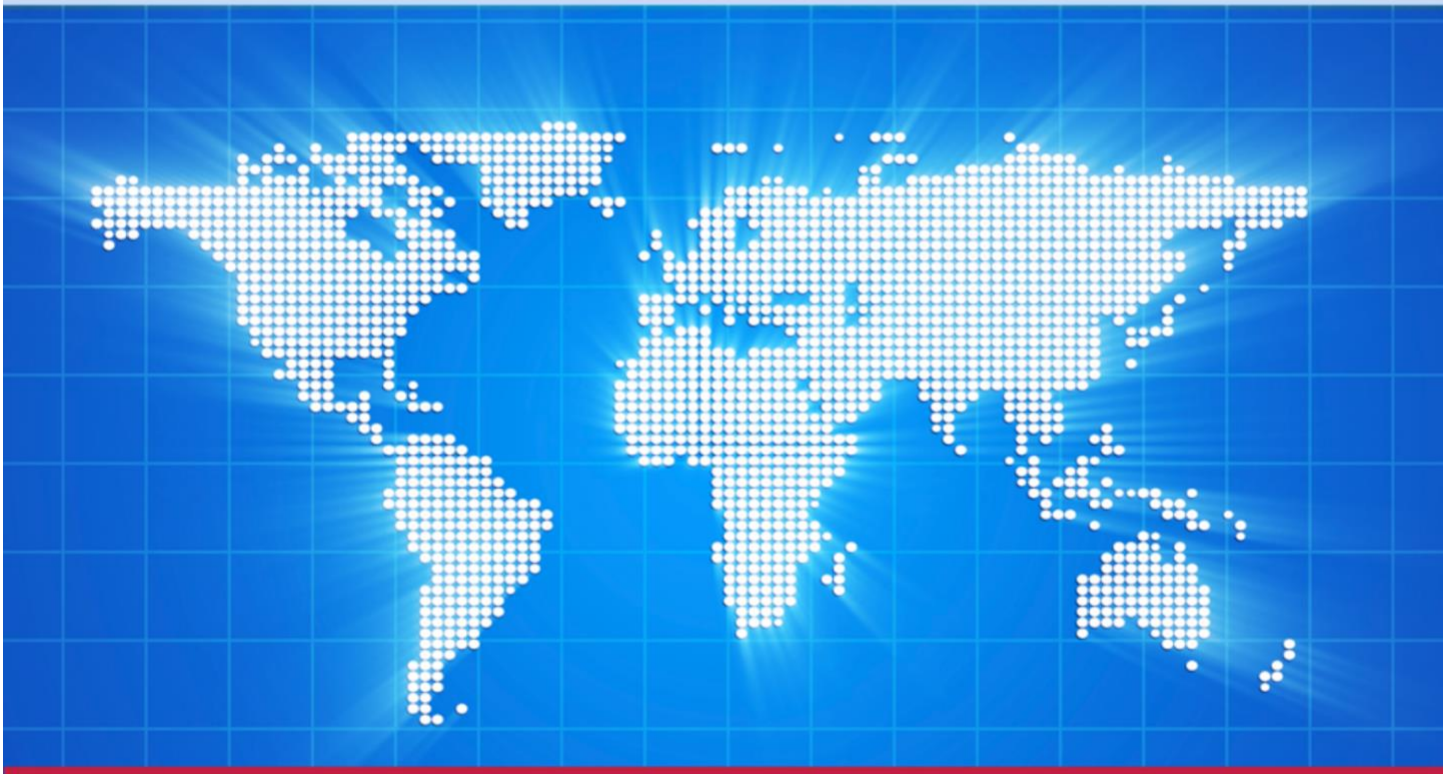
The CYRUS Global Business Perspectives (CGBP)



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The CYRUS Global Business Perspectives (CGBP)

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Announcements

- CIK 2022 Conference – Location and dates will be announced later.
- CIK 2021 Conference – October 20th - 22nd, 2021, Online, in collaboration with SINGEP, Br
- CIK 2020 Conference – October 1st - 3rd 2020, Online, in collaboration with SINGEP, Brazil
- CIK 2019 Conference – April 17th - 21st 2019, MIT, Cambridge, USA
- CIK 2018 Conference – March 4th - 7th 2018, ESCA and UM5, Casablanca, Morocco
- CIK 2017 Conference – April 14th - 16th 2017, MIT, Cambridge, USA
- CIK 2016 Conference – March 15th - 17th 2016, The American University in Cairo, Egypt
- CIK 2015 Conference – April 24 - 26th 2015, Harvard University, Cambridge, USA
- CIK 2014 Conference – January 9th - 11th 2014, Hult International Business, Dubai, UAE
- CIK 2012 Conference – October 15th - 17th 2012, Hult International Business, Cambridge MA
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- Guidelines for submission to ***The CYRUS Global Business Perspectives*** CGBP.

The flagship journal of the CYRUS Institute of Knowledge

Editorial Board

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The CYRUS Global Business Perspectives (CGBP)

Purpose

The CYRUS Global Business Perspectives (CGBP) is a refereed interdisciplinary journal. The editorial objective is to create opportunities for scholars and practitioners to share theoretical and applied knowledge. The subject fields are management sciences, economic development, sustainable growth, and related disciplines applicable globally. CGBP provides a platform for the dissemination of high-quality research. We welcome contributions from researchers in academia and practitioners in broadly defined areas of management sciences, economic development, and sustainable growth.

Scope

The Journal's scope includes, but is not limited to, the following:

- Business Development and Governance
- Entrepreneurship
- Ethics and Social Responsibility
- International Business and Cultural Issues
- International Economics
- International Finance
- Innovation and Development
- Institutions and Development
- Leadership and Cultural Characteristics

- Natural Resources and Sustainable Development
- Organization and Cultural Issues
- Strategy and Development
- Women and Business Development

Reasons for choosing the CYRUS Global Business Perspectives

During this historical time, CGBP intends to offer a global perspective that is most urgently needed. There is no question that organizations and businesses that are capable of analyzing and applying advanced knowledge in management sciences and development are in high demand, and especially during transitional periods. It is an unusual time in different regions of the world, which requires active intellectual participation and contributions. It is the era of revolution in terms of communication, technology, and minds for billions of people. It is a time for intellectuals, entrepreneurs, and philanthropists to help enlighten minds and enrich the quality of life globally. CIK's vision, "to cultivate the discourse on human capital potentials for better living," is the appropriate response to current challenges and the CGBP is a platform for sharing the perspectives of scholars and practitioners with a global audience.

Our Strengths

CGBP members have a wealth of knowledge and global perspectives. First, most of the members possess a wealth of intellectual and experiential knowledge which is enhanced by their active involvement in business, consulting and scholarly research, and collegiate teaching. Second, most members possess an ethnic identity, language skills, and therefore, good global perspectives. Third, most of the CIK board of directors' members are well-known scholars, members of editorial boards of journals, and even editors. CGBP possesses depth, breadth, and a competitive edge to successfully manage the journal.

CGBP is committed to developing knowledge that positively contributes to the life of world citizens. *CIK is a charitable, educational, and scientific organization that has been in operation since 2011. It is a secular and nonpartisan organization.*

Submission Process

Authors will be assisted by an editorial board consisting of distinguished members from world-class institutions of higher learning, practice, and industry. We invite authors to submit their papers and case studies to Editor@Cyrusik.org. We will have a quick turn-around review process of fewer than two months. For submission guidelines, policies, and procedures please check CGBP. We intend to have special issues on themes that are within the scope of the Journal. Also, we will have invited (special) issues.

For more information please check the CGBP or CIK or contact us: Editor@Cyrusik.org; or Contact@Cyrusik.org. CYRUS Institute of Knowledge (CIK), Box 380003, Cambridge, MA 02238-0003, USA.

Editor's Introduction

Since its inception in 2012, the ***Cyrus Institute of Knowledge*** has held nine annual meetings. Six years ago, we published the first volume of its flagship journal titled "Cyrus Chronicle Journal (CCJ): Contemporary Economic and Management Studies in Asia and Africa," in conjunction with the 2016 annual conference. In 2021 after careful review, evaluation, and deliberation we concluded that a broader global perspective for the title of this journal would be more appropriate. CIK has become a global organization and participants in their conferences and papers that are submitted are global. In addition to the journal and conferences, CIK is focusing on offering post-doctoral positions at the institute. The aim is to advance young doctoral students' research capabilities through collaborations with more experienced CIK scholars. This kind of work is at the heart of the CIK mission. All parties will gain in this process and will advance knowledge. Additionally, CIK is planning to publish books in the domain of its focus. Therefore, we welcome inquires and support in these domains.

The Institute has had nine successful international conferences since its inception. These conferences have been hosted at institutions in the United States (MIT, Harvard, Hult), and internationally (Hult - UAE, American University in Cairo, and ESCA in Morocco). Several institutions of higher education have collaborated and supported these conferences. Please see the CIK website for information about these institutions. We greatly appreciate their support! *The CIK 2020 and 2021 Conferences were held* ***Online*** *and in collaboration with International Symposium on Project Management, Innovation and Sustainability (SINGEP).*

Generally, conference participants come from at least 15 different countries and 35 institutions, organizations, and companies. Please see the CIK website for details. Some of the plenary sessions had up to 150 participants. The best papers presented at these conferences have traditionally been accepted for publication in the Journal, along with additional articles by prominent scholars. The acceptance rate of *CCJ* is generally less than 20%. We aim to publish the highest quality papers after they pass through our strict review process. CIK colleagues and conference participants have proposed and suggested special issues of the journal, which are based on core topics (i.e., entrepreneurship, innovation, ethics, and sustainable development) and/or country-specific ones. Therefore, we welcome articles that meet these characteristics.

Now we welcome you to read the volume six, issue 1 (CGBP.V6.1). The journal intends to cover scholarship that pertains to the global economy, especially emerging economies. An examination of our mission may shed some light on the aim and objectives. The primary focuses of the journal are as follows:

1. To share and promote knowledge of economic, management, and development issues. Focusing on assessment, evaluation, and possible solutions helps advance these countries, which also have the largest populations. Development challenges are global; virtually all countries face challenges concerning economic development, sustainability, food and water, population, and environmental degradation. Above all, all countries are facing the Covid19 pandemic. No country gains by shunning opportunities that globalization can provide, with exception of a few countries whose leaders lack a full understanding of the opportunities that globalization can offer. To take advantage of such opportunities,

knowledge is the primary requisite. This journal aspires to contribute to this body of knowledge.

2. To encourage the generation and dissemination of knowledge by local scholars whose access to mainstream academic outlets may be limited. There are many scholars from academic, public, and private sector organizations whose first-hand knowledge of problems and solutions is not being shared for lack of an appropriate outlet for dissemination. The CGBP seeks to provide an opportunity for spreading such knowledge. The CGBP will provide a platform for established as well as younger scholars who might collaborate with them in their research. By publishing in CGBP, they could make important contributions to the body of management and development scholarship on which the journal will continue to concentrate.

Volume six, issue 1, of the CGBP contains four articles with diverse subjects. We hope you will find this volume and past issues enlightening. CGBP welcome your support and so I ask for your help in the following ways:

- *Contribute articles, case studies, and book reviews and commentaries;*
- *Encourage your colleagues to do the same;*
- *Encourage young scholars, especially those from developing and emerging economies, to submit their studies to the CGBP;*
- *Spread the word about CGBP, especially in emerging economics;*
- *Cite the articles published in this journal in your own research when applicable;*
- *Attend the annual conferences of the CIK which serve as spawning ground for articles that may ultimately be published in this journal;*
- *Give us your feedback by telling us how we can further promote and improve the journal.*
- *Review CIK aims and objectives and share with us how we could advance.*

Regards,
Editor Dr. Maling Ebrahimpour
Dean | College of Business
Alfred J. Verrecchia-Hasbro Leadership Chair
The University of Rhode Island. RI, USA

In the memory of Nancy Tagi Sagafi-nejad - former Associate Editor of CCJ

Nancy Gail Black Sagafi-nejad

[in her own words]

I was born in Wisconsin and lived in Illinois most of my early life. I attended and graduated from Northwestern University with a BA in art and then worked for a little over two years at the Isabella Stewart Gardner Museum in Boston as a curatorial assistant. After that I was fortunate enough to receive a 21-month grant to the East-West Center at the University of Hawaii where I received a master's degree in art history. Shortly thereafter I joined the U.S. Peace Corps and was sent to Pahlavi University in Shiraz, Iran with other Peace Corps Volunteers who also had their masters' degrees in various fields. It was there that I met and married Tagi, my husband of 53+ years. Upon returning to the US, I became a staff docent at the Philadelphia Museum of Art and taught art history at Rosemont College in Pennsylvania. Both our sons Jahan and David, where born at the Hospital of the University of Pennsylvania.

It was my two and one-half years in the Peace Corps that raised my social consciousness and caused me to want to contribute by working on behalf of plaintiffs in the field of employment discrimination law. After receiving my law degree from the University of Texas, Tagi, I, and our sons Jahan and David moved to Baltimore, Maryland where Tagi taught at Loyola University Maryland and I first practiced civil rights law at the Equal Employment Opportunity Commission (EEOC) in Baltimore and then in my own small solo practice of employment discrimination.

In spring 1991 I applied through my Friends meeting (Stony Run) to be the Henry J. Cadbury Scholar at Pendle Hill - the Quaker study and retreat center in Wallingford, Pennsylvania that many members of EFM are familiar with. [the picture above was taken at Pendle Hill – TS] I was fortunate to have received that scholarship and then spent the 1991 fall quarter and the 1992 winter and spring quarters in that beautiful place.

It was during that nine-month stay that I began research on the intersect of being a Quaker and a lawyer and how the two identities could occasionally, or even often, be at odds. In 2011 the research begun at Pendle Hill twenty years earlier was published by the State University of New

York (SUNY) Press as a book entitled *Friends at the Bar: A Quaker view of Law, Conflict Resolution, and Legal Reform* (SUNY Press, 2012)

We moved from south Texas where Tagi had been the Radcliffe Killam Distinguished Professor at Texas A & M International University in Laredo before his retirement in August 2015. We moved to the Pacific Northwest to be closer to our younger son David and his wife Audra and their children Cameron and Leila in Eugene, Oregon, and to our older son Jahan who lives in Oakland and works in San Francisco with his wife Kristen and their son Benjamin.
Memo: Nancy wrote the above a few weeks before she died on September 27, 2021. Can't stop the tears. ***Tagi Sagafi-nejad***

The Impact of Sustainable Upstream Supply Chain Practices on Financial Performance: Lessons from Moroccan industrial companies

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ESCA Ecole De Management, Casablanca, Moroco

ABSTRACT
The relationship between sustainable supply chain management practices and companies' performances has been the subject of many research studies in the past few years. Some authors showed that sustainable supply chain management doesn't contribute to the financial performance, while others found the opposite. This research paper is fully in line with this debate and aims to investigate the relationship between the financial performance and the supply chain's sustainability of Moroccan industrial companies listed on the stock exchange and belonging to three different sectors. A statistical analysis was carried out using the database of Vigeo Eiris, an international environmental, social and corporate governance research and rating agency founded in 2002, and companies' annual reports. Results show that sustainable relationships with partners in the upstream supply chain impact the financial performance of companies in different ways, depending on the characteristics of each sector. The findings of this research have financial, ecological and social implications as they can help companies understand the importance of having an efficient supply chain while being environmentally and socially responsible.

Keywords: Supply chain; CSR; sustainable supply chain; sustainable supply chain management; financial performance; multiple linear regression.

INTRODUCTION
Faced with the challenges of the escalating global competitiveness, companies must absolutely have an efficient supply chain (SC). However, with the emerging issues such as environmental protection, firm transparency, employee benefits and security concerns, firms need to transform their SC models. Instead of focusing solely on economic performance, they need to build environmentally friendly supply chains to reach harmony with nature (Hong and al., 2018). In this perspective, pressure forces companies to integrate socially responsible practices not only in their own operations, but also in their relationship with all stakeholders, especially with suppliers (Fernandez, 2020) in the upstream SC.

Corporate social responsibility (CSR) refers to a company's responsibility to implement sustainable practices. Nowadays, sustainability is seen as a measure of expectations that society has of organizations in different areas. The implementation of sustainable practices has an impact on the environment, society and on the economy. This question is practically important to industry since they have put significant investment in environmental and social practices over the past 20

years. Sometimes the adoption of these practices is due to external pressures, regardless of whether these practices pay off or not (Zhu and Sarkis, 2007).

In the Supply Chain Management field, the relationship between sustainable supply chain management (SSCM) practices and corporate performance has been the subject of numerous studies in the past years. Some reject the idea of sustainable supply chains because it has no impact on companies' performances (Min and Galle, 1997 ; Zhu et Sarkis, 2007), and implies an obligation to society and future generations beyond that stipulated in legal requirements of companies. Others, on the other hand, defend the importance of SSCM practices and their contribution to the overall performance of companies (Wang and Sarkis, 2013 ; Ortas and al., 2014). Therefore, firms implement the SSCM process not only for the sustainable management of their own, but also for the management of all the supply chain members. Supply chain core enterprises should improve environmental and social performance by internal as well as external SSCM to avoid and minimize the negative impact of the supply chain members in environmental and social responsibility (Wang and Dai, 2018).

In this regard, many companies are now adopting SSCM practices. World leading firms have already launched all kinds of SSCM practices to improve their sustainable advantages (Hong and al., 2018). For example, Unilever implemented one project named "The Unilever Sustainable Living Plan" in 2010 which had improved the health conditions of nearly one billion people. It reduced the impact on environment and achieved purchasing 100% agriculturally sustainable raw materials and packages. Apple Inc. promoted supplier supervisory mechanism such as "Apple Supplier Conducting Code" and "Supplier Responsibility Standard" (Du, 2012).

We found that most of the research dealing with SSCM has been done in developed countries (Shokri and al., 2014; Varsei and Polyakovskiy, 2017). However, research in developing countries is very limited given the reluctance of compagnies to implement SSCM practices (Silvestre, 2014). Therefore, improving sustainability of supply chains in developing countries bears significant values to the entire world as these are more developing countries (Hong and al., 2018).

Expanding on these limitations, we seek further understanding of the effects of SSCM practices in other contexts that are different from those in developed countries. This paper focus on Morocco, the fastest developing country in North Africa. The logistics sector in Morocco has experienced a remarkable leap in recent years, as testified by the advances made by public and private bodies (Mir and Balambo, 2019). Given the scarcity of SSCM research in Africa and in developing countries, we consider Morocco as a suitable field of research given the efforts that have been made over the past ten years to modernize its logistics sector. The progress made has prompted several largest manufacturing compagnies to relocate their industrial activities to Morocco.

The purpose of this study is to examine whether SSCM practices are associated with compagnies' financial performance in the Moroccan context, especially in the upstream supply chain which includes the relationship between the order clerk and his suppliers.

A sample from the top 45 Moroccan industrial compagnies based in different cities is used. These compagnies are listed on the stock exchange and rated by Vigeo Eiris regarding their environmental, social and governance (ESG) practices. The financial statements and the cash flow table appearing in the companies' annual reports in association with the ESG ratings of Vigeo Iris are used for a quantitative empirical analysis. This empirical study will analyze the data through multiple linear regression model.

This research targets three types of industries: the automotive industry, the pharmaceutical and biotechnology industry, and the beverage industry. The implications of this research are to provide Moroccan industrial companies with evidence on the relationship between SSCM practices and the resulting gains, and that managers should be patient to reap the benefits of these initiatives. On one hand, the results of this study illustrate that sustainable upstream supply chain practices are not linked to companies' liquidity, solvency, or even financial efficiency. Nevertheless, they have a positive impact on profitability and on market value. On the other hand, the results show that this impact differs from one industry to another.

The remainder of this paper is organized as follows. Section 2 summarizes the previous literature on relationship between financial performance and SSCM practices and develops the research hypotheses. Section 3 discusses the sample selection and research methods. Sections 4 present the research results and discuss the implications. The paper ends with a summary of theoretical contribution, managerial implications, limitations and future research.

LITERATURE REVIEW

Sustainable Supply Chain Management

Nowadays, sustainability is seen as a measure of society's expectations of organizations in different areas. It is becoming more and more important for our planet as it is for all companies. According to Eco Canada (2021), adopting sustainable practices has a huge impact on the environment, on society and on the economy. It is true that sustainability finds its origins in the responsible use of natural resources, but it has gained popularity in terms of sustainable development and social equality. Bradford and al. (2017), point out that sustainability is not just about the environment. Sustainability is in fact a "three-legged stool" that includes economically, environmentally, and socially responsible activities.

A SC is made up of interdependent actors who can influence the reputation and performance of each other. Consequently, firms have understood the importance of working in collaboration with their partners to improve their performance. As companies today recognize the social, ethical and

environmental strengths of their SC, the need to develop sustainability strategies that extend beyond the borders of their entities becomes vital (Keating and al., 2008).

Seuring and Müller (2008) explain the difference between SC and Supply Chain Management (SCM). They state that SC include all activities related to the flow and transformation of goods from raw materials to the end user, as well as the associated information flows, while SCM aims to integrate these activities through enhanced partner relationships to achieve a sustainable competitive advantage.

The integration of sustainable practices in SCM gave rise to the concept of SSCM. It is defined as the set of skills and leverages that allow a company to structure its business processes to achieve sustainable performance (Eduardo Ortas and Moneva, 2014). It is also defined as the cooperation between all companies within the same SC for the purpose of optimizing physical, information and financial flows while considering the economic, environmental and social dimensions of sustainability. This must be done while maintaining competitiveness and meeting the needs and requirements of stakeholders. (Seuring et Müller, 2008). These definitions imply that firms adopt programs to improve the environmental and social impacts on their internal processes and initiatives to improve the impact on their suppliers' and customers' processes (Elcio and Wong, 2014).

The integration of SSCM practices is a pressure that's becoming increasingly strong every day, especially from external stakeholders such as suppliers, customers, shareholders, governments, non-governmental organizations (NGOs) and public authorities. This pressure originates from many pervasive environmental and social issues facing the world, namely climate change, biodiversity loss and child labor. Indeed, SCM involves major operations, such as material acquisition, manufacturing, warehousing, packaging, transportation and recycling, all of which can lead to negative environmental and social impacts if not managed appropriately. In addition, the responsibility of balancing the three dimensions of sustainability (social, environmental and economic) of SCM has become more complex with the introduction of environmental regulations such as the Carbon tax as well as standards and reporting frameworks such as ISO 14000, SA 8000 and Global Reporting Initiative (Varsei and al., 2014).

Moreover, we cannot talk about SSCM without evoking the concept of purchasing social responsibility which refers to the involvement of the purchasing function in SSCM. Purchasing social responsibility has five major interrelated dimensions: diversity, environment, safety, human rights and philanthropy (Carter and Jennings, 2004). A lot of authors address the concept of purchasing social responsibility as it represents one of the most important dimensions of SSCM, and aims to reduce exposure to potential risks by requiring a set of standards that suppliers must meet. (Keating and al., 2008).

SSCM is also linked to the green supply chain management (GSCM). Manufacturing organizations have begun to implement GSCM practices in response to customer demand for products and services that are environmentally sustainable and that are created through environmentally sustainable practices and in response to governmental environmental regulations. These practices require that manufacturers work in concert with suppliers and customers to enhance environmental sustainability (Green and al., 2012).

In the literature, the most important environmental concerns include greenhouse gas emissions, waste generation, energy and water consumption, and the use of hazardous and toxic substances (Varsei and al., 2014). Regarding social performance indicators, there are four main social dimensions: working conditions, human rights, community involvement and products' safety. (Varsei and al., 2014).

Financial Performance

Financial analysis is used to assess companies and determine their performance by taking an in-depth look at their financial statements, income statements, balance sheets, and cash flow statements (Tuovila, 2021). Assessing the financial performance can be carried out using either the absolute performance in terms of operating scale or the relative performance represented by financial ratios (Katchova and Enlow, 2013). In fact, financial ratios are derived from financial statements and can be used to compare between different companies or to understand a company's historical performance (Tuovila, 2021). Relative financial analysis helps to assess and analyze the financial position and progress of an entity, and includes five main categories of ratios, namely profitability, liquidity, efficiency, solvency and performance in the market. (Katchova and Enlow, 2013, Ahrendsen and Katchova, 2012).

- Profitability ratios

Long-term profitability is vital for the survival of all businesses and for ensuring that adequate profits are received by shareholders (Katchova and Enlow, 2013). Profitability ratios are a class of financial analysis used to assess a company's ability to generate profit taking into account its revenues, operating costs, assets, or equity. Gross profit margin and net profit margin are the most widely used ratios to measure profitability (Hayes, 2021).

- Market ratios

Market ratios are widely deployed in fundamental analysis. The most common one is earnings per share (EPS) which estimates the value of a company by indicating how much money it makes for each share. (Fernando, 2021).

- Liquidity ratios

Liquidity ratios measure a company's ability to repay short-term debts. This can done by comparing the most liquid assets (those that can easily be converted into cash) and current liabilities (Katchova and Enlow, 2013). Liquidity ratios include the current ratio, quick ratio, and operating cash flow ratio. (Hayes, 2021).

- Efficiency ratios

Efficiency ratios measure a company's ability to use its assets to generate income. They often look at various aspects of the business, such as how long it takes to collect money from customers or how long it takes to convert inventory into cash. (Kenton, 2021).

- Solvency ratios

Credit ratios are a key metric used to measure a company's ability to meet its long-term debt obligations. The greater the amount of debt held by a business, the greater the risk of bankruptcy. The main solvency ratios are the debt ratio, the interest coverage ratio, the equity ratio and the debt to equity ratio (D / E) (Hayes, 2021).

The Impact of SSCM Practices on Financial Performance

Investigating the relationship between sustainable practices and financial performance is not a recent area of study. For more than 45 years, empirical research has been carried out to study this relationship (Margolis, Elfenbein and Walsh, 2009). Regarding the study of this link in supply chain management, Min and Galle (1997) found that SSCM practices, especially the environmental aspect, reduces the financial performance of companies. They identified different costs, including those arising from environmental programs such as recycling and uneconomic reuse. In 2007, Zhu and Sarkis also found that SSCM negatively impacts the financial performance of industrial companies, but in a different way. Indeed, they found that the pressure that comes from stakeholder improves the SSCM performance but reduces financial performance at the same time.

Unlike the previous findings, Friedman (2007) found that CSR could be used as an opportunity to strengthen the existing competitive advantage of companies. Keating et al. (2008) confirmed this idea by showing that a SSCM practices improve the reputation and, therefore, the overall performance of companies. They found a close relationship between reputation and expectations of the main players in the supply chain. To reach this conclusion, Keating et al., (2008) developed a questionnaire containing 137 questions that capture information on supplier management policies and systems in the areas of governance and ethics, work standards, community involvement, environment, and market management.

According to Handfield and al., (2005), environmental management of supply chains involves the introduction and integration of environmental issues and concerns into SCM processes by auditing and evaluating the environmental performance of suppliers. In fact, intense global competition obliges companies to constantly seek new ways of thinking and improving their business. Thus, environmental initiatives and SCM go hand in hand as they make companies more efficient. For example, environmental supply chain management requires finding innovative ways to reduce waste and its associated costs, while maintaining a flexible business strategy and improving market position (Handfield et al.,2005).

In 2013, Wang and Sarkis focused on the impact of environmentally and socially responsible practices in SCM on financial performance. In their empirical analysis, a sample of the top 500 US companies were used. They found that SSCM's integrated efforts, including social and environmental SCM, are positively associated with companies' profitability.

Ortas et al., (2014) conducted an empirical study which confirmed the results of Wang and Sarkis. They used causality tests on a sample of 3,900 companies over an eight-year period to study the relationship between the performance of sustainable supply chain and the financial performance of companies. The results indicated a general two-way causality between SSC performance and firms' margins and revenues. Therefore, they concluded that the SSCM practices has a positive impact on profitability. Nonetheless, great diversity in the patterns of this relationship emerges when the sample is divided into different geographic regions and economic sectors.

Shahi, Shiva et Dia (2020) conducted a more recent study which disproved the findings of several researchers, like Min and Galle, who previously believed that SSCM practices increases costs, mainly those coming from environmental programs. The aim of the study was to explore the link between SSCM practices and business performance in the Indian textile industry by focusing not only on internal sustainability initiatives in the SC, but also on upstream and downstream sustainable practices and relationships with suppliers and customers. The results showed that an integrated approach to SSCM practices improves business performance in terms of sales and net profit.

Regarding the impact of green supply chain management on financial performance, Rao and Holt (2005) demonstrated a link between green supply chains and economic performance. They also found that GSCM practices led to competitiveness and better economic performance. Klassen and McLaughlin (1996) studied the effect of announcements of winning environmental awards by the organizations on stock prices. They found evidence that the market valued such recognition and duly awarded the firms with increased valuations as reflected by higher stock prices.

The purpose of this research is to investigate the impact of SSCM practices on the financial performance of industrial companies. The literature supporting a positive impact of the sustainability of supply chains on financial performance refers to a large part of researchers and specialists in this field. However, there is another class of researchers who have demonstrated a negative impact, or who have affirmed that there is no relationship between SSCM practices and financial performance.

In light of this debate, we will test two hypotheses as part of our Empiric investigation.
Hypothesis H0: The sustainable upstream supply chain practices don't have any impact on financial performance

Hypothesis H1: The sustainable upstream supply chain practices have an impact on financial performance

METHODOLOGY

Variable measurement

The model is structured into two sections, namely, sustainable upstream supply chain practices and financial performance.

Three dimensions and twenty-one items for measuring sustainable upstream supply chain were adopted from the Vigeo Eiris' rating system. Vigeo Eiris (VE) is an international social, environmental and corporate governance (ESG) research and rating agency founded in 2002. Using a meticulous methodology, VE is specialized in evaluating companies according to various ESG criteria and specifications linked to sustainable development.

Regarding the evaluation of sustainable upstream supply chain practices according to the VE's scoring system, the model shows the three main dimensions including sustainable relationships with suppliers, integration of environmental factors in the upstream SC and integration of social factors in the upstream SC. Each dimension includes the same measurement items which are: (1) visibility of engagement, (2) relevance of the engagement, (3) ownership of commitment, (4) measures implemented to manage relationships with suppliers, (5) coverage of the measures implemented, (6) stakeholder comments, (7) transparency and trends in indicators relating to engagement results.

All Measurements use VE's scores, these scores measure the degree to which companies consider and manage important environmental and social factors. Companies with higher ESG scores are stronger in managing relationships with their stakeholders. They are also less exposed to experience business disruptions or miss out opportunities due to the inability to consider and meet the expectations of their stakeholders.

For confidentiality reasons, we are not allowed to present the entire model. We have just put a few items with some of the associated scores (Appendix 1).

We have also adopted six items to measure financial performance which are:

- VD1: Gross profit margin
- VD2: Net profit margin
- VD3: Earnings per share
- VD4: Current ratio
- VD5: The turnover of net assets
- VD6: Debt ratio

These items are extracted from the financial statements and the cash flow table appearing in the companies' annual reports.

Data

This study collected Data from compagnies rated by Vigeo Eiris. We eliminated companies that had not been in operation during the years of interest, so as not to have a compromised sample. Also, we made sure that the businesses existed at least four years prior to the interest period. Data for 45 companies were collected. However, they cannot be disclosed for confidentiality reasons regarding to the data provided by Vigeo Eiris. The financial statements and the cash flow table appearing in the companies' annual reports are used to extract the data needed to calculate the financial ratios. We specify that all companies are listed on the stock exchange, which made it easier for us to collect public financial data appearing in their financial documents.

This research focuses on the specific case of three industries: the automotive industry, the pharmaceutical industry and the beverage industry. The industrial sector, chosen as the target of investigation, is a market that combines different supply chain activities, namely procurement, production, storage and transport, to produce material goods for the market. The period chosen is 2019 to 2020 (corresponding to fiscal years 2020 to 2021). The choice of listed companies will allow us to obtain all the necessary financial data.

Multiple Linear Regression

According to Leung Hui et Fun Ng (2009), statistical regression is an analysis model used for analyzing and modeling dependent variables as a function of one or more independent variables. The simplest form of regression is linear regression, which is a popular and widely accepted method for building predictive models. The application of regression analysis and multivariate techniques has been used in order to understand the relationship between the extreme values of a particular domain and other variables (Venkataraman, et al. 2019). Regression allows us to estimate how a dependent variable changes as the independent variables change. Multiple linear regression is a technique used to model the linear relationship between explanatory (independent) variables and the response (dependent) variable.

RESULTS

In order to perform the linear regression, we set an alpha value of 0.05. Therefore, coefficients with a p-value of 0.05 or less would be statistically significant (we can reject the null hypothesis). The R-squared and adjusted R-squared values tell us what percentage of the variance in the response variable is explained by our regression model. In academic research, R-squared values of 0.75, 0.50 or 0.25 can, as a rule, be described as substantial, moderate or low, respectively. The tables 1 and 2 show the results of the R-squared and the f-test values for each of the 18 regression models (Appendix 2).

Table 1. R-squared values of the 16 regression models

	VD1	***VD2***	***VD3***	***VD4***	***VD5***	***VD6***
Automobile	88,9%	83,9%	87%	30,6%	0,6%	20,9%
Pharma. & biotech.	58,8%	81,8%	92,7%	30,2%	28,5 %	3%
Beverage	73,9%	80,5%	80,4%	26,2%	47,1 %	30,7%

Table 2. F-test values of the 16 regression models

	VD1	***VD2***	***VD3***	***VD4***	***VD5***	***VD6***
Automobile	0,0000	0,0001	0,0000	0,2417	0,9955	0,4415
Pharma. et biotech.	0,0173	0,0002	0,0000	0,2477	0,2486	0,9493
Boissons	0,0015	0,0003	0,0003	0,3225	0,0628	0,2408

We observe low R2 values associated with VD4, VD5 and VD6 for all three industries. As a result, we can say that a small percentage of the variance of the current ratio, net asset turnover and debt ratio is explained by our regression model.

The F test gives values greater than 0.05 for VD4, VD5 and VD6 associated with each industry. As a result, we can say that this does not indicate statistical significance and can conclude that the R squared of the population is zero.

The empirical results show us that VD1, VD2 and VD3 are statistically significant regression models. From there we will calculate their t and p values. Indeed, to test the statistical significance of each of the regression coefficients, we form a ratio of these coefficients to their associated standard error, which gives the t-values and the p-values corresponding to the test (Tables 3, 4 and 5). Knowing that we have a two-tailed test, the null hypothesis is that the population regression coefficient is zero and the alternative is that it is different from zero with Alpha equal to 0.05.

By taking alpha at the threshold of 0.05, we can say that the coefficients are statistically significant if the value in the t-test column is less than 0.05. These are the values highlighted in blue (Tables, 3,4,5).

Table 3. Regression Table (Automobile Industry)

	VD1		***VD2***		***VD3***	
	Coefficient	*t-test*	*Coefficient*	*t-test*	*Coefficient*	*t-test*
C&S2.2	0,000064	0,745	-0,0016097	0,731	0,0112923	0,342
C&S2.3	0,0007171	0,012	-0,0003331	0,678	0,0683096	0,001

C&S2.4	0,0007204	0,011	0,0039222	0,000	0,0028538	0,841
Constant	-0,241548	0,007	0,0839398	0,005	-1,540533	0,004

Table 4. Regression Table (Pharmaceutical Industry)

	VD1		***VD2***		***VD3***	
	Coefficient	*t-test*	*Coefficient*	*t-test*	*Coefficient*	*t-test*
C&S2.2	-0,0035374	-0,82	0,0088531	0,25	-0,002963	0,863
C&S2.3	0,0040733	0,48	0,005701	0,84	0,0625115	0,086
C&S2.4	0,008246	0,87	0,0050693	0,67	0,0391304	0,312
Constant	-0,2748782	0,071	-0,0919289	-0,84	-2,068227	0,003

Table 5. Regression Table (Beverage Industry)

	VD1		***VD2***		***VD3***	
	Coefficient	*t-test*	*Coefficient*	*t-test*	*Coefficient*	*t-test*
C&S2.2	0,0024904	0,049	0,0019054	0,241	-0,0367971	0,03
C&S2.3	0,0040699	0,143	0,0096034	0,020	0,0553073	0,130
C&S2.4	-0,0007021	0,802	-0,0013561	0,724	0,0815846	0,044
Constant	-0,0638559	0,387	-0,0160197	-0,872	-2,068227	0,003

Based on the results obtained, we can conclude which of the financial ratios are impacted by integrating sustainability in the upstream supply chains. On the one hand, we can say that having sustainable relationships with suppliers has a positive impact on the profitability of companies in the automotive industry. We notice also that the integration of environmental factors in SC affects positively the profitability of companies, as well as the market value of automotive companies. All these results confirm the findings of the authors (Wang and Sarkis, 2013; Ortas and al., 2014; Shahi, Shiva and Dia, 2020) who confirmed, following many studies that SSCM practices are positively associated with compagnies' profitability. These empirical results are also in agreement with the conclusions of the authors (Rao and Holt, 2005) who have demonstrated a positive link between green supply chain practices and economic performance in general. When it comes to the beverage industry, market value is enhanced by integrating social factors into the SC. Then, we confirm the results of (Keating et al., 2008) who found that supplier management policies has a positive impact on Market value.

On the other hand, the results show no relationship between financial ratios and the sustainability of SC for companies in the pharmaceutical industry. These results may be aligned with the comments of (Min and Galle, 1997 and Zhu et Sarkis, 2007) who found that SSCM practices

reduce the financial performance of companies given the costs generated by environmental programs.

All in all, we can sum the results of our regression models by saying that financial performance is impacted in different ways by having sustainable relationships with suppliers and integrating environmental and social factors into the supply chain. In addition, it is important to note that the industry plays an important role in this impact.

CONCLUSIONS

SSCM practices refer to the commitment of companies to practice environmental and social sustainability and to be good stewards of the environment and society. The study of the relationship between this commitment and overall business performance is an area of research that has existed for many decades. Recently, the increase in the number of suppliers worldwide and the complexity of SCs has prompted academics, researchers, managers and others to study not only the level of sustainability of companies separately, but globally within their SCs. Indeed, SSCM is the collaboration between companies that are part of the same SC to share, understand and work together to solve environmental and social problems.

Numerous studies have been carried out to study the relationship and the level of impact that SSCM practices have on the financial performance of companies. Some researchers have shown that SSCM lead to unnecessary additional costs that reduce profits, and therefore business performance. Other researchers disagree with this assertion by showing how SSCM can promote values, which ultimately improves customer satisfaction and gives business partners a reason to trust each other and, thus, improves competitive advantage and businesses profits.

In order to locate which of the two hypotheses is closest to reality, an empirical study was carried out using a statistical technique, multiple linear regression. The sample used was a mixture of 45 companies across 3 different sectors: automotive, pharmaceutical and beverage. We used the scores that measure the environmental and social factors of the sustainable supply chain of Vigeo Eiris. Six different financial ratios were calculated from data extracted from annual reports in order to assess the financial performance of these companies.

The results of this empirical study show that sustainable relationships with suppliers and the incorporation of environmental and social sustainability positively impact only two indicators namely profitability and market value of companies. However, we have found that the impact differs from one industry to another. Since in some cases, sustainable SCs have a positive influence on certain aspects of financial performance, companies are encouraged to establish sustainable relationships with their suppliers in order to promote environmental protection and social values.

Regarding the limitations of this study, it can be noted that the generalization of the results might be discussed because the sample is small. We could not extend the sample to more than 48 companies since the data transmitted by Vigeo Iris is limited to 48 companies. Nevertheless, although the sample is small, it only includes large industrial companies which are listed in stock exchange. These companies have all deployed SSCM practices and can afford to allocate a budget for sustainable SC, but this is not always possible for small and medium-sized companies. These elements could give great value to the results obtained.

Finally, to generalize the results of this study, we intend, in the context of future research, to adopt a scientific measurement scale to measure sustainability of the supply chains of Moroccan companies and to target a large sample of small and medium-sized companies from different sectors of activity.

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APPENDIX 1

Dimension 1: Sustainable Relationships with Suppliers

Visibility of engagement

Score1: No information or commitment to build sustainable relationships with suppliers.

Score 2: The company made reference to building sustainable relationships with its suppliers in its reports.

Score 3: The company is formally committed to establishing sustainable relationships with its suppliers.

Score 4: The company is formally committed to establishing sustainable relationships with its suppliers and to setting specific objectives.

Ownership of commitment

Score1: No information or no commitments / It is not clear who is responsible for the commitment of the company or to which parts of the company it applies.

Score 2: The commitment applies to the whole company, supported by the general management.

Score 3: The commitment applies to the whole company, supported by the general management. In addition, other employees are directly involved.

Score 4: The commitment applies to the whole company, supported by the general management. In addition, other stakeholders are involved.

Dimension 2: Integration of environmental factors with suppliers

Relevance of the engagement

Score 1: No information / No commitment

Score 2: The company's environmental requirements for suppliers are general and refer only to applicable laws or company environmental policies. Or: The company's environmental requirements vis-à-vis suppliers only address some of the relevant issues in the sector.

Score 3: The company's environmental requirements vis-à-vis suppliers meet the main relevant issues of the sector.

Score 4: The company's environmental requirements for suppliers address all relevant issues in the sector.

Implementation:

Score 1: No information / The company has not put in place significant measures to include environmental factors in the management of SC.

Score 2: The company has put in place measures to include environmental factors in the management of its SC.

Score 3: The company has implemented significant measures to include environmental factors in the management of its SC.

Score 4: The company has implemented many measures to include environmental factors in the management of its SC.

Dimension 3: Integration of social factors with suppliers

Coverage "coverage"

Score 1: No information / The company has not implemented significant measures to include social factors in the management of its CS.

Score 2: The company has allocated such measures to suppliers representing a limited part of the purchases / suppliers of the company.

Score 3: The company has allocated such measures to suppliers representing a significant portion of the company's purchases / suppliers.

Score 4: The company has allocated such measures to suppliers representing a significant portion of the company's purchases / suppliers as well as to indirect suppliers.

Implementation:

Score 1: No information / The company has not implemented significant measures to include social factors in the management of its CS.

Score 2: The company has implemented measures to include social factors in the management of its SC.

Score 3: The company has put in place important measures to include social factors in the management of its SC.

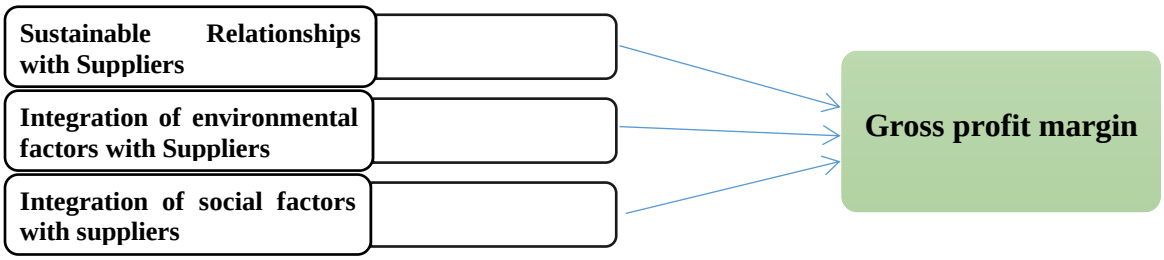
Score 4: The company has extensive measures in place to include social factors in the management of its SC.

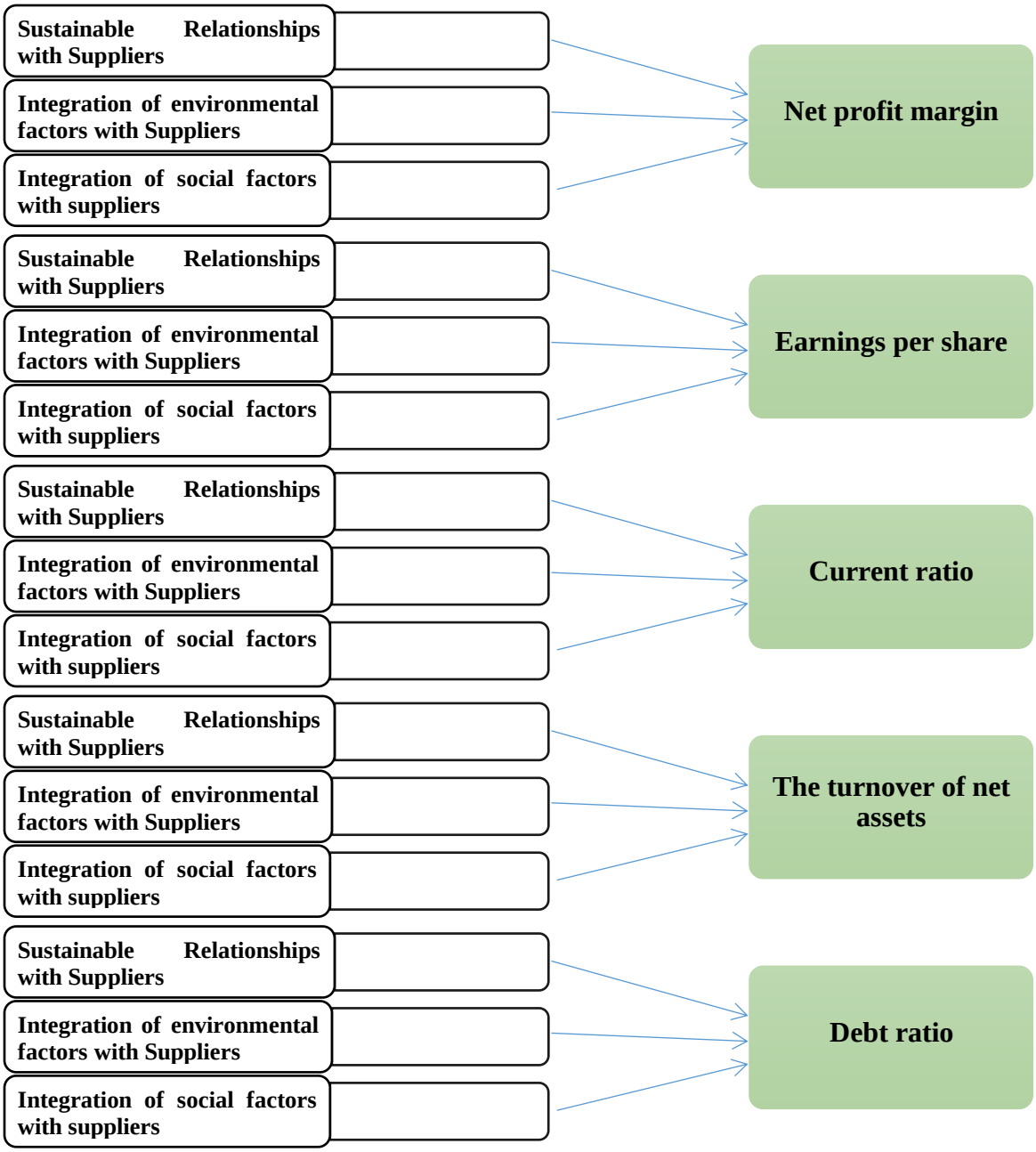
Financial Performance Measurement

Regarding the measurement of financial performance, we use the following ratios:

- VD1: Gross profit margin
- VD2: Net profit margin
- VD3: Earnings per share
- VD4: Current ratio
- VD5: The turnover of net assets
- VD6: Debt ratio

APPENDIX 2




Sustainable Relationships with Suppliers
Integration of environmental factors with Suppliers
Integration of social factors with suppliers
Net profit margin
Sustainable Relationships with Suppliers
Integration of environmental factors with Suppliers
Integration of social factors with suppliers
Earnings per share
Sustainable Relationships with Suppliers
Integration of environmental factors with Suppliers
Integration of social factors with suppliers
Current ratio
Sustainable Relationships with Suppliers
Integration of environmental factors with Suppliers
Integration of social factors with suppliers
The turnover of net assets
Sustainable Relationships with Suppliers
Integration of environmental factors with Suppliers
Integration of social factors with suppliers
Debt ratio