising future in Nigeria.

Pawnbroking was also discussed as one of the *Islāmic* microfinance tools made more popular during the pandemic. It was one of the quick solutions for ready cash needed to buy necessities and medications, particularly in times of crisis. Malaysia is an example of how the *Islāmic* pawnbroking institution *Ar-Rahnu* can be a model of successful *Islāmic* pawnbroking.

Overall, I find this book to be very informative and insightful. It provides an overview of the different types of ISF, their origins, objectives, and their applications in various countries. One drawback of the book, however, is that it lacks a detailed analysis of each ISF tool or institution. Consequently, readers who are primarily interested in understanding how each tool works in specific contexts may find the book wanting.

Given the existing differences between *Muslim* countries, replicating and adopting a particular model effective in one country can be difficult in another, especially without having much initial information and background knowledge. A detailed discussion on perhaps, the history and development phases of ISF, level of government support and involvement, and information technology as well as infrastructure readiness can provide the background needed to better evaluate the suitability of the model to be replicated.

Since this book is a compilation of articles, repetition of similar facts in a number of articles is unavoidable. Nevertheless, the authors provide a good balance of article selection between discussing theoretical concepts and providing examples from real-world cases.

I would recommend this book to anyone interested in ISF and believe it will be of great use to academics and practitioners working in the field.

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