International Journal of Science and Research Archive

eISSN: 2582-8185

Cross Ref DOI: 10.30574/ijsra

Journal homepage: https://ijsra.net/

(Research Article)

Relationship between environmentally sustainable project management and financial profitability ratios

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International Journal of Science and Research Archive, 2025, 14(01), 1631-1634

Publication history: Received on 07 December 2024; revised on 23 January 2025; accepted on 26 January 2025

Article DOI: https://doi.org/10.30574/ijsra.2025.14.1.0184

Abstract

This paper aims to indicate the impact of integrating environmentally sustainable project management practices on the financial profitability ratio, especially Gross Margin (GM), Net income Margin (NIM), Operating Margin (OM), and Return on Invested Capital (ROIC) in Apple Incorporation. The impact of environmentally sustainable project management practices on the core financial profitability ratios of Apple Incorporation was examined. For the sake of the study, Profitability Ratios (PR) data: Gross Margin (GM), Net income Margin (NIM), Operating Margin (OM), and Return on Invested Capital (ROIC), were obtained from Bloomberg. Data obtained were subjected to analysis using descriptive statistics with an Excel software package (version 2021). Results showed that Financial Profitability Ratios (FPR) in the pre-sustainability period was lesser (67.61623%), while the FPR in the post-sustainability period was higher (133.0259%). The analysis demonstrates that the company experienced a significant improvement in the average of all four profitability ratios: GM, NIM, OM, and ROIC, hence the implementation of sustainability practices into its operating activities was determined. This significant increase (96.58%) in the sum of the average PR indicates that the company's profitability significantly improved across key financial metrics during the post-sustainability period compared to the pre-sustainability phase. In conclusion, the overall analysis across all the ratios consistently indicated a positive impact of sustainability practices on the company's profitability ratios and financial performance. The data suggests that the adoption of sustainability initiatives has led to enhanced financial results, providing evidence of the benefits of sustainable business practices. However, further investigation and consideration of other influencing factors are essential for a comprehensive understanding of the relationship between sustainability practices and financial performance in general.

Keywords: Environmentally Sustainable Practice; Project Management; Financial Profitability Ratios; Apple Incorporation; Gross Margin; Net income Margin; Operating Margin; Return on Invested Capital

1. Introduction

Sustainable project management is an approach that integrates project management principles with a focus on sustainable development (Cleland & Bidanda, 2014). It seeks to integrate environmental, social, and economic considerations into all project life cycles including planning, implementation, and evaluation (Koskela, 2013). The application of sustainable project management practices can mitigate negative environmental, social, and economic impacts and maximise positive outcomes such as cost saving, enhanced reputation, brand value, social responsibility, managing risk, and environmental preservation (Gareis *et al.*, 2013). The global drive towards sustainability practices has influenced all aspects of society including the economy and in recent years, many businesses have committed to

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adopting sustainable project management practices in their operations (Gareis *et al*., 2013). Given the global environmental and social issues and increasing stakeholder demands, organisations have been motivated to implement sustainability principles into their business operations to address the current issues (Silvius and van den Brink, 2014). Integrating sustainability principles in project management methodologies not only improves environmental and social well-being but also has a significant impact on the financial performance of organisations (Tharp, 2012). Although there are social reasons supporting sustainable project management, organisations need to understand the impact of environmentally sustainable project management on financial performance to justify investments in sustainability initiatives (Zorn et al., 2018). Understanding of relationship between environmental sustainability applications and the financial health of firms allows investors and organisations to obtain a comprehensive and deep insight. Additionally, it is crucial for risk management, and decision-making in organisation context. Since profitability ratios play a key role in assessing a company's financial health, examining the relationship between environmentally sustainable project management practices and profitability ratios can offer valuable insights into how using sustainability practices affects the overall financial performance of organisations by changing their profitability ratios (Kusuma & Koesrindartoto, 2014).

1.1. Brief information about Apple Incorporation

The Apple Computer Company has emerged as one of the most ground-breaking technology firms in the past three decades. Apple, Inc. has introduced revolutionary products like the Macintosh computer, laptops, iPod, iTunes, and more recently, the iPhone. The company's remarkable success is attributed to its founder, Steven Jobs, who, along with his friend Steve Wozniak, established and grew Apple into a 32-billion-dollar enterprise (Finkle & Mallin, 2010). Based on the Apple Environmental Responsibility Report published in 2017, they have reduced the average energy consumed by Apple products by 70 per cent from 2008 to 2016. Therefore, the first step of using sustainability practices for Apple Company began in 2008. Moreover, this company initiated direct collaboration with suppliers to explore opportunities for lowering their energy consumption in 2015. These efforts included upgrading obsolete or ineffective heating, cooling, and lighting systems, fixing compressed air leaks, and harnessing waste heat. Their objectives were to foster ongoing enhancements, enhance technical expertise, and raise awareness about the environmental and financial advantages of adopting energy-efficient practices. Therefore, Apple Company can be delineated into three distinct periods: the pre-sustainability period (2004-2007), the starting date of sustainability (2008) and the post-sustainability period (2009-2012).

1.2. Statement of the Problem and Objective of the Study

Ever since the advent of sustainability practice, information has been scarce regarding the effects of this on the profitability of apple incorporation. A lot has been documented on how profitable the operations of Apple Inc. can be, however, none of such studies has investigated the effect of the implementation of environmentally sustainable practices, hence this study investigated the relationship between environmentally sustainable project management and financial profitability ratios, in Apple incorporation.

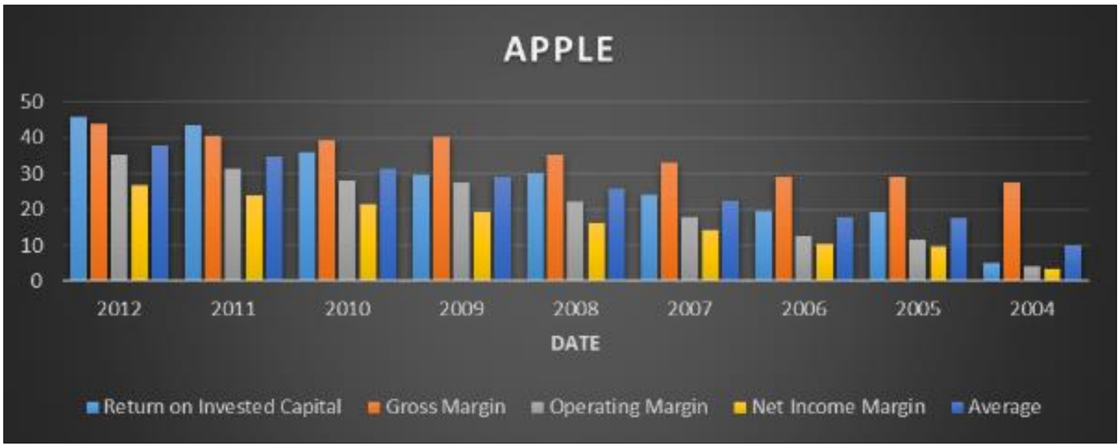
2. Methodology

For the sake of the study, four (4) main Profitability Ratios (PR) data: Gross Margin (GM), Net income Margin (NIM), Operating Margin (OM), and Return on Invested Capital (ROIC), were obtained from Bloomberg. Profitability ratios assess the company's ability to generate profits from its core operations and investments (Zorn et al., 2018). These profitability ratios provide valuable insights into the financial performance and overall health of the company, offering a comprehensive perspective on its revenue generation and profitability. This study strictly respects ethical guidelines and considerations for collecting financial data from Bloomberg. All the accessible data from Bloomberg are available to the public, and no sensitive or personal data were used in this study. In addition, for compliance with the terms and conditions, any necessary permissions, and licenses for using Bloomberg data have been obtained. For the sake of obtaining data with the ethics of this research, the company of choice; Apple Company was delineated into three distinct periods: the pre-sustainability period (2004-2007), the starting date of sustainability (2008) and the post-sustainability period (2009-2012). Hence, the study covered a period of 9 years altogether (2004-2012).

2.1. Data analysis

Specifically, statistical analysis was conducted to assess the relationship between environmental sustainability practices and financial profitability ratios including ROIC, GM, OM, and NIM, respectively, in Apple Inc. The data obtained were subjected to analysis using descriptive statistics (percentages %) with an Excel software package (version 2021).

3. Results



Source: Data analysis, 2023

Figure 1 financial ratios change during the timeline for the study

Table 1 Table showing the Profitability Ratios (PR) data of all the variables measured

Date	ROIC	GM	OM	NIM
post-sustainability	38.721425	163.8674	30.515225	91.2894
pre-sustainability	16.997475	118.4509	11.66	37.3841
Grand Total	27.85945	282.3183	21.0876125	128.6735

NB: Average of Return on Invested Capital= ROIC, Sum of Gross Margin= GM, Average of Operating Margin= OM, and Sum of Net Income Margin= NI; Source: Data analysis, 2023

3.1. Return on Invested Capital (ROIC) analysis of changes

Figure 1 reveals that the average Return on Invested Capital (ROIC) during the Pre-sustainability period was 16.99%. However, in the post-sustainability period, the average ROIC notably increased to 38.72%. This observation represents an outstanding improvement of approximately 21.72 percentage points in the average ROIC after the starting date in 2008, implying a positive impact of the implementation of sustainable project management practices on the company's ability to generate profits from its invested capital (See Table 1).

3.2. Gross Margin Analysis of changes

The analysis of the Gross Margin reveals that before 2008, the sum of Gross Margin was approximately 117%. Following the implementation of sustainability practices in 2008, the Gross Margin increased to 163.86%. This notable increase in the sum of Gross Margin after 2008 suggests that the company experienced enhanced profitability in its core business activities due to the adoption and integration of sustainability practices. These findings indicate a positive relation and correlation between sustainability initiatives and financial profitability ratios.

3.3. Operating Margin analysis of changes

The analysis of the Operating Margin indicates that the average Operating Margin was 11.66% for the pre-sustainability period while in the post-sustainability period, the average Operating Margin substantially increased to 30.51% (see Table 1). It demonstrates a significant improvement of approximately 18% points in the average Operating Margin after the starting date in 2008. This improvement also shows the positive impact of utilising sustainable project management practices on operating margin.

3.4. Net Income Margin analysis of changes

Before the starting date in 2008, the sum of the Net Income Margin was approximately 37.38% while following the implementation of sustainability practices in 2008, the Net Income Margin increased to 91.28%. These findings suggest that the adoption and integration of sustainability practices had a positive effect on the company's ability to generate profits after accounting for all relevant costs and financial obligations. This significant improvement in the Net Income Margin indicates a potential link between sustainability initiatives and enhanced financial performance, reflecting the positive impact of sustainability practices on the company's profitability.

4. Conclusion

In this analysis, the aim is to assess the effect of sustainability implementation on the average profitability ratios of Apple Inc. This analysis compares the pre-sustainability and post-sustainability average profitability ratios of Apple Inc. Apple demonstrated a substantial increase in average of profitability ratios approximately 97% after the implementation of sustainability practices. Apple experienced a significant positive impact from the implementation of sustainability practices. In summary, Apple achieved a significant result in terms of notable improvement in average profitability ratios after sustainability implementation, highlighting the effectiveness of its sustainability efforts in enhancing financial performance.

Recommendation

As the company achieved significant improvement in its financial profitability ratios, after incorporating environmental sustainability practises into its operating activities, it is highly recommended that the potential risks associated with sustainability efforts, such as supply chain disruptions, regulatory changes, and reputational risks are explored. Also, Apple Incorporation should analyse how it can effectively mitigate these risks while pursuing sustainability goals. In addition to the foregoing, the broader economic impact of sustainability initiatives on local communities and regions where Apple Incorporation operates should be evaluated in the light of job creation, local economic development, and other indirect benefits.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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