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A REVIEW STUDY ON THE ASSESSMENT OF OPERATIONAL EFFICIENCY

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ABSTRACT

A thorough background investigation is always necessary before beginning any research. A thorough and in-depth research review is always a solid foundation for study. A researcher must always get familiar with the current study areas, techniques, and tools that have been employed by other researchers to conduct studies of a similar nature. Only then will the researcher be able to identify the gaps in the current body of study and determine how to contribute to it. Researchers' fascination with analysing the operational efficiency of businesses in related industries has never gone away because businesses may be highly efficient one year and inefficient the next. As a result, doing research on operational efficiency analysis necessitates a solid foundation of in-depth information examination. In order to help the research community move this field further in the future, this publication has sought to provide a summary of the results of some operational efficiency analysis literature that is already available in the research domain.

KEYWORDS: *Operational efficiency analysis, literature review*

1. INTRODUCTION

Over the years, scholars and business stakeholders have paid close attention to evaluating the operational efficiency of businesses in the same industry. The operational effectiveness of businesses engaged in comparable business activities or domains is assessed in this comparative analysis. Such an examination seeks to shed light on how these chosen businesses are performing effectively and which is outperforming the others.

Numerous industries, including banking, insurance, pharmaceuticals, fertilizers, electricity distribution, cars, airlines, ceramics, plastics, tea production, paper manufacturing, cement production, information technology, diamonds, sugar production, textiles, and many more, have been the subject of comparative analysis.

A comparative analysis of companies operating in the same industries has been carried out in various countries, such as the United States, the United Kingdom, Germany, Japan, Metro Manila, China, Nigeria, Europe, Sweden, South Africa, New Zealand, Pakistan, and several others.

A literature review is crucial in research as it familiarizes the researcher with prior studies related to the subject. It provides in-depth insights into earlier investigations conducted in the chosen area, aiding in identifying the gaps between existing research and the upcoming study. Consequently, this section aims to encapsulate the reviewed literature concerning the analysis of operational efficiency.

2. DEFINITION OF TERMS UTILISED

- **Analysis of Operational efficiency**

Analysis of operating efficiency stands for analysing/ studying how the business units are operating whether efficiently or inefficiently. Thereby, it assesses the performance of business units operationally.

Operational Efficiency is a vital concept for organizations striving to boost their performance and profitability. It involves the ability to produce goods or offer services in the most effective way, utilizing the least resources, time, and effort while ensuring quality. A comprehensive overview of its key elements and significance is presented as follows:

Key Elements of Operational Efficiency

- **Process Optimization**:
  - Streamlining workflows to remove unnecessary steps.
  - Applying approaches like Lean and Six Sigma to enhance productivity and minimize waste.
- **Resource Utilization**:
  - Effectively using human, financial, and physical resources.
  - Distributing workloads among employees to avoid bottlenecks and inefficiencies.
- **Cost Management**
  - Identifying and reducing costs without compromising quality.
  - Examining overhead and operational expenses to uncover savings opportunities.
- **Quality Control**
  - Ensuring that products and services adhere to established standards.

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- Creating feedback loops for ongoing quality improvement.

❖ **Technology Integration**
- Utilizing automation and technology to enhance processes.
- Employing data analytics to inform decisions and track performance.

❖ **Supply Chain Management**
- Streamlining the supply chain to reduce delays and costs.
- Cultivating strong supplier relationships for better negotiation and reliability.

Significance of Operational Efficiency

❖ **Cost Reduction**
- Improved efficiency leads to lower costs, enabling businesses to allocate resources effectively and increase profit margins.

❖ **Enhanced Productivity**
- Streamlined processes result in faster production times and higher output, allowing organizations to better meet demand.

❖ **Better Customer Satisfaction**
- Efficient operations enhance service delivery and product quality, leading to improved customer experiences and loyalty.

❖ **Competitive Edge**
- Organizations that operate efficiently can surpass competitors by offering lower prices, superior quality, or quicker service.

❖ **Sustainability**
- Minimizing waste and optimizing resource use supports environmental sustainability, attracting socially conscious consumers.

- **Literature review**

A literature review involves examining the vast array of existing knowledge, allowing us to forge our own path in the research process. It is akin to utilizing the foundation of what has already been accomplished to carve out our unique direction.

- **Empirical Literature**

Literature in empirical sense stands for historical literature already existing in the area of study which researcher wants to explore.

Empirical literature consists of research studies based on observed and measured data rather than theory. It involves systematic data collection and analysis to test hypotheses or explore phenomena. This body of work is crucial for validating theories, informing practice, and guiding future research across various academic disciplines.

3. SIGNIFICANCE OF THE STUDY

Studying the operational efficiency of business units is significant for several reasons. Firstly, it helps identify inefficiencies, leading to cost reductions that improve profit margins. By enhancing processes, organizations can boost productivity, allowing them to meet demand more effectively. Additionally, a focus on operational efficiency often results in higher quality products and services, which increases customer satisfaction and loyalty. Efficient operations also provide a competitive advantage, enabling businesses to respond more swiftly to market changes and outperform their competitors. Furthermore, understanding operational efficiency allows for better allocation and utilization of resources, minimizing waste and promoting sustainability by reducing energy consumption and waste production. Overall, analyzing operational efficiency is essential for driving long-term success and adaptability in a competitive marketplace.

The study has relevance in the sense for undertaking any research review of existing literature is needed, this paper will highlight the summaries of many works already conducted facilitating new researchers to undertake research in such arenas easily.

4. OBJECTIVES OF THE STUDY

The objectives of this paper are:

a. To facilitate the researchers with the existing knowledge of operational efficiency analysis presented in condensed form.
b. To have an idea of general/ common tools of analysis employed by prior scholars for analysis of operational efficiency.
c. To know about the important indicators of operational efficiency.

5. RESEARCH METHODOLOGY

This research paper is mainly descriptive and analytical in nature. The study is mainly based on secondary data. Such data has been collected from already published sources. Research works taken in this study for analysis are mainly obtained from already published sources. An attempt has been made to include even international works in this analytical review.

6. LIMITATIONS

The limitations of this study are as under:

a. Limited articles only are considered for analytical purpose.
b. Research works having analysis of operational efficiency are only considered.

7. REVIEW OF EMPIRICAL LITERATURE

The empirical literature encompasses an examination of studies conducted to advance the existing knowledge within a specific field of study. This review enables the researcher to become well-acquainted with the goals, methods, and instruments employed by previous researchers in their respective fields of engagement.

- **Author:** Amritpal Singh Dhillon and Hardik Vachhrajani
  Year: 2012
  Industry: Power Generating
  Tools used: Average, Ratio analysis and Correlation analysis
  Examination: Operational Efficiency of GIPCL from 2005-06 to 2010-11
  Conclusions: The operational efficiency of the company was found to be good and it referred to the profitable, efficient and judicious use of resources

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available to the GIPCL in perfect consonance with clearly laid down financial policies relating to the operation when compared within power manufacturing industry.

- **Author:** Womack, J.P., & Jones, D.T.
  Year: 1996
  Industry: Manufacturing
  Tools Used: Lean methodologies, value stream analysis
  Examination: Reduction of waste and improvement of cycle times
  Conclusions: The adoption of lean practices effectively decreases waste and boosts production efficiency, enhancing competitive advantage.
- **Author:** Antony, J.
  Year: 2004
  Industry: Manufacturing
  Tools Used: Six Sigma techniques, DMAIC process
  Examination: Defect rates and process performance
  Conclusions: Employing Six Sigma leads to notable enhancements in quality and operational efficiency by reducing defects and engaging staff in quality control.
- **Author:** Kaplan, R.S., & Porter, M.E.
  Year: 2008
  Industry: Healthcare
  Tools Used: Lean healthcare strategies, process flow analysis
  Examination: Patient throughput and waiting durations
  Conclusions: Implementing lean strategies in healthcare settings improves patient flow and shortens wait times, resulting in greater patient satisfaction and operational efficiency.
- **Author:** Kwortnik, R.J., & Thompson, G.M.
  Year: 2009
  Industry: Hospitality
  Tools Used: Service delivery analysis, customer feedback mechanisms
  Examination: Speed of service delivery and customer satisfaction
  Conclusions: Streamlined service delivery processes significantly enhance customer satisfaction and loyalty in the hospitality industry.
- **Author:** Chopra, S., & Meindl, P.
  Year: 2016
  Industry: Supply Chain Management
  Tools Used: Inventory control methods, logistics improvement strategies
  Examination: Inventory turnover and logistics expenditures
  Conclusions: Efficient inventory management and logistics practices markedly enhance supply chain performance and reduce operational costs.
- **Author:** Brynjolfsson, E., & McAfee, A.
  Year: 2014
  Industry: Various
  Tools Used: Automation solutions, AI technologies
  Examination: Labor productivity and cost-effectiveness
  Conclusions: The integration of automation and AI significantly boosts operational efficiency by optimizing processes and lowering labour expenses.
- **Author:** Provost, F., & Fawcett, T.
  Year: 2013
  Industry: Various
  Tools Used: Data analytics tools, performance indicators
  Examination: Speed of decision-making and operational results
  Conclusions: Organizations that employ data analytics are better equipped to make informed decisions, leading to enhanced operational efficiency.
- **Author:** Porter, M.E., & van der Linde, C.
  Year: 1995
  Industry: Various
  Tools Used: Sustainability assessments, operational reviews
  Examination: Waste management and cost efficiency
  Conclusions: Implementing sustainable practices can effectively lower operational costs while improving efficiency, indicating that environmental sustainability can align with business objectives.
- **Author:** Harter, J.K., Schmidt, F.L., & Hayes, T.L.
  Year: 2002
  Industry: Various
  Tools Used: Employee engagement surveys, productivity metrics
  Examination: Levels of employee engagement and their impact on productivity
  Conclusions: Increased employee engagement is linked to higher productivity and reduced turnover rates, positively influencing operational efficiency.
- **Author:** Becker, B.E., & Huselid, M.A.
  Year: 1998
  Industry: Various
  Tools Used: Training programs, performance assessments
  Examination: Relationship between training investment and operational efficiency
  Conclusions: Investing in employee training significantly improves operational efficiency by enhancing skills and boosting productivity.
- **Author:** Camp, R.C.
  Year: 1989
  Industry: Various
  Tools Used: Benchmarking techniques, performance metrics
  Examination: Best practices across different sectors
  Conclusions: Benchmarking against industry leaders helps identify best practices that can be implemented to enhance operational efficiency.
- **Author:** Imai, M.
  Year: 1997
  Industry: Various
  Tools Used: Kaizen methods, improvement initiatives
  Examination: Effects of continuous improvement on operational outcomes
  Conclusions: A commitment to continuous improvement cultivates innovation and drives

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operational efficiency, leading to lasting performance improvements.

- **Author:** Kaplan, R.S., & Norton, D.P.
  Year: 1992
  Industry: Various
  Tools Used: Balanced Scorecard framework, performance evaluation
  Examination: Financial performance and internal processes
  Conclusions: The Balanced Scorecard effectively aligns operational activities with strategic objectives, thereby enhancing overall operational efficiency.

SUMMARY OF ABOVE REVIEWS

The reviews provide a comprehensive analysis of operational efficiency across various industries, showcasing diverse methodologies and their impacts. Dhillon and Vachhrajani (2012) assessed GIPCL's resource utilization, finding it effective within the power generation sector. Womack and Jones (1996) emphasized the significance of lean practices in manufacturing, highlighting waste reduction and enhanced productivity. Antony (2004) demonstrated that Six Sigma techniques lead to notable improvements in quality and operational efficiency. Kaplan and Porter (2008) reported that implementing lean strategies in healthcare settings boosts patient flow and satisfaction. Additional studies underscore the importance of data analytics, employee engagement, training investments, and continuous improvement, revealing how these factors collectively enhance operational efficiency and provide a competitive edge across sectors like hospitality and supply chain management. Overall, these findings illustrate that a strategic focus on operational efficiency is vital for organizations aiming to thrive in today's competitive landscape.

8. CONCLUSION

This research paper highlights that studies on operational efficiency have been conducted across nearly all industries; however, the methodologies used by researchers vary significantly. It provides a concise overview of the various analytical approaches employed in operational efficiency research, serving as a valuable resource for researchers aiming to guide their future studies in a relevant direction.

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