

# GLOBAL JOURNAL

OF MANAGEMENT AND BUSINESS RESEARCH: B

## Economics and Commerce

KPI System in the Dairy Cluster

Strategic Planning in the TVET Sector

Highlights

Profitability of Sri Lankan Banking

Influence of Net Interest Margin (NIM)

Discovering Thoughts, Inventing Future

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ECONOMICS AND COMMERCE

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## Critical Review: Future of Block Chain Economy in Financial Services

By Lim Hong Hin

*Liberty University*

**Abstract-** This research paper is based on the future of block chain economy in financial sectors and its significant usage. The researcher emphasized that the block chain technology has the potential to disrupt financial services and it can change the current face of financial Industry. The researcher focused on the significant usage of block chain economy to fraud detection, to maintain the customer's history, trade finance, and smart contracts. There are some challenging faces of block chain economy towards adoption in financial sectors such as interoperability, privacy, energy consumption, security, scalability, and legal regulations. The researcher also stated that block chain economy is a scenario and potential future environment in which crypto currency replaces current monetary systems on a global basis to become an autonomous market participants in financial sectors. The researcher also highlights the key challenges of block chain economy adoption in financial sectors with current statistics of future analysis.

**Keywords:** *block chain economy, financial sectors, crypto-currency.*

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# Critical Review: Future of Block Chain Economy in Financial Services

Lim Hong Hin

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## I. INTRODUCTION

The block chain contains the ever-growing list of transactions by way of blocks. Each block is time-stamped and then linked to the previous block to become a part of the block chain. Block chain has been around since the evolution of Bit coin, with many have been somewhat skeptical of Bit coin creator Satoshi Nakamoto's new virtual currency in the wake of the last global financial crisis.

The block chain economy is a scenario and potential future environment in which crypto currency replaces current monetary systems, potentially on a global basis. Although block chain is most commonly associated with the Bit coincrypto-currency, the technology is actually a distributed ledger that keeps track of transactional data in a secure, verifiable and permanent manner. No central authority is required to validate the accuracy of transactional records; instead, trust is established and maintained through consensus within a peer-to-peer (P2P) network [1].

This has profound implications for the future of financial and the exchange of value. Block chain's peer-to-peer system of exchange is inherently self-governing; based on shared ownership and equality among participants. Because P2P transactions through blockchain don't require the help of an intermediary, it lowers the cost of each transaction. Additionally, the consensus algorithms used to validate the accuracy of

the distributed ledger make blockchain much less vulnerable to fraud and cybercrime than conventional financial systems [2].

Block chain's autonomy is also expected to foster another emerging aspect of the blockchain economy, machine-to-machine (M2M) transactions. In this scenario, machines will use blockchain to become autonomous market participants with their own bank accounted. Before long, it's expected that advances in artificial intelligence (AI) will allow machines in the Internet of Things (IoT) to be able to lease themselves out, schedule and pay for their own maintenance, purchase their own replacement parts and keep their own transactional records, using blockchain [3].

### a) *What is Blockchain?*

Blockchain was originally created to be a decentralized ledger of Bit coin transactions that take place within the Bit coin network. A decentralized or distributed database/ledger essentially means that the storage devices, where the ledgers are located, are not linked to a common processor. In the early days, the focus remained largely on the crypto currency itself and not the technology behind it. After all, exponential gains in the new asset class tend to overshadow what's the driving force behind it [4] [5].

### b) *The usage of Blockchain Technology*

The blockchain is a peer-to-peer distributed ledger of time-stamped transactions. For the purposes of crypto currencies, the entire ethos was to decentralize away from central banks through Bit coin and other crypto currencies. Therefore, it's a movement against the centralization and the control of fiat money. While with fiat money, central banks are in control of the ledger, with crypto currencies and blockchain technology, the user maintains their own copy of the ledger and all copies of the ledger are synchronized through what is known as a consensus algorithm [5]. According to Gartner, blockchain technology has already passed the peak of the hype cycle and has entered a period of disillusionment, which brings about a realism to blockchain technology. The general view is that passing the period of inflated expectation has been an important step in block chain's advancement through the hype cycle [6]. The industry have now embarked on projects to fully assess block chain's capabilities and how it can be incorporated into day to day processes. The incorporation of block chain technology into day to

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day practices within large multinationals has already stated, with the finance sectors is the quickest out of the blocks, getting into the hype and down to business.

## II. RELATED WORK

Trautman, Lawrence J (2016) stated that block chain technologies have been heralded as the next big disruption in financial services. Potential uses may without a doubt carry colossal advantages to the business and bring forth an entirely different age of administration. A few insights regarding open revelations from administrative specialists' agents have been dislodged to the extensions to gives extra data about the controllers' mentality in situations where real guidelines have not been planned at this point [1].

Javier Sebastian Cermeño (2016) focused on circulated record advancements (DLTs), including block chains, are progressively getting a huge enthusiasm from set up businesses. Furthermore, DLTs may turn into a facilitator for the advancement of new computerized organizations prompting new wellsprings of income. Be that as it may, DLTs are still a long way from been prepared for mass reception, because of some unsolved difficulties on the innovative, operational, business and administrative sides [2]. Philip Treleaven et al. (2017) emphasized that the financial and financial-administration industry has considered blockchain innovation's numerous preferences. This exceptional issue investigates its improbable starting points, huge effect, execution challenges, and gigantic possibilities on block chain innovation [3].

Nir Kshetri (2016) emphasized that the potential reasons for major monetary, political and social changes in the Global South. The unmistakable impacts of this innovation are as of now been noted there. The blockchain in conquering some monetary, social and political difficulties confronting the Global South. The article features the key applications and employments of blockchain in creating nations. It likewise digs into difficulties and hindrances that creating economies are probably going to experience in the utilization of blockchain [4].

Chris McPhee (2017) expounded four explicit applications that feature the potential monetary advantages of computerized records. The all-encompassing topic is that an expanding measure of ordinary activities including cash, resources, and reports could begin to be directed using block chain-based disseminated organize records with cryptographic security, and at progressively granular degrees of detail [5]. Richard Adams et al. (2017) stated that block chain innovation gives an energizing application space to development in various areas however compromises disintermediation for associations giving a trusted and auditable record of possession and exchanges [6].

Siba, Tarun K et al. (2016) focused on computerized money because of demonetization, quickly evolving world, and worldwide installment alternatives and so on. The enterprises are searching for such an innovation that works in advanced cash conditions with the record of the considerable number of exchanges. In this paper the researcher discussed the Blockchain innovation, an advancing innovation, which gives help to the ventures in computerized money conditions with the record of every exchange. It gives an understanding on the blockchain innovation with the dread and grin of start of new time of straightforwardness [7].

Chris Elsdon et al.,(2018) emphasized that block chain is a developing infrastructural innovation that is proposed to generally change the manners by which individuals execute, trust, work together, sort out and distinguish themselves by featuring center theoretical and methodological difficulties for HCI analysts starting to work with blockchain and dispersed record innovations [8].

Javier Sebastian (2016) stated that disseminated record innovations (DLTs), including block chains, are progressively getting an enormous enthusiasm from built-up businesses. It depends on essential information from material rules and optional information from the open area including important contextual analysis experiences. In this way extending openness and accordingly financial comprehensiveness. It additionally features other financial possibilities spilling out of blockchain progression [9]. The intrigue is particularly solid among financial administration firms, which are beginning to see DLTs as a potential driver of gigantic investment funds in foundation and back-office forms [10].

Scott, Brett (2016) focused on decentralized computerized money Bit coin - and its fundamental "block chain" innovation. This paper gives an introduction on the nuts and bolts of Bit coin and talks about the existent accounted about the innovation's capability to encourage settlements, financial consideration, helpful structures and even miniaturized scale protection frameworks [11]. Guillermo Jesus, Largos-Hernández (2017) emphasized that creating economies have constrained or no entrance to formal financial administration, making cause for generous research enthusiasm for financial consideration as a complex multidimensional marvel. Computerized funds advances, including block chain, have enabled a sort of cursive business that looks for circumstances in connection to financially rejected people [12].

Charles W. Evans (2015) broke down the consistence of appropriated, self-governing block chain the board frameworks (BMS) like Bit coin-additionally alluded to as 'virtual monetary forms. It presumes that Bit coin or a comparative framework may be an increasingly proper mode of trade in Islamic Financial

and Finance than *riba*-supported national bank fiat money, particularly among the unbanked and in little scale cross-outskirt exchange [13].

Andrei O. et al. (2019) stated that blockchain innovation could profoundly disturb the worldwide economy. As the new innovation, block chain is of wide and current enthusiasm for the travel industry. Little island economies are at the cutting edge of embracing this advanced resource and innovation [14]. Gareth W et al., (2019) gave a review of the idea of blockchain innovation and its capability to upset the universe of financial through encouraging worldwide cash settlement, savvy contracts, robotized financial records and advanced resources [15].

Thomas M. Hughes (2018) emphasized that Bit coin and its empowering innovation, the blockchain, are up front in exchanges of things to come of funds and "fintech." This innovation of the financial markets recommends that as opposed to been problematic to significant occupant organizations, blockchain-based development will in general reinforce existing business sectors members, serving more to lower costs than to energize new participants or new business techniques [16]. Julia Kokina et al., (2017) stated that block chain is a dispersed record innovation ready to change the bookkeeping practice, blockchain-related practices in enormous bookkeeping firms and follow critical achievements in this current innovation's rise. At last, we examine some potential regions that future research could address [17].

Jun sheng Wang et al. (2019) stated that the hot of government "Web +" and eight services "on the financial help for modern development and solidness of the exchange of various perspectives on the expansion in productivity," Supply chain money has entered a phase of quick advancement. The blockchain innovation as an inventory network account improvement of fuel, can be depicted as the job of indispensable. It expounds the examination and utilization of blockchain innovation in inventory network money lately, the use of blockchain innovation in production network funds is condensed and determined [18].

Shweta Bhardwaj, Manish Kaushik (2019) stated that blockchain innovation initially came into open talk through the fast development of Bit coin money. The utilization of blockchain innovation in various territories, the capability of This innovation in fresher zones and perceive how it is changing the key methods for exchanges in a variety of business areas [19]. Notheisen Benedikt et al.,(2017) stated that the blockchain has arrived at the tip of a worldwide promotion over an assortment of enterprises. The capability of this innovation, entomb alia building the fundament of Bit coin, is thought to be tremendous and problematic – especially for the financial business. Moreover, the analyst goes past a simply systematic point of view and gives a tool kit to help the dynamic

development of blockchain-based environments and frameworks [20].

### III. PROBLEM STATEMENT AND RESEARCH ISSUES

The researcher pointed out some of the significant research issues in financial sectors concerning problems solved by blockchain which are offering access to funds or financial institutions to enable financial transactions, where infrastructures are lacking. The main economic advantage blockchain technology offers is its decentralized, digital ledger system. Technology could allow for the transformation of economies, in essence leapfrogging, by using blockchain as an economic tool. This is disrupting the financial services industry, as traditional services often include an expensive middleman used to verify a transaction has been correct and true. Blockchain circumvents the need for a middleman through the use of technology. Although blockchain isn't infallible, it's resistant to falsification attempts, making it a viable alternative to traditional processes [21]. The researcher stated some of the research objectives of this research article:

1. To study the usage of block chain economy in financial sectors.
2. To analyze the challenging faces of block chain economy in financial sectors.
3. To study the problems in adoption of block chain technology in financial sectors.

### IV. RESEARCH DESIGN AND METHODOLOGY

This research paper has designed on the basis of secondary data. The secondary data were collected from published books, journals, research papers, magazines, internet and official statistical documents. The study is qualitative to show that a significant impact of block chain economy in financial sectors. The methodology builds on as technology widens communication and collaboration globally, this results in an increased reach to people who wouldn't ordinarily have had the opportunity to access traditional financial services. By drastically reducing the costs of this economic activity, blockchain becomes an affordable economic tool for the masses that doesn't discriminate on gender, ethnicity, income bracket, or occupation.

### V. FUTURE OF BLOCK CHAIN ECONOMY IN FINANCIAL SERVICES

The researcher emphasized that the emerging use cases with each passing day, the blockchain technology has the potential to disrupt the financial and finance sectors of current times. A few ways in which blockchain can change the current face of the financial industry are as follows:

1. *Fraud Reduction*: The involvement of money in any situation leads to increased chances of fraudulent activities. And for an overall sectors operating on the very base model of money, security is of utmost importance. More than 40% of financial bodies and intermediaries including money transfer service providers as well as stock exchanges are susceptible to heavy losses relating to economic crimes annually.
2. *Centralized Database*: Reason been the usage of centralized database systems for operations and money management. A centralized database system is vulnerable and highly prone to cyber-attacks as the single point of failure, such systems can be exploited by hackers. Once a hacker gets access to such a system, it is a child's play for him/her to take the money. This leads to the need for more secure systems that are strong enough to avoid such attacks.
3. *Security*: Enter Blockchain, a secure, non-corruptible technology operating on a distributed database system. Since blockchain is distributed, there is no chance of a single point of failure. Each transaction is stored in the form of a block with a cryptographic mechanism which is extremely difficult to corrupt.
4. *Virtual Currency*: The government currency of the future is inevitably crypto. Compared to the traditional fiat alternative, crypto currency is more efficient, provides reduced settlement times, and offers increased traceability. Crypto currency can also be backed by real assets, similar to fiat currency, and its price can be artificially manipulated by numerous controls (e.g., monetary policy for "printing" more tokens).
5. *Smart Contracts*: The application of smart contracts can prove particularly important in the financial and finance sectors. A smart contract is a self-executable piece of code that runs when certain conditions written on it are completed.
6. *Trade Finance*: Trade finance is considered one of the most useful applications of blockchain technology in the financial sectors. All the involved parties such as a complex transaction can be on-boarded on a blockchain network and the information can be shared by exporters, importers, and banks on one common distributed ledger. Once certain specified conditions of the deal are met, the smart contracts will automatically execute themselves and the respective parties can view all the actions performed.

Moreover, all the blocks are linked to each other and due to this linking mechanism, if one block is breached all the other blocks on the blockchain immediately showcase the change. This, in turn, helps to track the breach and provides the hacker with no time

to make changes in the overall system. With a secure Blockchain system in place, the researcher emphasized to eliminate the cybercrimes and attacks of financial and financial sectors taking place in the current times.

## VI. CHALLENGES IN ADOPTION OF BLOCK CHAIN ECONOMY

Blockchain sure has its advantages in terms of adoption given its proposed features but there are some hurdles along the road as well which need to be addressed for banks and financial institutions to grow ahead with blockchain.

1. *Interoperability*: The blockchain technology is not bounded by any international rules and regulations that place a standard to it. With the increasing need for interoperability among large industry like banks, the technology needs to be compatible with different systems and should hold the potential to get adopted by the masses. The integration of existing systems with a block chain-based model is a big challenge today as the current systems and processes cannot be entirely eliminated. If the actual adoption of blockchain allows multiple systems to work together smoothly, operational feasibility can be achieved.
2. *Privacy*: Banks and financial institutions are the entities that are trusted by people for storing their funds. For block chain to take their place, it is important to ensure that the data stored on the blockchain technology is kept securely and would not hamper the identity of any individual. As the transactions made on a public blockchain are publicly available, the need of exploring the potential of private block chains for data-critical sectors is needed along with the resolution of issues like interoperability.
3. *Encryption*: Private keys are the essential elements of a blockchain as they play a significant roles in securing the data of an individual on the blockchain. However, a private key generated once has to be kept very securely as once it is misplaced or lost, there's no way to get it back. Moreover, the encryption used to store data can be compromised by finding loopholes in the network which in turn, makes the blockchain susceptible to hacker attacks.
4. *Security*: The blockchain network is secure and powerful as it is embedded with cryptography techniques. Cryptographic networks are complex to hack and thus, any kind of security breach in such networks would require a high amount of computational power to secure any hack. When a blockchain network is applied to any financial institution, it has to be secured with multiple security protocols. The network should be capable enough to restrict participating authorities to take control of

the network only according to the access permission given to them. Depending upon the requirement, the blockchain involved in such systems or organizations could be permissioned or permission less. People in an organisation need to be handled with different levels of access permissions in order to save the overall network from malicious insiders and cyber hackers.

5. *Scalability:* Growth of existing databases is undeniable. The number of entries will keep on increasing as the number of people will continue to grow too. This poses a big challenge to the application of blockchain technology network. The network created through a blockchain should be able to handle the growing traffic while maintaining the speed of accessibility for the network participants. If the blockchain technology is applied to the current financial systems and institutions, it has to ensure the capacity of handling large volumes of data too.
6. *Energy Consumption:* Most of the current successfully running blockchain networks run on the concept of proof-of-work mechanism in which the network participants are rewarded based on how quickly they solve the equation to add the new block to the network. While this keeps the network working smoothly, it also increases the consumption of energy in enormous amounts in the form of computational work. This kind of computing power leaves massive carbon footprints that affect the environment. Before adopting Blockchain in an industry like financial, this issue needs to be resolved through alternate rewarding mechanisms.
7. *Legal Regulations:* If blockchain is applied in the financial sectors, the need for international and national regulations around it will become mandatory. Currently, crypto currencies, the most popular application of blockchain, do not have any regulations around them which makes them susceptible to both profits and losses. However, if and when blockchain finds its place in the financial or finance sectors, the regulations need to be in place to avoid chaos among people in case of any losses.

## VII. FUTURE STATISTICS OF BLOCK CHAIN ECONOMY

Block chain technology market worldwide from 2018 to 2023 (in billion U.S. dollars)

Table 1.1: Source: Statista- Future Statistics of Block Chain Technology in Financial Sectors

Year	Market in billion U.S. dollars
2018	1.2
2019	2.2

2020*	3.9
2021*	7
2022*	12.7
2023*	23.3

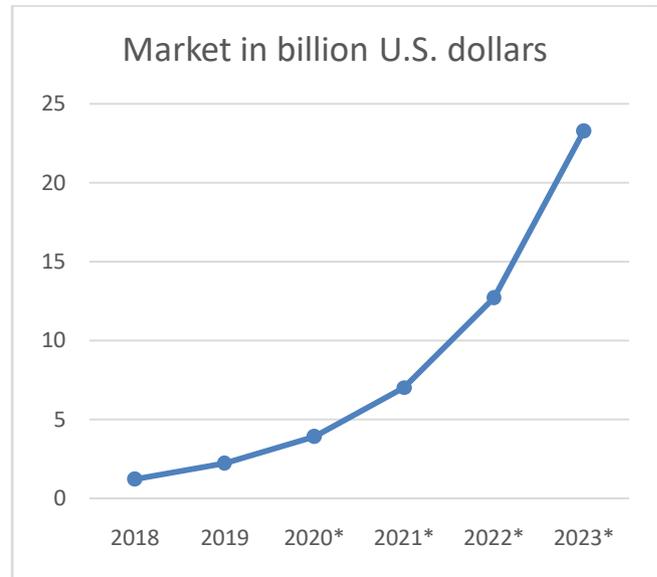


Fig.1.1: Block chain technology market worldwide from 2018 to 2023 (in billion U.S. dollars)

Forecasts suggest that global blockchain technology revenues will experience massive growth in the coming years, with the market expected to climb to over 23.3 billion U.S. dollars in size by 2023. The financial sectors has been one of the quickest to invest in blockchain, with over 60 percent of the technology's market value concentrated in this field.

Shanhong Liu (2019) stated that a list of evolving records that use cryptography to link back to each other and contain transactional data, Blockchain is a technology that has taken the business world by storm. Blockchain data is meant to be resistant to modification and secure as a record of transaction. The intricacies of the technology itself may be hard to grasp even for tech enthusiasts, but the growing popularity and prevalence of the technology is clear for all to see. Blockchain technologies can be used as public means of transactions as well as private ledgers for inter-company transactions and record keeping. Worldwide spending on blockchain solutions is expected to grow from 1.5 billion in 2018 to an estimated 11.7 billion by 2022. Every Industry are rushing to take advantage of the perceived benefits of the blockchain phenomenon and many are seeking to adopt their own private versions of blockchain and crypto currency. The financial sectors accounted for over 60 percent of the market value of blockchain worldwide in 2018, but the technology has spread to nearly every industry from healthcare to agriculture.

## VIII. CONCLUSION

Finally the researcher concluded that block chain economy is playing one of the significant roles in financial sectors concerning fraud detection, to manage the history of customers, trade finance, smart contracts, privacy and other significant factors. The potential roles of block chain technology seeing the popularity of crypto currency in the current markets. The big giants in financial sectors and possible cases of the decentralized technology for their business process. The researcher focused on some of the research issues of adoption of block chain economy in financial sectors such as interoperability, privacy, energy consumption, scalability, and legal regularities. Apart from that the researcher emphasized that block chain entering the current scenario, a lot of problems could be solved while making the system more transparent, easy to access and reliable.

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## Does BIGMAC Index Consider as a Substitute for Inflation Rate

By Mai Yasser, Mohamed Mussad & Nadine Sanad

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*Introduction-* The BIGMAC Index was designed by The Economist in 1986 as a happy manual for whether monetary standards are at their "right" level. It depends on the hypothesis of acquiring power equality (PPP), the thought that over the long haul trade rates should move towards the rate that would even out the costs of an indistinguishable container of merchandise and enterprises (for this situation, a burger) in any two nations. The BicMac list has been distributed every year by The Economist since 1986 and is evaluated as a streamlined pointer of a nation's individual obtaining power. The same number of nations have various monetary forms, the institutionalized BIGMAC costs are determined by changing over the normal national BIGMAC costs with the most recent swapping scale to U.S. dollars. The Big Mac, as a top-selling McDonald's burger, is utilized for examination since it is accessible in pretty much every nation and fabricated in an institutionalized size, piece and quality. McDonald's is an overall working drive-through joint chain with central command in Oak Brook, Illinois. Its worldwide income added up to about 21.03 billion U.S. dollars in 2018. Most McDonald eateries are spread over the United States. The BIGMAC Index is determined by partitioning the cost of a BIGMAC in one nation by the cost of a BIGMAC in another nation in their separate nearby monetary forms to land at a conversion scale. This conversion scale is then contrasted with the official swapping scale between the two monetary forms to decide whether either money is underestimated or exaggerated by the PPP hypothesis.

*GJMBR-B Classification: JEL Code: G00*



*Strictly as per the compliance and regulations of:*



# Does BIGMAC Index Consider as a Substitute for Inflation Rate

Mai Yasser <sup>α</sup>, Mohamed Mussad <sup>σ</sup> & Nadine Sanad <sup>ρ</sup>

## I. INTRODUCTION

The BIGMAC Index was designed by The Economist in 1986 as a happy manual for whether monetary standards are at their "right" level. It depends on the hypothesis of acquiring power equality (PPP), the thought that over the long haul trade rates should move towards the rate that would even out the costs of an indistinguishable container of merchandise and enterprises (for this situation, a burger) in any two nations. The BicMac list has been distributed every year by The Economist since 1986 and is evaluated as a streamlined pointer of a nation's individual obtaining power. The same number of nations have various monetary forms, the institutionalized BIGMAC costs are determined by changing over the normal national BIGMAC costs with the most recent swapping scale to U.S. dollars. The Big Mac, as a top-selling McDonald's burger, is utilized for examination since it is accessible in pretty much every nation and fabricated in an institutionalized size, piece and quality. McDonald's is an overall working drive-through joint chain with central command in Oak Brook, Illinois. Its worldwide income added up to about 21.03 billion U.S. dollars in 2018. Most McDonald eateries are spread over the United States. The BIGMAC Index is determined by partitioning the cost of a BIGMAC in one nation by the cost of a BIGMAC in another nation in their separate nearby monetary forms to land at a conversion scale. This conversion scale is then contrasted with the official swapping scale between the two monetary forms to decide whether either money is underestimated or exaggerated by the PPP hypothesis.

For instance, assume that a BIGMAC in the U.S. costs one U.S. dollar and one in the eurozone costs two euros. The BIGMAC Index valuation for EUR/USD would be 2.0, or two partitioned by one, which could then be contrasted with the EUR/USD swapping scale. In the event that the EUR/USD swapping scale was 1.5, financial specialists may anticipate that the euro is underestimated by 0.5 Euros per U.S. dollar. Burgernomics was never planned as an exact measure of cash misalignment, simply an instrument to make conversion scale hypothesis progressively edible.

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However, the BIGMAC list has gotten a worldwide standard, remembered for a few monetary course books and the subject of a decent number of scholarly investigations.

Financial specialists can utilize information from the BIGMAC Index from various perspectives. For example, they can utilize the qualities to decide whether a money is exaggerated or underestimated comparative with others, at that point exchange dependent on that information the outside trade showcase. Correspondingly, financial specialists can quantify changes in values after some time to decide paces of expansion and contrast that with authentic records. Expansion itself is incredibly helpful to know with regards to esteeming money related instruments. For instance, security yields must factor in the foreseen paces of expansion to guarantee that they will stay alluring later on. Swelling rates likewise sway money valuations, which is significant for lawmakers while deciding if duties or other exchange hindrances are defended.

At last, worldwide speculators should utilize the BIGMAC index as one of the numerous instruments available to them while breaking down universal markets.

## II. REVIEW OF LITERATURE

### a) *The history of purchasing power parity*

One of the main components of the main economic theories that can be used to state and calculate the relative value of currencies. Many theories state that purchasing power parity (PPP) can estimate in certain conditions the exact number of euros to buy US dollars and measure the exact number of goods that would cost a person to buy the same goods with these euros. The main aim of PPP is identifying the exchange rates of the BIGMAC index, the PPP equation helps one to guess what the exchange rate would have to be between two currencies in order for the each to be in accordance with the two currencies purchasing power (Ong, 2003). Using the PPP value for hypothetical conversations in the currency, the given amount of the currency will consequently have the exact same purchasing power, if this purchasing power is directly used for the purchase of a commodity basket of goods, therefore observed exchange rate deviations from PPP are calculated by the real exchange rate deviations (Josic & Wittine, 2018). PPP exchange rates tend to

reduce unfair international comparisons with markets exchange rates. For instance, suppose that two countries produce the same physical amount of goods as each other in each of two different years". Because market exchange rate varies significantly when the GDP is put in consideration. By using market exchange rates, one currency is being calculated and in its own value and it will be converted to the other country's currency (Pakko & Pollard, 2003). There's also an economic theory which the PPP is founded on called the law of one price (LoOP) which indicates that a basket with the same products should sell for the exact same price in two different markets giving that the cost, taxes, and tariffs factors remain off the equation (Jošić, Wittine & Barišić, 2018) . In one year, one country could be deduced to have higher real GDP than the other, but lower in the other rate; these two interferences would not represent the reality of their relative production levels. But if the GDP of one country is converted into the currency of the other country using PPP exchange rate rather than the market's exchange rates observed. Another perception states that the value of exchange rates difference at home and abroad is equal to the exchange rate depreciation percentage of appreciation deviations from parity indicate differences in countries own purchasing power (Pakko & Pollard, 2003). The actual exchange rate is the same as the average exchange rate, modified by the price's differences. If PPP is being considered properly, the actual exchange rate will always equal "1".

#### b) *The history of BIGMAC index*

The BIGMAC index was made by The Economist in the year 1986 as a guide to discover if the currencies are in their actual levels or not (Reuters, 1843). According to the economist magazine, BMI measures the purchasing power parity (PPP) between countries and nations. As quoted by (Reuters, 1843), "the notion that in the long run exchange rates should move towards the rate that would equalize the prices of an identical basket of goods and services in any two countries." The BIGMAC index was made by The Economist in the year 1986 as a guide to discover if the currencies are in their actual levels or not (Reuters, 1843). According to the economist magazine, BMI measures the purchasing power parity (PPP) between countries and nations. As quoted by (Reuters, 1843), the notion that in the long run exchange rates should move towards the rate that would equalize the prices of an identical basket of goods and services in any two countries."

##### i. *The Concept of BMI*

The "Burgernomics" main aim was to invent a tool to adjust the exchange-rate theory and make it more absorbable (D.H. & R.L.W., 2018).

"lighthearted, tongue-in-cheek, half-hearted" are some symbols associated with the introduction of

The Economist about The BIGMAC Index since the development in 1986 (M. D college, 2014). The concept of BMI is based on some theories. The BIGMAC Index was created to measure the disparities in consumer purchasing power between nations, the burger replaces the goods basket that analysts have been historically used to calculate the consumer's price disparities. Burgernomics was never intended as a precise gauge of currency misalignment, merely a tool to make exchange-rate theory more digestible," as stated by economists. In fact, the BIGMAC index is widely used for the comparison of prices. The currency value stands for the changes of the expected price of the red line for each country and its actual price gives a supersized measure of under- and over-valuation of currency, according to (D.H. & R.L.W., 2018). For instance, if the price of a BIGMAC is 3\$ and 60 pesos a PPP exchange rate of US 1\$ to 20 pesos is indicated. The US\$ is counted against the pesos by 33% as mentioned by (M.D college, 2014). As stated in the M.D college article (2014), in those trading of stock by computer, the process done by Mexican fast food shop owners of which they exchange the pesos with dollars by buying them, leads to the decrease of the value pesos and the increase of the value of dollar. This action of manipulating a BIGMAC alone apparently wouldn't be enough for the country's exchange level whether to get it up or down, but if all goods were taken in consideration -according to the theory-, economists take into account the index to be a reasonably correct real-world indicator of native economic buying power, since the rating of a giant macintosh, like most commodity, should take into consideration native prices of raw materials, labor, taxes, and business premises (Pakko & Pollard, 2003). The burgernomics is a terminology that stands for the economic value of a burger. Burgernomics was never intended as a precise gauge of currency misalignment, merely a tool to make exchange-rate theory more digestible. Another concept the BIGMAC index is based on, is that it might assist to grasp the possible long direction that a currency may take, If the BIGMAC index shows that a selected currency is undervalued, it is expected that over the semi permanent exchange rates can change so the PPP is accordingly equal, this occurs because of the integrated existence of global trade and purchasing power parity disparities continue to level out over time (Pakko & Pollard, 2003).

##### ii. *The relationship between BIGMAC and economics*

BIGMAC index is based on the theory of PPP, the relation of the BIGMAC and economics was introduced by the economist journal in 1986 as a guide that can be used as a calculator to measure the exchange rates; furthermore, the cost of the same burger in any two countries. PPP which stands for the purchasing power parity, it is defined as the amount of economic theories and an approach used to figure the

relation between values and different currencies. Karl Gustav Cassel (1918) was at the time the creator of the concept behind the theory of the PPP and the most respected economist in this sector (Josic & b, 2018). PPP demanded that price levels must be identical in two countries when exchanged into a common currency to guarantee that the real exchange rate is equivalent to unity (Ong, 2003). According to Josic & Wittine (2018) the absolute PPP valuation is a divergence from the balance of purchasing power. The Local currency is overvalued against the USD if deviations are positive, otherwise local currency is undervalued, this absolute valuation is calculated by using some specific equations for the BIGMAC index (Josic & Wittine, 2018). Therefore, it could be said that the exchange rate theory of the PPP looks at the relationship between the foreign exchange rate of a nation and its price level, as well as the relationship between the changes in those variables (Ong, 2003). This summarizes the relation of how a burger can be related to economics and help to measure the difference of a currency with another.

### III. THE TWO METHODS OF BMI

According to the economist magazine there two ways to calculate BIGMAC index, the first is the "raw" BIGMAC index which compare the absolute value of PPP to the FX value, and the second is the "adjusted" BIGMAC index which add a cross-sectional linear regression to the equation to modify the values of PPP variations and compare it to the GDP per person. The new modified BMI focus on the false idea that the expected average prices of burgers to be cheaper in poor nations than in rich ones as the labor costs less (D.H. & R.L.W., 2018). The ideology of this new method is using a line to measure the BIGMAC prices and GDP

per person and compare the data with the income of people. This gives a closer supersized measure to the misevaluation of a certain currency.

#### a) Currency misevaluation

As the currency misevaluation is identified as the difference between the real rate of exchange and the intrinsic currency exchange rate a certain currency may be overestimated or underestimated to a different one. The FX value is based on an economic ideology like the PPP. It also can differ from the currency reference when estimating the bilateral evaluation of the currencies (O'Brien & Vargas, 2018). There are many ways to calculate currency misevaluation but let's just focus on the BIGMAC index. putting the new method of measuring the misevaluation of currencies for example (figure 1), shows the dollar valuation in Egypt using both methods, the data differs as the dollar valuation by using the raw method value in Jan 2018 is -63.40% on the other hand by using the adjusted method the value at the date is -34.70% .

#### b) Calculating BMI

The way to calculate the BIGMAC index is to divide the price of the burger in the currency of the chosen country by its price in the US, and compare the result with the official exchange rate to reach an understanding if the currency is under or overvalued. For example, the formula should look like:

$$BMI = \frac{P_b}{P * _b}$$

$P_b$  is the price of burger in local currency of the chosen country, while  $P * _b$  is the price of the burger in US dollars.

Table 1

Date	Country	Local price	US price	BMI	Exchange rate	Raw index
1/1/2018	Egypt	34.21	5.28	6.4791	17.7	Undervalued by 63.4%
1/1/2018	Sweden	49.10	5.28	9.30	8.02	Overvalued by 16%
1/1/2018	Israel	16.50	5.28	3.13	3.44	Undervalued by 9.1%

Sources: McDonald's; Thomson Reuters, IMF; The economist

#### c) Should BMI be used as an indicator?

The BIGMAC index is considered useful for currency traders trying to evaluate the long-term expectation and exchange rate assessment of a currency. If the BIGMAC index rate varies from the actual exchange rate, it can be used as a predictor of a potential foreign currency price adjustment. PPP and the BIGMAC index, in fact, can help traders create a connection between products and currency trading, and can act as a guide to where the market may go. There are a variety of other indices that measure demand, such as the US consumer price index (CPI) and the British consumer price growth index. (Herath, 2017). The BMI, however, is helpful for comparing prices of

nations with different economic welfare. With more than 34,480 locations in 119 countries, McDonald's is the world's largest restaurant chain, so it's easy to understand how a burger can be a global benchmark. Big Macs are also considered to be the same globally, because they are technically similar in volume, value and ingredients.

#### d) Limitations of BMI

Although BMI can be helpful, however it may be misleading about the economic condition of a certain country. Many people may seem to think that the price of BIGMAC is very cheap comparing to other countries, well it is. However, this is not how reality works.

i. *Cost of transportation*

Due to transportation costs, the prices of similar items can vary by location. The pricing of the same good priced in various countries around the world will be different.

ii. *Taxes and tariffs*

Governments around the world impose different taxes, tariffs and restrictions on manufactured and exported products. The price levels will vary from country to country due to these added taxes (Alessandria & Kaboski, 2008).

iii. *Non-tradable goods*

In an economy, there are certain goods and services that cannot be sold across borders. For instance, the rental business space. The owners must rent a property in that particular country to run a McDonald's restaurant. If the neighborhood is highly populated, the rent on the land can be significantly high. In that particular market, expensive land leases will be passed on to the BIGMAC Crates offered. There are more non-traded resources that are not into consideration, such as water, energy, land-rent, etc., can have a major impact on countries' relative price scales.

iv. *Income levels*

According to world data website, the average monthly income in Egypt is \$233, however, in Israel is \$3404 and in the US is \$5238. A Survey were conducted by UBS Prices and Earnings Survey 2018 (table 1) shows the time needed to a person be able to buy a big mac; a person in Egypt must work a least 101.2 minutes to be able to buy a big mac. On the other hand, a person in the US (Los Angeles) 13.6 minutes. Adding GDP per capita to the equation which also based on the PPP theory, but it adds the buyer's sum gross value of prices and any good taxes minus the substitutes not added in the value of the good. (figure 2) shows that how the GDP per capita is more reliable to understand the economy in each country. The BMI cannot be a determiner on realty because of the other factors that effects the price of the burger.

#### IV. CONCLUSIONS

To summarize, BMI was originally developed by the Economist magazine in 1986. BMI is based on the application of PPP as the formula allows one to calculate what is the exchange rate of two currencies have to be in order for each to match the purchasing power of a basket of goods. Using the PPP value of theoretical currency interactions, the specified quantity of the goods will therefore have exactly the same purchasing power, if this purchasing power is used explicitly for the purchase of a basket of goods, the real exchange rate deviations will be measured. The theory suggests that the currency exchange of two countries, in the longer term, will rise toward the conversion point to

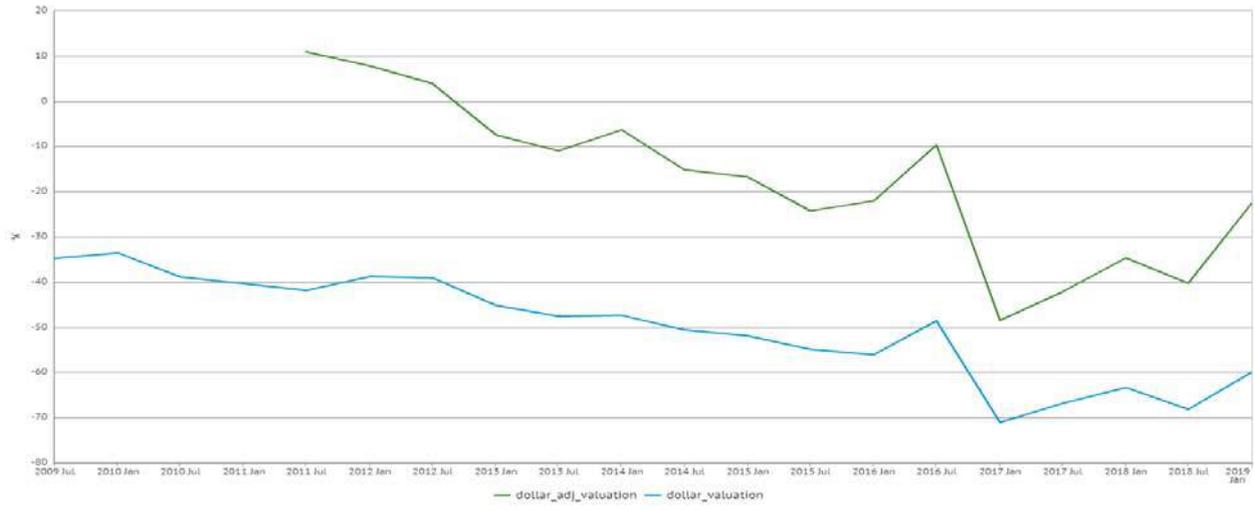
allow the same rates of equivalent goods and services. If the prices of a basket of identical products are constantly divided around different countries, it may give the country that sells the goods for the lowest price a chance to purchase it. PPP exchange rates tend to reduce unfair comparisons to exchange rates on the international market. There's also a fundamental theory such as the LOOP, which indicates that a basket of the same products should be sold at exactly the same price in two different markets, so that costs, taxes and tariffs remain outside the equation. as they the raw BMI is calculated by dividing the local price of BIGMAC Cover the US price of the same good; to determine the if the currency is over or undervalued to the US dollar. Over the years the adjusted BMI came to light; that used a cross-sectional linear regression to give more realistic data and information about the countries economic condition. However, the BMI cannot be used as the only indicator to understand and forecast the economic conditions of a certain country as it has many limitations such as production cost, wages of employees, taxes, and non- tradable goods. The BMI can be a used as a really good indicator to measure the currency misevaluation, but it's not enough for traders or economists to extract any empirical data that will help to forecast the future of a certain currency

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## APPENDIX



Sources: McDonald's; Thomson Reuters; IMF; The Economist

Figure 1

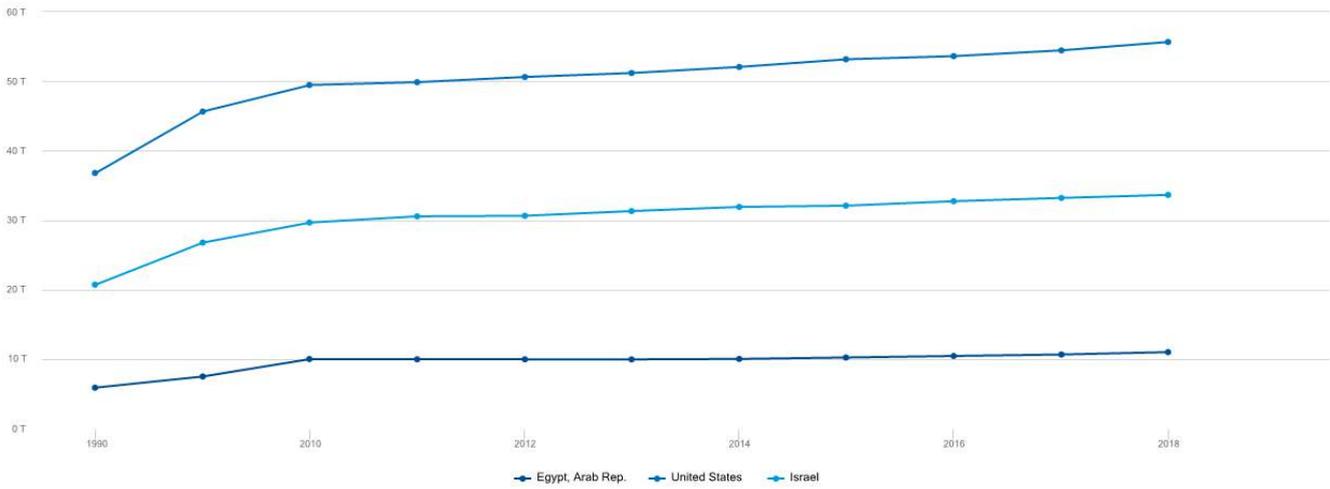
Table 1

Rank	Cities	Time at work needed to afford a Big Mac (minutes)
1	Hong Kong	11.8
2	Taipei	12.0
3	Tokyo	12.2
4	Luxembourg	13.1
5	Auckland	13.3
6	Zurich	13.4
7	Los Angeles	13.6
8	Miami	13.9
9	Chicago	14.0
10	Sydney	14.5
11	Toronto	15.0
12	New York*	15.2
13	Manama	15.4
14	Geneva	15.4
15	Munich	16.3
16	Frankfurt	16.8
17	Copenhagen	16.9

18	London	17.0
19	Dublin	17.7
20	Vienna	17.9
21	Montreal	18.0
22	Berlin	18.4
23	Nicosia	19.4
24	Amsterdam	21.2
25	Stockholm	21.5
26	Ljubljana	21.7
27	Dubai	21.8
28	Oslo	22.3
29	Doha	23.0
30	Paris	23.1
31	Tel Aviv	23.3
32	Rome	23.5
33	Helsinki	24.0
34	Riyadh	24.5
35	Lyon	24.9
36	Milan	26.0
37	Brussels	26.9
38	Johannesburg	27.1
39	Madrid	27.8
40	Barcelona	28.6
41	Seoul	28.7
42	Moscow	29.9
43	Kuala Lumpur	31.7
44	Tallinn	32.6
45	Warsaw	32.8
46	Santiago de Chile	36.0
47	Lisbon	36.3
48	St Petersburg	37.7
49	Vilnius	39.5
50	Bucharest	40.2
51	Panama City	41.6
52	Prague	42.3
53	Athens	43.9
54	Zagreb	46.4
55	Bangkok	46.9
56	Bratislava	48.0
57	Sofia	49.3
58	Hanoi	49.4
59	Beijing	51.0
60	São Paulo	52.5
61	Riga	52.5
62	Buenos Aires	53.1
63	Shanghai	53.4
64	Lima	55.6
65	Budapest	55.6
66	Rio de Janeiro	56.7

67	Kiev	58.0
68	Manila	61.9
69	Bogotá	64.3
70	Istanbul	66.5
71	Jakarta	82.9
72	Mexico City	86.8
73	Mumbai	88.1
74	New Delhi	90.5
75	Lagos	99.8
76	Cairo	101.2
77	Nairobi	133.8

Data source: UBS Prices and Earnings Survey 2018



Series : GDP per capita, PPP (constant 2011 international \$)  
 Source: World Development Indicators  
 Created on: 12/11/2019

Figure 2

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## The Influence of Net Interest Margin (NIM) on Profitability of Sri Lankan Banking Industry

By D.S.P. Nishantha De Silva, Karuthan Chinna & S. M. Ferdous Azam

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**Abstract-** A major assumption in much of the bank profitability literature is that banks are profit maximizers. It is in fact, one of the assumptions that are shared by all models reviewed in the area of bank profitability studies. To be sure, standard theory tells us that banks' shareholders are aspiring maximum return (profits) for their investments and it is thereby managers as agents of shareholders' pursue to maximize profits. Hence, banks' primary objective is to maximize shareholders return on investment by maximizing revenues and minimizing costs. The focus of the current study is emphasized the importance of achieving a healthy Net Interest Margin (NIM), which is the main lifeline or core in the banking business. Hence, this is an empirical study based on a time series analysis of actual data published during the latest 12 years on key variables relating to NIM and Profit after Tax (PAT). The authors have attempted to describe the relationship among important variables covering the subject and finally, the latest trends between NIM and PAT. Accordingly, the objective of this study was based on verifying the general opinion on whether the NIM of the Sri Lankan Banking industry is on an undesired direction.

**Keywords:** sri lankan banking industry, NIM (net interest margin), AWDR (average weighted deposit rate), AWLR (average weighted lending rate), profit after tax (PAT).

**GJMBR-B Classification:** JEL Code: N10



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# The Influence of Net Interest Margin (NIM) on Profitability of Sri Lankan Banking Industry

D.S.P. Nishantha De Silva <sup>α</sup>, Karuthan Chinna <sup>σ</sup> & S. M. Ferdous Azam <sup>ρ</sup>

**Abstract-** A major assumption in much of the bank profitability literature is that banks are profit maximizers. It is in fact, one of the assumptions that are shared by all models reviewed in the area of bank profitability studies. To be sure, standard theory tells us that banks' shareholders are aspiring maximum return (profits) for their investments and it is thereby managers as agents of shareholders' pursue to maximize profits. Hence, banks' primary objective is to maximize shareholders return on investment by maximizing revenues and minimizing costs. The focus of the current study is emphasized the importance of achieving a healthy Net Interest Margin (NIM), which is the main lifeline or core in the banking business. Hence, this is an empirical study based on a time series analysis of actual data published during the latest 12 years on key variables relating to NIM and Profit after Tax (PAT). The authors have attempted to describe the relationship among important variables covering the subject and finally, the latest trends between NIM and PAT. Accordingly, the objective of this study was based on verifying the general opinion on whether the NIM of the Sri Lankan Banking industry is on an undesired direction.

**Keywords:** sri lankan banking industry, NIM (net interest margin), AWDR (average weighted deposit rate), AWLR (average weighted lending rate), profit after tax (PAT).

## I. INTRODUCTION

The banking sector plays a vital role in GDP growth in any country and Sri Lanka is no exception. Banks are the financial intermediaries who pay interest on the deposits of the customers and lend out excess funds as loans and other forms of advances to other institutions and entrepreneurs at a higher rate. Net interest margin (NIM) on lending is the premium (profit) received by the banks for bearing the risk of recovery. NIM is a measure of the difference between the interest amount the bank gets from the users of bank credit and the interest amount deposited to customers. The net interest margin focuses on the conventional borrowing and lending operations of a bank which, is generally normalized by adjusting for interest-bearing assets rather than total bank assets. NIMs sometimes sharply differ in the global context; Belarus, Burundi, Ghana, and Moldova are notable for their margins of over 10%, whereas countries like Switzerland and Netherlands have low margins of less than 2%.

This research problem originates on common opinion among stakeholders in the industry that bank profitability is under tremendous pressure due to

decreasing NIM. Hence, a need for a scholarly level study encouraged the authors to undertake an empirical research on the subject in the Sri Lankan context.

Under the proposed conceptual model developed by the authors, two factors were selected as main indicators of profitability, namely Net Interest Margin (NIM) and Profit after Taxation (PAT). NIM is a specific profit indicator in the banking industry, which comprises composite averages of banks' pricing and operational efficiency. This study analyzes the impact of NIM on profitability, identified as PAT (Profit after Tax) in the banking industry of Sri Lanka.

## II. LITERATURE REVIEW

Many factors affect profitability in the banking sector. Generally these factors are categorized as bank-specific factors; such as capital ratio, bank activity diversification, Credit Risk, Bank Size, Liquidity, Overhead expense Management, Leverage and macroeconomic factors such as inflation, GDP, Ownership, Market Capitalization, Treasury Bill Rates etc. (Flamini et al., 2009; Athanasoglou, et al., 2006).

Based on literature, bank size; ownership status, bank risk, capital level, and expense management are the bank-specific determinants of bank profitability. The banks have the extra ability in a concentrated market so that they can charge high interest margins for the borrowers and pay less margin of return (in the form interest) to their depositors and this gap of difference between the lending and borrowing rate is the profit of banks (Weber, 2005). Studies on the variables associated with bank profitability are crucial for institutions directors, financiers and, government as they can evaluate the bank's effectiveness and revise the government's plans, depositors' choices and bank managers' strategies to achieve their planned goals (E. Mamatzakis & Remoundos, 2003). Molyneux and Thornton (1992) investigated the indicators of the banks' profitability in 18 countries, from 1986-1989.

As stated by Hoggarth, Milne, & Wood (1998), NIM is an investigation on the income made through interest mark-up. Angbzo (1997), in the study of the banks in United States, from 1989-2003, concluded that management effectiveness, credit risk and leverage had positive associations with net interest margin. Further, a study on the banks in the United States the same authors identified that net interest margin had a direct association with capital and inverse association with

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liquidity risk, mainly credit risk. Naceur (2003), in his study of the determinants of the Tunisian banking industry's profitability, based on ten banks from 1980-2000, identified, a link between the high net interest margin and profitability with high quantity of capital and cost. In 2001, Abreu and Mendes investigated the relationship between the bank net interest margin and profitability in the European banking sector and found that well-capitalized commercial banks were more efficient and hence enjoyed better profitability.

Cassis and Brautaset (2003) stated profitability, size, and survivorship as the three key measures of a firm's performance. Smirlock (1985) and Graddy and Kyle (1979) found that interest rate spreads were narrower in concentrated banking systems, while Whitehead (1978) and Keeley and Zimmerman (1985) reported mixed results. Hence, NIM leads as a direct measure of performance, which may result in the market power of dominating firms. It also reflects on the residual

of interest income, as a result of the efficient decision making of the management. As per Yusgiantoro (2018), higher profitability in Asian Banking than the rest of the world might indicate that Asian banking is likely to undertake higher risk-taking, although it does not necessarily lead to financial crises.

In the Sri Lankan banking sector, there is no consensus in setting NIMs, operating costs, credit risk, non-interest income, and capital adequacy requirements. Hence market competition, regulatory controls on banks, risk arising from the volatility of market prices, and macroeconomic variables have significant impacts on the determination of NIMs. Considering the challenges, a theoretical model was streamlined based on the assumption that only Average Weighted Deposit Rate (AWDR) and Average Weighted Lending Rate (AWLR) will have impacts on NIM and hence determining Profit after Tax (PAT).

### III. RESEARCH FRAMEWORK

The research framework was conceptualized considering;

$$\text{NIM} = \frac{\text{Interest Earnings} - \text{Interest Expenses}}{\text{Interest earning Assets}} \times 100\% \text{ and}$$

$$\text{PAT} = \text{Profit before Tax} - \text{Income Tax}$$

Accordingly, Research framework was depicted in the Figure 1 as follows;

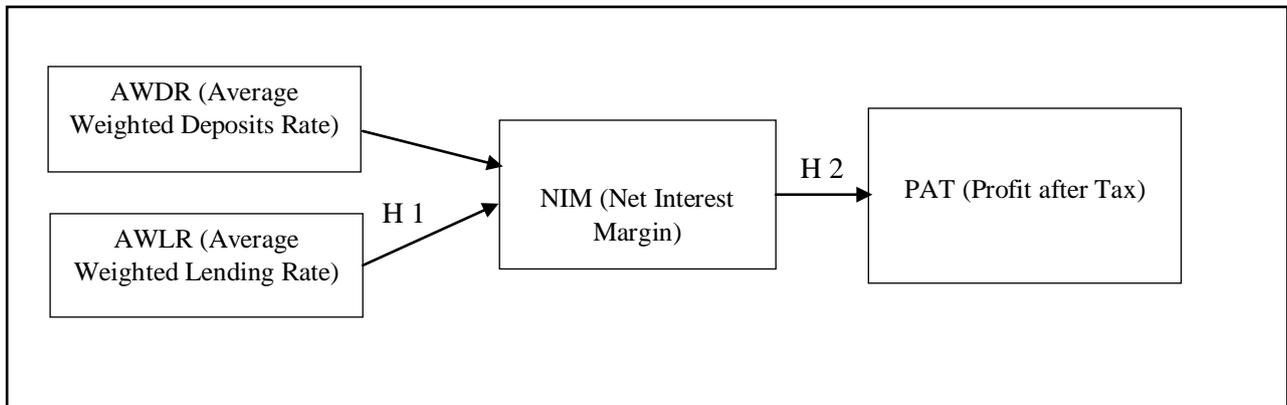


Figure 1: Research Framework

The main objective of the study was to determine the relationship between AWDR and AWLR on NIM and the impact of NIM on PAT.

According to the variables depicted in Figure 1, the Following 02 hypothesis were formulated;

H1: The correlation between AWDR and AWLR is very high

H2: The impact of NIM to PAT is very high

Calculation of AWDR and AWLR were based on the following formulas:

$$\text{AWDR of Deposits} = W_1 D_1 + W_2 D_2 + \dots + W_n D_n$$

W = relative weight of the category of Deposit (e.g. Savings Deposits) %

D = value of the category of Deposits ( e.g. Savings Deposits )

$$\text{AWLR of Loans} = W_1 L_1 + W_2 L_2 + \dots + W_n L_n$$

W = relative weight of the category of Loan (e.g. Housing loans) %

L = value of the category of Loans ( e.g. Housing loans )

#### IV. DATA USED IN THIS STUDY

Actual data released by the Central Bank of Sri Lanka during the latest 12 years were considered for the

study. As all data relevant to AWDR, AWLR, NIM, and PAT covering the entire Banking Industry of Sri Lanka were taken in to consideration (Table 1).

Table 1: Data for AWDR, AWLR, PAT, and NIM from 2006 to 2017

Variables	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
AWDR %	5.31	6.24	7.60	10.31	11.63	8.01	6.23	7.24	10.10	9.37	6.20	6.20
AWLR %	14.82	15.14	17.74	20.00	22.17	14.12	12.27	11.75	11.20	10.96	10.02	10.12
NIM %	4.3	4.1	4.4	4.4	4.4	4.6	4.6	4.2	4.1	3.5	3.5	3.2
PAT (in Rs Mn)	15,230	19,972	22,797	25,353	27,756	27,268	59,191	65,846	82,666	74,595	87,970	85,523

Source: Published Data/Annual Reports of Central Bank of Sri Lanka ([www.cbsl.lk](http://www.cbsl.lk))

#### V. RESULTS

A descriptive summary of the variables from 2006 to 2017 is provided in Table 2. The correlations

between the variables are also presented in this table. The values were accepted as symmetrical.

Table 2: Descriptive Summary of the variables in this study

Variable	Mean $\pm$ SD	Correlations			
		AWDR	AWLR	NIM	PAT
Av. W. Deposits% (AWDR)	7.87 $\pm$ 2.03	1	0.529	0.534	0.849
Av. W. Lending% (AWLR)	14.19 $\pm$ 3.98	0.529	1	0.602	-0.793
Net Interest Margin% (NIM)	4.11 $\pm$ 0.46	0.534	0.602*	1	-0.707
Profit after Tax (PAT)	49514 $\pm$ 28885	0.849	-0.793	-0.707*	1

\*Significant at 0.05 level

As shown in Table 2, there is a sizable and positive association ( $r=0.529$ ) between AWDR and AWLR. The higher is the AWDR, the higher is the AWLR. There is a significant and positive association ( $r=0.534$ ) between AWDR and NIM. The higher is the AWDR, the higher is the NIM. Similarly, there is a significant and positive association ( $r = 0.602$ ) between AWLR and NIM. The higher is the AWLR, the higher is the NIM. There is a significant and negative association ( $r = -0.707$ ) between NIM and PAT. The higher is the NIM, the lower is the PAT.

In reality, when lending rates are on the increase, the demand for customer borrowing naturally comes down, and as result, profitability also reduces. This is evidenced not only in banking industry but also in the other financial markets. Under such scenarios, banks are compelled not to further increase lending rates in order to mitigate loan defaults.

#### VI. CONCLUSION

The results of this study showed a significant association between AWDR and AWLR. When AWDR increases; the AWLR also increases. When AWLR increases, NIM also increases. An increase in NIM reduces PAT. The higher is the AWLR, the higher is the NIM. The higher is the NIM, the lower is the PAT. Even though the sample size in this study is small, there is some evidence that increases in AWDR and AWLR increase NIM, and which in turn increases PAT.

Based on the results, Sri Lankan banks can safeguard the NIM as the single most influential KPI for the PAT. However, exclusive reliance on same for future growth and survival seems inconclusive and vulnerable.

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## The Formation of KPI System in the Dairy Cluster

By Victoriya V. Galautdinova

*Abstract-* Performing strategically important activities more efficiently than competitors is an important task in the value creation process. The method of balanced scorecard is used in solving the problem of increasing the value of the product, the efficiency of the company.

*Importance:* The subject of the study is to determine and build a system of key performance indicators of management in the dairy cluster.

*Objectives:* Determination of modulators to achieve efficiency, taking into account industry specifics.

*Results:* Identification of regularities in the construction of the KPI system.

*Conclusions and Relevance:* The interrelations between the factors influencing the building of the KPI system are revealed.

*Keywords:* KPI system.

*GJMBR-B Classification:* JEL Code: M29



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# The Formation of KPI System in the Dairy Cluster

ФОРМИРОВАНИЕ СИСТЕМЫ KPI В МОЛОЧНОМ КЛАСТЕРЕ

Victoriya V. Galautdinova

**Аннотация** - Осуществление стратегически важных видов деятельности более эффективно по сравнению с конкурентами – важная задача в процессе создания ценности. Метод сбалансированных показателей применяется при решении задачи повышения ценности продукта, эффективности деятельности компании.

**Тема:** Предметом исследования является определение и построение системы ключевых показателей эффективности управления деятельностью в молочном кластере.

**Цель:** Определение модуляторов для достижения эффективности деятельности с учетом отраслевой специфики.

**Результаты:** Выявление закономерностей при построении системы KPI.

**Выводы:** Выявлены взаимосвязи между факторами, влияющими на выстраивание системы KPI.

**Ключевые слова:** система KPI.

**Abstract** - Performing strategically important activities more efficiently than competitors is an important task in the value creation process. The method of balanced scorecard is used in solving the problem of increasing the value of the product, the efficiency of the company.

**Importance:** The subject of the study is to determine and build a system of key performance indicators of management in the dairy cluster.

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**Results:** Identification of regularities in the construction of the KPI system.

**Conclusions and Relevance:** The interrelations between the factors influencing the building of the KPI system are revealed.

**Keywords:** KPI system.

## 1. INTRODUCTION

Карты потока создания ценности дают возможность оценить операции, исходя из принципов совершенства: создаете ли вы ценность в понимании потребителя? Каковы ваши упущения? Что вы можете сделать, чтобы преодолеть их.

На наш взгляд, наиболее приоритетным при создании цепочки стоимости – верно определить, что является ценностью для компании в соответствии с ее стратегией. Тогда эффективное построение бизнес-

процессов в соответствии со стратегией, создание конкурентноспособных маржинальных продуктов позволит достичь эффективность бизнеса.

Следующей важной задачей, на наш взгляд, на этапе создания карты процессов является прогнозирование результатов деятельности.

Данное прогнозирование базируется на взаимосвязи групп бизнес-процессов с учетом отраслевого, географического, сегментного и вертикального масштабов.

Идея стратегической карты была раскрыта в 1990-х Капланом, Нортеном в труде «Сбалансированная система показателей. От стратегии к действию» [7]. Сбалансированная система показателей (ССП) дополняет систему финансовых параметров. Цели и показатели данной системы формируются в зависимости от стратегии компании и рассматривают ее деятельность по четырем критериям:

- финансовый;
- взаимоотношения с клиентами;
- внутренние бизнес-процессы;
- обучение и развитие персонала.

ССП сочетает в себе оценочную характеристику деятельности заинтересованных участников процесса создания стоимости с финансовыми перспективами как краткосрочных проектов, так и долговременной деятельности в условиях конкуренции.

Система сбалансированных показателей представлена на рис. 1

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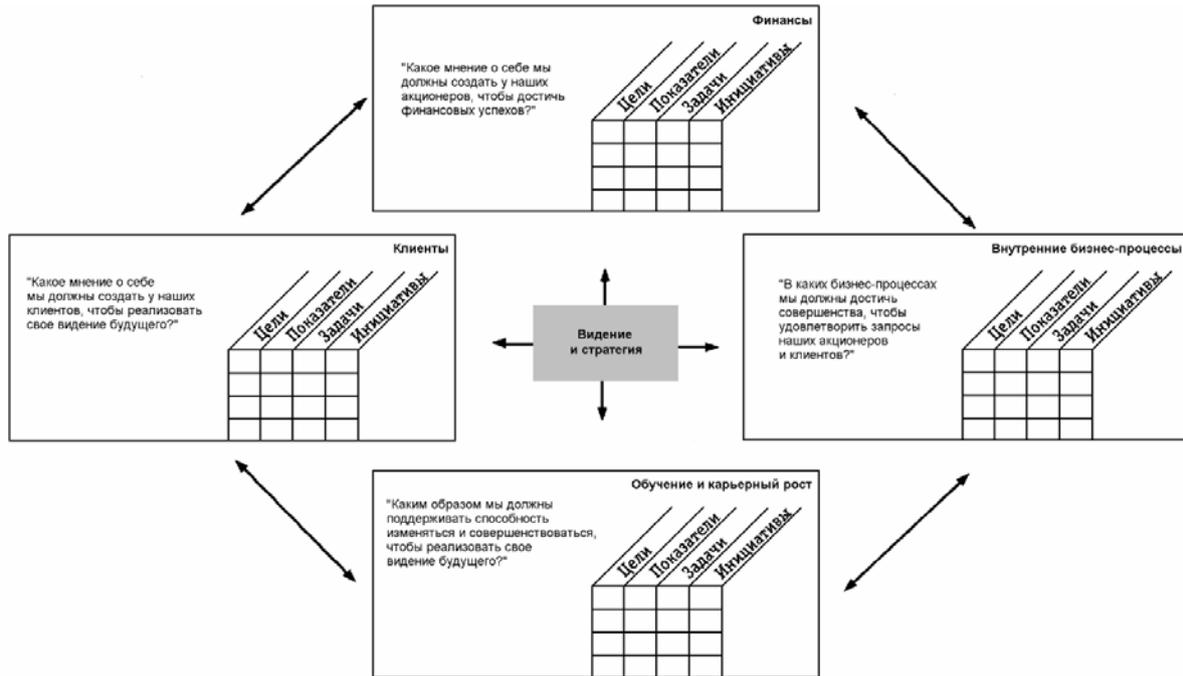


Рис. 1: Система сбалансированных показателей [8, с.76]

Основное отличие ССП от классической цепочки ценностей состоит в том, что ССП рассматривает инновационные процессы как неотъемлемую часть внутренних бизнес-процессов (рис. 2). Характерной чертой традиционного подхода является предоставление имеющихся продуктов и услуг

имеющемуся клиенту. ССП направлена на контроль и совершенствование существующих операций, создающий стоимостную цепочку, которая начинается в момент получения заказа и заканчивается доставкой его.

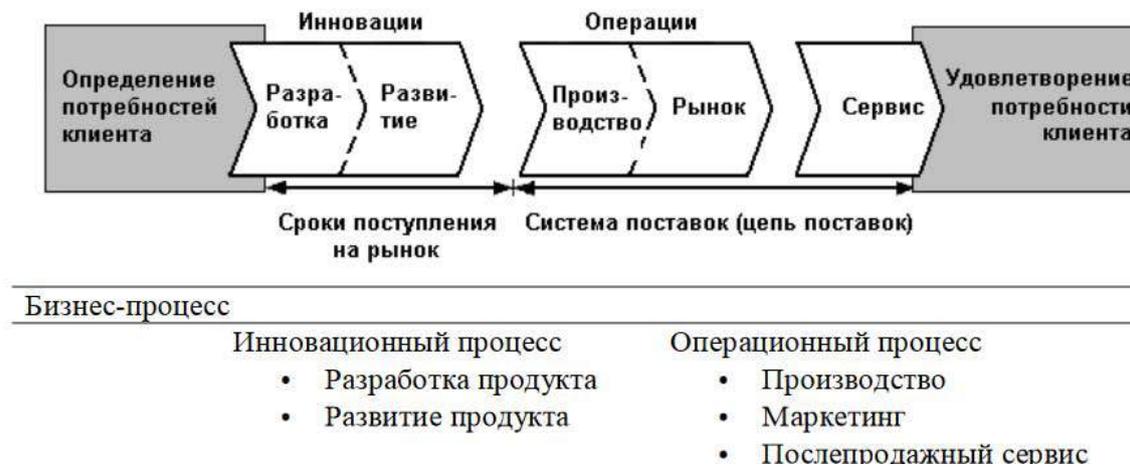


Рис. 2: Внутренний бизнес-процесс. Цепочка создания стоимости [7, с.31]

В исследовании используются 2 метода: бережливое производство и системы сбалансированных показателей.

Рассмотрим сначала адаптированный метод сбалансированных показателей, определим, какие драйверы используются и как данный метод влияет на увеличение ценности продукта, эффективности деятельности компании.

Каждая компания для повышения своей конкурентоспособности определяет основные ключевые

показатели эффективности - KPI, которые в дальнейшем каскадируются от руководства компании до уровня рядового сотрудника (каскадирование целей).

В сырном производстве предлагается все производственные площадки рассмотреть, как центры затрат, которые генерируют только расходы компании. Оценка эффективности площадки осуществляется на основании 6 направлений:

- безопасность (охрана труда);

- качество (безопасность, качество продукции в соответствии с нормативно-технической документацией - НТД);
- затраты (на 1 тонну готовой продукции, расходы на выпуск всей продукции, потери на этих и операциях);
- доставка (или продуктивность, загрузка по фасовочным линиям);
- мобилизация (вовлеченность персонала в процессы);

- внешняя среда (экологичность) направленная на снижение выбросов, сбросов.

Чем меньше затраты, тем эффективнее площадка, на основании этих данных и принимаются решения, какие продукты и где производить с минимальными затратами. Оценка осуществляется в сравнении 2 оценочных периодов год/год помесечно (Таблица 1).

Таблица 1: Матрица оценки эффективности производственной площадки

Производственная площадка		1/2018 факт	1/2019 бюджет	1/2019 факт	1/2018 факт нараст. итогом	1/2019 бюджет нараст. итогом	1/2019 факт нараст. итогом
		Производство	Объем, тн	3 986	4 385	4 911	3 986
SKU	количество	44	37	48	44	37	48
Количество белых масс	количество	25	18	22	25	18	22
безопасность	Количество аварий (с учетом затраченного времени)	0	0	0	0	0	0
		0,0%	0,0%	0,0%	n/a	n/a	
качество	Показатель качества или соответствия продукции Индекс Продовольственной Безопасности	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
		0,0%	0,0%	0,0%	n/a	n/a	
Затраты/потери	Потери молока (%)	8,4%	6,5%	5,0%	8,4%	6,5%	5,0%
	Производительность труда	172	196	267	172	196	267

	Контролируемые затраты	-6 417	-5 735	-5 012	-6 417	-5 735	-5 012
	производительность (%)	n/a	9,1%	16,0%	n/a	9,1%	16,0%
DELIVERY	Производственная эффективность PE (%)	83,6%	92,0%	83,2%	83,6%	92,0%	83,2%
	Операционная эффективность OE (%)	60,2%	67,1%	60,9%	60,2%	67,1%	60,9%
	загрузка OU (%)	35,0%	34,5%	35,2%	35,0%	34,5%	35,2%
Вовлеченность персонала	Кол-во часов обучения % 5S	0	135	101	0	135	101
		0%	59%	35%	0%	59%	35%
		0	2	1		2,0	1,0
Окружающая среда	ТЭР (кВтч / тн)	783	656	591	783	656	591
	Водопотребление (м3 / тн)	5,0	4,8	4,1	5,0	4,8	4,1
	выбросы (кг / тн)	0,0	17,0	16,2	0,0	17,0	16,2
	Экологические риски						

На основании этих показателей формируются ключевые показатели для ТОП менеджмента компании и на уровень специалистов.

Примеры ключевых показателей для топ-менеджмента площадки представлены в таблице 2.

Таблица 2: Ключевые показатели для ТОП- менеджмента площадки

Должность	1	Вес, %	2	Вес, %	3	Вес, %	4	Вес, %
Директор	Выполнение планового показателя затрат на рубль товарной продукции	50	Выполнение плана по производству	25	Выполнение плана по продажам	15	Дебиторская и кредиторская задолженность	10
Зам. директора по общим вопросам	Выполнение планового показателя затрат на рубль товарной продукции	40	Исполнение плановых показателей по БДДС	40	Фонд оплаты труда	20		

Зам. директора по коммерции	Выполнение плана по продажам, тн	40	Исполнение плановых показателей по БДДС	40	Дебиторская и кредиторская задолженность	20		
Главный инженер	Выполнение плановых показателей бюджета ремонта оборудования	50	Топливо-энергетические ресурсы (ТЭР) - расход на 1 тонну	30	Несчастные случаи, инциденты, аварии (должно быть ноль)	20		
Начальнику участков, механик, энергетик аналогично главному инженеру								
Зам. директора по производству/Начальник производства	Выполнение заявок отдела продаж (план производства), тн	50	Соблюдение сырьевого баланса за месяц (сырье, материалы)	20	Топливо-энергетические ресурсы (ТЭР) - расход на 1 тонну	20	Фонд оплаты труда производственного персонала	10
Мастера, технологи, учетчики аналогично начальнику производства								
Начальник лаборатории	Соответствие продукции НТД (физ-химия, микробиология, внешний вид)	50	Количество рекламаций от потребителей 0,01% от объема произведенной продукции	30	Брак готовой продукции (должно быть ноль)	20		
Микробиолог, химик, инженер по качеству, санитарный врач, инженер по сертификации аналогич								

но начальни ку лаборатори								
Главный бухгалтер	Своевременна я сдача отчетности в контролирующие органы и ГО не позднее 15 рабочего дня	50	Своевременная уплата налогов	20	Дебиторская и кредиторская задолженность	30		
Заместитель главного бухгалтера, бухгалтера по аналогии с главным бухгалтером								
Главный экономист	Своевременна я сдача управленческой отчетности не позднее 5 (10) числа месяца	40	Фонд оплаты труда	30	Выполнение планового показателя затрат на 1 рубль товарной продукции, ед.	30		
Начальник СЭБ	Количество нарушений контрольно-пропускного режима	50	Количество краж, хищений	30	Дебиторская и кредиторская задолженность	20		
Начальник отдела снабжения/закупок	Отсутствие срывов производства по причине необеспечения сырьем	50	Необоснованное увеличение основных и вспомогательных материалов (больше 15 дней) - запасы на складах	50				
Начальник отдела закупок молока/зам. директора по общим вопросам /специалист по закупке молока	Исполнение бюджета закупки молока по объему и цене	70	Качество поставляемого молока	30				

Расчет премии осуществляется на основании установленных 2-3 основных показателей оценки в зависимости от веса показателя.

Премия начисляется в размере до 20% к должностному окладу в месяц, максимальное значение до 25% при выполнении показателей более 100%.

Дополнительно к ежемесячной премии директору филиала может быть начислена премия в размере до 100% к окладу на усмотрение генерального директора за особые достижения. Всем другим руководителям и специалистам, для которых не установлены показатели оценки премия выплачивается по размеру премии директора филиала (юристы, инженер по охране труда, отдел кадров). Премия основным рабочим выплачивается в размере до 40% в месяц по представлению линейных руководителей.

*Пример:* Оклад главного инженера 50 000 руб.

*У главного инженера 3 показателя оценки:* выполнении бюджета ремонта на 100% - начисляется коэффициент премии 50%.

При невыполнении показателя бюджетных значений ТЭР, коэффициент 30% не начисляется, если хотя-бы один показатель не выполнен -итог 0%.

При наличии аварии, несчастного случая коэффициент 20% не начисляется - итог 0%. Таким образом общий коэффициент премии 50%, от установленных 20% премии в месяц это  $20\% \cdot 50\% / 100\% = 10\%$  премии к окладу или  $50000 \cdot 10\% / 100\% = 5000$  р.

Итого оклад премия  $50000 + 5000 = 55000$  руб.

Основные задачи компании должны быть четко сформулированы и иметь четкие иерархические подзадачи на каждом уровне управления бизнесом. Все они опираются на 6 основных направлений деятельности компании. Каждый из показателей деятельности влияет напрямую на эффективность бизнеса. Каскадирование целевых показателей до уровня генерального директора до рядового работника один из основных моментов.

*Безопасность:* обеспечение безопасных приемов работ, снижение травматизма, упорядочение хранения инструмента инвентаря (снижение потерь компании на выплаты страховых отчислений, снижение затрат на запасные части и компоненты).

*Качество:* выпуск качественной продукции, отвечающей требованиям пищевой безопасности (снижение потерь при производстве продукции, снижение расходов на операции связанные с санитарной обработкой, снижение возвратов готовой продукции и рекламаций, снижение имиджевых рисков компании).

*Затраты:* снижение потерь сырья, упаковки, материалов, компонентов на всех технологических операциях производства продукции.

*Эффективность:* снижение простоя оборудования, вынужденных остановок, планирование производства с учетом минимальных партий, циклов производства, сокращение трудозатрат на операции, повышение КПД оборудования.

*Мобилизация:* вовлечение персонала во все производственные процессы, сокращение времени на принятие решений, стандартизирование операций и транслирование на другие участки, направление деятельности.

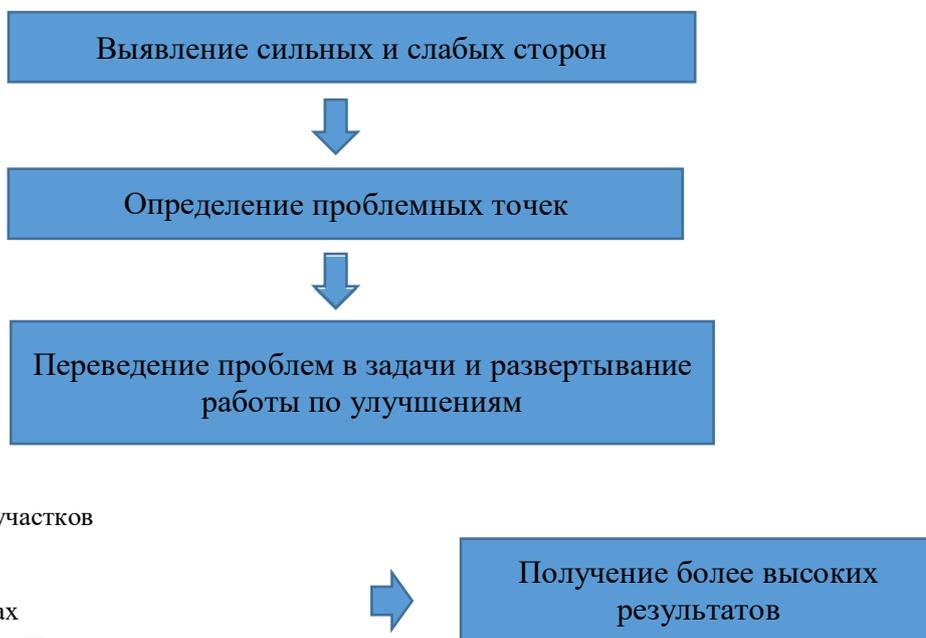
*Внешняя среда:* снижение риска от влияния антропогенного фактора на окружающую природную среду, снижение сбросов и выбросов, отходов на этап производственного процесса.

*2-й метод, используемый при внедрении:* управление цепочкой создания ценности с помощью бережливого производства.

*Данный метод базируется на миссии компании:* заботиться о каждом потребителе, предлагая только натуральный и вкусный продукт.

Перед внедрением бережливого производства в компании был проведен аудит, с целью выявления сильных и слабых сторон производства, обозначения потерь и определения точек роста. Проблемные точки далее переводятся в задачи и развертывание работ по улучшениям: активация рабочих мест, сокращение времени производственного цикла, повышение узнаваемости бренда, обеспечение лидирующей позиции на рынке, повышение операционной готовности оборудования, создание условий для безопасности труда.

Схематично данный процесс представлен на рис.3



1. Активность рабочих участков
2. Производительность
3. Узнаваемость
4. Лидерство в издержках
5. Операционная готовность
6. Безопасность



Получение более высоких результатов

*Рис. 3:* Процесс выявления проблем, и постановка задач по повышению эффективности цепочки создания ценности

Рассмотрим примеры критерий оценки направлениям улучшения ценности.

1. Критериями активности рабочих участков являются: сортировка, стандартизация, время такта процессов, предложения по улучшениям – например, рационализаторские предложения.
2. Критериями улучшений по логистике являются: минимизация запасов, стандартизация процессов хранения, снабжения.

3. Критериями операционной готовности служат корректирующие и предупреждающие действия по обслуживанию оборудования, сокращение времени переналадки, синхронизация, поточность производственных процессов.

Далее систематизируются направления по созданию улучшений в цепочке создания ценности (табл. 3).

*Таблица 3:* Направления по улучшению цепочки создания ценности

Задачи по улучшениям	Направления по улучшениям
Активность производственных участков	последовательная работа по 5S; визуализация производственных показателей; активизация работы по подаче предложений по улучшениям.
Повышение производительности	выполнение ежедневных производственных планов; сокращение времени производственного цикла; сокращение межоперационных запасов.
Стабилизация и повышение качества	разработка стандартов работы; завершенность собственного процесса; визуализация информации о качестве.
Сокращение производственной себестоимости	Управление себестоимостью по участкам; сокращение времени переналадки; уменьшение коэффициента расхода сырья.
Система развития и обучения персонала	Обучение основам уровня лидерства; обучение по управлению качеством; повышение профессиональных качеств.

Далее составляется цепочка по улучшениям. Карта процесса по улучшению цепочки создания ценности представлена в Таблице 4.



# GLOBAL JOURNALS GUIDELINES HANDBOOK 2019

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## FELLOWS

### FELLOW OF ASSOCIATION OF RESEARCH SOCIETY IN BUSINESS (FARSB)

Global Journals Incorporate (USA) is accredited by Open Association of Research Society (OARS), U.S.A and in turn, awards “FARSBA” title to individuals. The 'FARSBA' title is accorded to a selected professional after the approval of the Editor-in-Chief/Editorial Board Members/Dean.



- The “FARSB” is a dignified title which is accorded to a person’s name viz. Dr. John E. Hall, Ph.D., FARSBA or William Walldroff, M.S., FARSBA.

FARSBA accrediting is an honor. It authenticates your research activities. After recognition as FARSBA, you can add 'FARSBA' title with your name as you use this recognition as additional suffix to your status. This will definitely enhance and add more value and repute to your name. You may use it on your professional Counseling Materials such as CV, Resume, and Visiting Card etc.

*The following benefits can be availed by you only for next three years from the date of certification:*



FARSBA designated members are entitled to avail a 40% discount while publishing their research papers (of a single author) with Global Journals Incorporation (USA), if the same is accepted by Editorial Board/Peer Reviewers. If you are a main author or co-author in case of multiple authors, you will be entitled to avail discount of 10%.

Once FARSBA title is accorded, the Fellow is authorized to organize a symposium/seminar/conference on behalf of Global Journal Incorporation (USA).The Fellow can also participate in conference/seminar/symposium organized by another institution as representative of Global Journal. In both the cases, it is mandatory for him to discuss with us and obtain our consent.



You may join as member of the Editorial Board of Global Journals Incorporation (USA) after successful completion of three years as Fellow and as Peer Reviewer. In addition, it is also desirable that you should organize seminar/symposium/conference at least once.

We shall provide you intimation regarding launching of e-version of journal of your stream time to time.This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

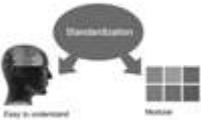




Journals Research  
indexing researchers

The FARSBA can go through standards of OARS. You can also play vital role if you have any suggestions so that proper amendment can take place to improve the same for the benefit of entire research community.

As FARSBA, you will be given a renowned, secure and free professional email address with 100 GB of space e.g. johnhall@globaljournals.org. This will include Webmail, Spam Assassin, Email Forwarders, Auto-Responders, Email Delivery Route tracing, etc.



The FARSBA will be eligible for a free application of standardization of their researches. Standardization of research will be subject to acceptability within stipulated norms as the next step after publishing in a journal. We shall depute a team of specialized research professionals who will render their services for elevating your researches to next higher level, which is worldwide open standardization.

The FARSBA member can apply for grading and certification of standards of their educational and Institutional Degrees to Open Association of Research, Society U.S.A. Once you are designated as FARSBA, you may send us a scanned copy of all of your credentials. OARS will verify, grade and certify them. This will be based on your academic records, quality of research papers published by you, and some more criteria. After certification of all your credentials by OARS, they will be published on your Fellow Profile link on website <https://associationofresearch.org> which will be helpful to upgrade the dignity.



The FARSBA members can avail the benefits of free research podcasting in Global Research Radio with their research documents. After publishing the work, (including published elsewhere worldwide with proper authorization) you can upload your research paper with your recorded voice or you can utilize chargeable services of our professional RJs to record your paper in their voice on request.



The FARSBA member also entitled to get the benefits of free research podcasting of their research documents through video clips. We can also streamline your conference videos and display your slides/ online slides and online research video clips at reasonable charges, on request.





The FARSBA is eligible to earn from sales proceeds of his/her researches/reference/review Books or literature, while publishing with Global Journals. The FARSBA can decide whether he/she would like to publish his/her research in a closed manner. In this case, whenever readers purchase that individual research paper for reading, maximum 60% of its profit earned as royalty by Global Journals, will be credited to his/her bank account. The entire entitled amount will be credited to his/her bank account exceeding limit of minimum fixed balance. There is no minimum time limit for collection. The FARSC member can decide its price and we can help in making the right decision.

The FARSBA member is eligible to join as a paid peer reviewer at Global Journals Incorporation (USA) and can get remuneration of 15% of author fees, taken from the author of a respective paper. After reviewing 5 or more papers you can request to transfer the amount to your bank account.



## MEMBER OF ASSOCIATION OF RESEARCH SOCIETY IN BUSINESS (MARSBA)

The ' MARSBA ' title is accorded to a selected professional after the approval of the Editor-in-Chief / Editorial Board Members/Dean.

The “MARSBA” is a dignified ornament which is accorded to a person’s name viz. Dr. John E. Hall, Ph.D., MARSBA or William Walldroff, M.S., MARSBA.



MARSB accrediting is an honor. It authenticates your research activities. After becoming MARSBA, you can add 'MARSBA' title with your name as you use this recognition as additional suffix to your status. This will definitely enhance and add more value and repute to your name. You may use it on your professional Counseling Materials such as CV, Resume, Visiting Card and Name Plate etc.

*The following benefits can be availed by you only for next three years from the date of certification.*



MARSBA designated members are entitled to avail a 25% discount while publishing their research papers (of a single author) in Global Journals Inc., if the same is accepted by our Editorial Board and Peer Reviewers. If you are a main author or co-author of a group of authors, you will get discount of 10%.

As MARSBA, you will be given a renowned, secure and free professional email address with 30 GB of space e.g. johnhall@globaljournals.org. This will include Webmail, Spam Assassin, Email Forwarders, Auto-Responders, Email Delivery Route tracing, etc.





We shall provide you intimation regarding launching of e-version of journal of your stream time to time. This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

The MARSBA member can apply for approval, grading and certification of standards of their educational and Institutional Degrees to Open Association of Research, Society U.S.A.



Once you are designated as MARSBA, you may send us a scanned copy of all of your credentials. OARS will verify, grade and certify them. This will be based on your academic records, quality of research papers published by you, and some more criteria.

It is mandatory to read all terms and conditions carefully.



## AUXILIARY MEMBERSHIPS

### Institutional Fellow of Open Association of Research Society (USA)-OARS (USA)

Global Journals Incorporation (USA) is accredited by Open Association of Research Society, U.S.A (OARS) and in turn, affiliates research institutions as “Institutional Fellow of Open Association of Research Society” (IFOARS).

The “FARSC” is a dignified title which is accorded to a person’s name viz. Dr. John E. Hall, Ph.D., FARSC or William Walldroff, M.S., FARSC.



The IFOARS institution is entitled to form a Board comprised of one Chairperson and three to five board members preferably from different streams. The Board will be recognized as “Institutional Board of Open Association of Research Society”-(IBOARS).

*The Institute will be entitled to following benefits:*



The IBOARS can initially review research papers of their institute and recommend them to publish with respective journal of Global Journals. It can also review the papers of other institutions after obtaining our consent. The second review will be done by peer reviewer of Global Journals Incorporation (USA) The Board is at liberty to appoint a peer reviewer with the approval of chairperson after consulting us.

The author fees of such paper may be waived off up to 40%.

The Global Journals Incorporation (USA) at its discretion can also refer double blind peer reviewed paper at their end to the board for the verification and to get recommendation for final stage of acceptance of publication.



The IBOARS can organize symposium/seminar/conference in their country on behalf of Global Journals Incorporation (USA)-OARS (USA). The terms and conditions can be discussed separately.

The Board can also play vital role by exploring and giving valuable suggestions regarding the Standards of “Open Association of Research Society, U.S.A (OARS)” so that proper amendment can take place for the benefit of entire research community. We shall provide details of particular standard only on receipt of request from the Board.



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The board members can also join us as Individual Fellow with 40% discount on total fees applicable to Individual Fellow. They will be entitled to avail all the benefits as declared. Please visit Individual Fellow-sub menu of GlobalJournals.org to have more relevant details.



We shall provide you intimation regarding launching of e-version of journal of your stream time to time. This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.



After nomination of your institution as “Institutional Fellow” and constantly functioning successfully for one year, we can consider giving recognition to your institute to function as Regional/Zonal office on our behalf. The board can also take up the additional allied activities for betterment after our consultation.

**The following entitlements are applicable to individual Fellows:**

Open Association of Research Society, U.S.A (OARS) By-laws states that an individual Fellow may use the designations as applicable, or the corresponding initials. The Credentials of individual Fellow and Associate designations signify that the individual has gained knowledge of the fundamental concepts. One is magnanimous and proficient in an expertise course covering the professional code of conduct, and follows recognized standards of practice.



Open Association of Research Society (US)/ Global Journals Incorporation (USA), as described in Corporate Statements, are educational, research publishing and professional membership organizations. Achieving our individual Fellow or Associate status is based mainly on meeting stated educational research requirements.

Disbursement of 40% Royalty earned through Global Journals : Researcher = 50%, Peer Reviewer = 37.50%, Institution = 12.50% E.g. Out of 40%, the 20% benefit should be passed on to researcher, 15 % benefit towards remuneration should be given to a reviewer and remaining 5% is to be retained by the institution.



We shall provide print version of 12 issues of any three journals [as per your requirement] out of our 38 journals worth \$ 2376 USD.

**Other:**

**The individual Fellow and Associate designations accredited by Open Association of Research Society (US) credentials signify guarantees following achievements:**

- The professional accredited with Fellow honor, is entitled to various benefits viz. name, fame, honor, regular flow of income, secured bright future, social status etc.



- In addition to above, if one is single author, then entitled to 40% discount on publishing research paper and can get 10% discount if one is co-author or main author among group of authors.
- The Fellow can organize symposium/seminar/conference on behalf of Global Journals Incorporation (USA) and he/she can also attend the same organized by other institutes on behalf of Global Journals.
- The Fellow can become member of Editorial Board Member after completing 3yrs.
- The Fellow can earn 60% of sales proceeds from the sale of reference/review books/literature/publishing of research paper.
- Fellow can also join as paid peer reviewer and earn 15% remuneration of author charges and can also get an opportunity to join as member of the Editorial Board of Global Journals Incorporation (USA)
- • This individual has learned the basic methods of applying those concepts and techniques to common challenging situations. This individual has further demonstrated an in-depth understanding of the application of suitable techniques to a particular area of research practice.

**Note :**

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- In future, if the board feels the necessity to change any board member, the same can be done with the consent of the chairperson along with anyone board member without our approval.
- In case, the chairperson needs to be replaced then consent of 2/3rd board members are required and they are also required to jointly pass the resolution copy of which should be sent to us. In such case, it will be compulsory to obtain our approval before replacement.
- In case of “Difference of Opinion [if any]” among the Board members, our decision will be final and binding to everyone.

//



# PREFERRED AUTHOR GUIDELINES

**We accept the manuscript submissions in any standard (generic) format.**

We typeset manuscripts using advanced typesetting tools like Adobe In Design, CorelDraw, TeXnicCenter, and TeXStudio. We usually recommend authors submit their research using any standard format they are comfortable with, and let Global Journals do the rest.

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Authors should submit their complete paper/article, including text illustrations, graphics, conclusions, artwork, and tables. Authors who are not able to submit manuscript using the form above can email the manuscript department at [submit@globaljournals.org](mailto:submit@globaljournals.org) or get in touch with [chiefeditor@globaljournals.org](mailto:chiefeditor@globaljournals.org) if they wish to send the abstract before submission.

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Authors must ensure the information provided during the submission of a paper is authentic. Please go through the following checklist before submitting:

1. Authors must go through the complete author guideline and understand and *agree to Global Journals' ethics and code of conduct*, along with author responsibilities.
2. Authors must accept the privacy policy, terms, and conditions of Global Journals.
3. Ensure corresponding author's email address and postal address are accurate and reachable.
4. Manuscript to be submitted must include keywords, an abstract, a paper title, co-author(s) names and details (email address, name, phone number, and institution), figures and illustrations in vector format including appropriate captions, tables, including titles and footnotes, a conclusion, results, acknowledgments and references.
5. Authors should submit paper in a ZIP archive if any supplementary files are required along with the paper.
6. Proper permissions must be acquired for the use of any copyrighted material.
7. Manuscript submitted *must not have been submitted or published elsewhere* and all authors must be aware of the submission.

## Declaration of Conflicts of Interest

It is required for authors to declare all financial, institutional, and personal relationships with other individuals and organizations that could influence (bias) their research.

## POLICY ON PLAGIARISM

Plagiarism is not acceptable in Global Journals submissions at all.

Plagiarized content will not be considered for publication. We reserve the right to inform authors' institutions about plagiarism detected either before or after publication. If plagiarism is identified, we will follow COPE guidelines:

Authors are solely responsible for all the plagiarism that is found. The author must not fabricate, falsify or plagiarize existing research data. The following, if copied, will be considered plagiarism:

- Words (language)
- Ideas
- Findings
- Writings
- Diagrams
- Graphs
- Illustrations
- Lectures



- Printed material
- Graphic representations
- Computer programs
- Electronic material
- Any other original work

## AUTHORSHIP POLICIES

Global Journals follows the definition of authorship set up by the Open Association of Research Society, USA. According to its guidelines, authorship criteria must be based on:

1. Substantial contributions to the conception and acquisition of data, analysis, and interpretation of findings.
2. Drafting the paper and revising it critically regarding important academic content.
3. Final approval of the version of the paper to be published.

### Changes in Authorship

The corresponding author should mention the name and complete details of all co-authors during submission and in manuscript. We support addition, rearrangement, manipulation, and deletions in authors list till the early view publication of the journal. We expect that corresponding author will notify all co-authors of submission. We follow COPE guidelines for changes in authorship.

### Copyright

During submission of the manuscript, the author is confirming an exclusive license agreement with Global Journals which gives Global Journals the authority to reproduce, reuse, and republish authors' research. We also believe in flexible copyright terms where copyright may remain with authors/employers/institutions as well. Contact your editor after acceptance to choose your copyright policy. You may follow this form for copyright transfers.

### Appealing Decisions

Unless specified in the notification, the Editorial Board's decision on publication of the paper is final and cannot be appealed before making the major change in the manuscript.

### Acknowledgments

Contributors to the research other than authors credited should be mentioned in Acknowledgments. The source of funding for the research can be included. Suppliers of resources may be mentioned along with their addresses.

### Declaration of funding sources

Global Journals is in partnership with various universities, laboratories, and other institutions worldwide in the research domain. Authors are requested to disclose their source of funding during every stage of their research, such as making analysis, performing laboratory operations, computing data, and using institutional resources, from writing an article to its submission. This will also help authors to get reimbursements by requesting an open access publication letter from Global Journals and submitting to the respective funding source.

## PREPARING YOUR MANUSCRIPT

Authors can submit papers and articles in an acceptable file format: MS Word (doc, docx), LaTeX (.tex, .zip or .rar including all of your files), Adobe PDF (.pdf), rich text format (.rtf), simple text document (.txt), Open Document Text (.odt), and Apple Pages (.pages). Our professional layout editors will format the entire paper according to our official guidelines. This is one of the highlights of publishing with Global Journals—authors should not be concerned about the formatting of their paper. Global Journals accepts articles and manuscripts in every major language, be it Spanish, Chinese, Japanese, Portuguese, Russian, French, German, Dutch, Italian, Greek, or any other national language, but the title, subtitle, and abstract should be in English. This will facilitate indexing and the pre-peer review process.

The following is the official style and template developed for publication of a research paper. Authors are not required to follow this style during the submission of the paper. It is just for reference purposes.



### ***Manuscript Style Instruction (Optional)***

- Microsoft Word Document Setting Instructions.
- Font type of all text should be Swis721 Lt BT.
- Page size: 8.27" x 11", left margin: 0.65, right margin: 0.65, bottom margin: 0.75.
- Paper title should be in one column of font size 24.
- Author name in font size of 11 in one column.
- Abstract: font size 9 with the word "Abstract" in bold italics.
- Main text: font size 10 with two justified columns.
- Two columns with equal column width of 3.38 and spacing of 0.2.
- First character must be three lines drop-capped.
- The paragraph before spacing of 1 pt and after of 0 pt.
- Line spacing of 1 pt.
- Large images must be in one column.
- The names of first main headings (Heading 1) must be in Roman font, capital letters, and font size of 10.
- The names of second main headings (Heading 2) must not include numbers and must be in italics with a font size of 10.

### ***Structure and Format of Manuscript***

The recommended size of an original research paper is under 15,000 words and review papers under 7,000 words. Research articles should be less than 10,000 words. Research papers are usually longer than review papers. Review papers are reports of significant research (typically less than 7,000 words, including tables, figures, and references)

A research paper must include:

- a) A title which should be relevant to the theme of the paper.
- b) A summary, known as an abstract (less than 150 words), containing the major results and conclusions.
- c) Up to 10 keywords that precisely identify the paper's subject, purpose, and focus.
- d) An introduction, giving fundamental background objectives.
- e) Resources and techniques with sufficient complete experimental details (wherever possible by reference) to permit repetition, sources of information must be given, and numerical methods must be specified by reference.
- f) Results which should be presented concisely by well-designed tables and figures.
- g) Suitable statistical data should also be given.
- h) All data must have been gathered with attention to numerical detail in the planning stage.

Design has been recognized to be essential to experiments for a considerable time, and the editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned unrefereed.

- i) Discussion should cover implications and consequences and not just recapitulate the results; conclusions should also be summarized.
- j) There should be brief acknowledgments.
- k) There ought to be references in the conventional format. Global Journals recommends APA format.

Authors should carefully consider the preparation of papers to ensure that they communicate effectively. Papers are much more likely to be accepted if they are carefully designed and laid out, contain few or no errors, are summarizing, and follow instructions. They will also be published with much fewer delays than those that require much technical and editorial correction.

The Editorial Board reserves the right to make literary corrections and suggestions to improve brevity.



## FORMAT STRUCTURE

***It is necessary that authors take care in submitting a manuscript that is written in simple language and adheres to published guidelines.***

All manuscripts submitted to Global Journals should include:

### **Title**

The title page must carry an informative title that reflects the content, a running title (less than 45 characters together with spaces), names of the authors and co-authors, and the place(s) where the work was carried out.

### **Author details**

The full postal address of any related author(s) must be specified.

### **Abstract**

The abstract is the foundation of the research paper. It should be clear and concise and must contain the objective of the paper and inferences drawn. It is advised to not include big mathematical equations or complicated jargon.

Many researchers searching for information online will use search engines such as Google, Yahoo or others. By optimizing your paper for search engines, you will amplify the chance of someone finding it. In turn, this will make it more likely to be viewed and cited in further works. Global Journals has compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

### **Keywords**

A major lynchpin of research work for the writing of research papers is the keyword search, which one will employ to find both library and internet resources. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining, and indexing.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy: planning of a list of possible keywords and phrases to try.

Choice of the main keywords is the first tool of writing a research paper. Research paper writing is an art. Keyword search should be as strategic as possible.

One should start brainstorming lists of potential keywords before even beginning searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in a research paper?" Then consider synonyms for the important words.

It may take the discovery of only one important paper to steer in the right keyword direction because, in most databases, the keywords under which a research paper is abstracted are listed with the paper.

### **Numerical Methods**

Numerical methods used should be transparent and, where appropriate, supported by references.

### **Abbreviations**

Authors must list all the abbreviations used in the paper at the end of the paper or in a separate table before using them.

### **Formulas and equations**

Authors are advised to submit any mathematical equation using either MathJax, KaTeX, or LaTeX, or in a very high-quality image.

### **Tables, Figures, and Figure Legends**

Tables: Tables should be cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g., Table 4, a self-explanatory caption, and be on a separate sheet. Authors must submit tables in an editable format and not as images. References to these tables (if any) must be mentioned accurately.



## Figures

Figures are supposed to be submitted as separate files. Always include a citation in the text for each figure using Arabic numbers, e.g., Fig. 4. Artwork must be submitted online in vector electronic form or by emailing it.

## PREPARATION OF ELETRONIC FIGURES FOR PUBLICATION

Although low-quality images are sufficient for review purposes, print publication requires high-quality images to prevent the final product being blurred or fuzzy. Submit (possibly by e-mail) EPS (line art) or TIFF (halftone/ photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Avoid using pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings). Please give the data for figures in black and white or submit a Color Work Agreement form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution at final image size ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs): >350 dpi; figures containing both halftone and line images: >650 dpi.

Color charges: Authors are advised to pay the full cost for the reproduction of their color artwork. Hence, please note that if there is color artwork in your manuscript when it is accepted for publication, we would require you to complete and return a Color Work Agreement form before your paper can be published. Also, you can email your editor to remove the color fee after acceptance of the paper.

## TIPS FOR WRITING A GOOD QUALITY MANAGEMENT RESEARCH PAPER

Techniques for writing a good quality management and business research paper:

**1. Choosing the topic:** In most cases, the topic is selected by the interests of the author, but it can also be suggested by the guides. You can have several topics, and then judge which you are most comfortable with. This may be done by asking several questions of yourself, like "Will I be able to carry out a search in this area? Will I find all necessary resources to accomplish the search? Will I be able to find all information in this field area?" If the answer to this type of question is "yes," then you ought to choose that topic. In most cases, you may have to conduct surveys and visit several places. Also, you might have to do a lot of work to find all the rises and falls of the various data on that subject. Sometimes, detailed information plays a vital role, instead of short information. Evaluators are human: The first thing to remember is that evaluators are also human beings. They are not only meant for rejecting a paper. They are here to evaluate your paper. So present your best aspect.

**2. Think like evaluators:** If you are in confusion or getting demotivated because your paper may not be accepted by the evaluators, then think, and try to evaluate your paper like an evaluator. Try to understand what an evaluator wants in your research paper, and you will automatically have your answer. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

**3. Ask your guides:** If you are having any difficulty with your research, then do not hesitate to share your difficulty with your guide (if you have one). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work, then ask your supervisor to help you with an alternative. He or she might also provide you with a list of essential readings.

**4. Use of computer is recommended:** As you are doing research in the field of management and business then this point is quite obvious. Use right software: Always use good quality software packages. If you are not capable of judging good software, then you can lose the quality of your paper unknowingly. There are various programs available to help you which you can get through the internet.

**5. Use the internet for help:** An excellent start for your paper is using Google. It is a wondrous search engine, where you can have your doubts resolved. You may also read some answers for the frequent question of how to write your research paper or find a model research paper. You can download books from the internet. If you have all the required books, place importance on reading, selecting, and analyzing the specified information. Then sketch out your research paper. Use big pictures: You may use encyclopedias like Wikipedia to get pictures with the best resolution. At Global Journals, you should strictly follow here.



**6. Bookmarks are useful:** When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

**7. Revise what you wrote:** When you write anything, always read it, summarize it, and then finalize it.

**8. Make every effort:** Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

**9. Produce good diagrams of your own:** Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

**10. Use proper verb tense:** Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

**11. Pick a good study spot:** Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

**12. Know what you know:** Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

**13. Use good grammar:** Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice. Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

**14. Arrangement of information:** Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

**15. Never start at the last minute:** Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

**16. Multitasking in research is not good:** Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

**17. Never copy others' work:** Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

**18. Go to seminars:** Attend seminars if the topic is relevant to your research area. Utilize all your resources.

**19. Refresh your mind after intervals:** Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

**20. Think technically:** Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.



**21. Adding unnecessary information:** Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

**22. Report concluded results:** Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

**23. Upon conclusion:** Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium through which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

## INFORMAL GUIDELINES OF RESEARCH PAPER WRITING

### **Key points to remember:**

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

### **Final points:**

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

*The introduction:* This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

### **The discussion section:**

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

### **General style:**

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

**To make a paper clear:** Adhere to recommended page limits.

### *Mistakes to avoid:*

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.



- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

#### **Title page:**

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

**Abstract:** This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

*Reason for writing the article—theory, overall issue, purpose.*

- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

#### **Approach:**

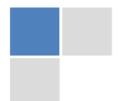
- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

#### **Introduction:**

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

*The following approach can create a valuable beginning:*

- Explain the value (significance) of the study.
- Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
- Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
- Briefly explain the study's tentative purpose and how it meets the declared objectives.



**Approach:**

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

**Procedures (methods and materials):**

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

**Materials:**

*Materials may be reported in part of a section or else they may be recognized along with your measures.*

**Methods:**

- Report the method and not the particulars of each process that engaged the same methodology.
- Describe the method entirely.
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- Simplify—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

**Approach:**

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

**What to keep away from:**

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings—save it for the argument.
- Leave out information that is immaterial to a third party.

**Results:**

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.



**Content:**

- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

**What to stay away from:**

- Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

**Approach:**

As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

**Figures and tables:**

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

**Discussion:**

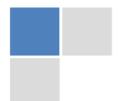
The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an argument should be.

Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully described.

Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."

Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.

- You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
- Give details of all of your remarks as much as possible, focusing on mechanisms.
- Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
- One piece of research will not counter an overall question, so maintain the large picture in mind. Where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.



**Approach:**

When you refer to information, differentiate data generated by your own studies from other available information. Present work done by specific persons (including you) in past tense.

Describe generally acknowledged facts and main beliefs in present tense.

## THE ADMINISTRATION RULES

Administration Rules to Be Strictly Followed before Submitting Your Research Paper to Global Journals Inc.

*Please read the following rules and regulations carefully before submitting your research paper to Global Journals Inc. to avoid rejection.*

*Segment draft and final research paper:* You have to strictly follow the template of a research paper, failing which your paper may get rejected. You are expected to write each part of the paper wholly on your own. The peer reviewers need to identify your own perspective of the concepts in your own terms. Please do not extract straight from any other source, and do not rephrase someone else's analysis. Do not allow anyone else to proofread your manuscript.

*Written material:* You may discuss this with your guides and key sources. Do not copy anyone else's paper, even if this is only imitation, otherwise it will be rejected on the grounds of plagiarism, which is illegal. Various methods to avoid plagiarism are strictly applied by us to every paper, and, if found guilty, you may be blacklisted, which could affect your career adversely. To guard yourself and others from possible illegal use, please do not permit anyone to use or even read your paper and file.



CRITERION FOR GRADING A RESEARCH PAPER (COMPILATION)  
BY GLOBAL JOURNALS

Please note that following table is only a Grading of "Paper Compilation" and not on "Performed/Stated Research" whose grading solely depends on Individual Assigned Peer Reviewer and Editorial Board Member. These can be available only on request and after decision of Paper. This report will be the property of Global Journals.

Topics	Grades		
	A-B	C-D	E-F
<i>Abstract</i>	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form  Above 200 words	No specific data with ambiguous information  Above 250 words
<i>Introduction</i>	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
<i>Methods and Procedures</i>	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
<i>Result</i>	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
<i>Discussion</i>	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
<i>References</i>	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring



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