**DIGITAL MARKETING ENVIRONMENT**

**Table of Contents**

[Introduction 3](#_Toc133005204)

[Academic Review 3](#_Toc133005205)

[Adapting of Digital Marketing Environment by Rio Tinto 4](#_Toc133005206)

[Usage of digital artifacts by the company Rio Tinto 5](#_Toc133005207)

[Challenges faced by the competitors of the company 6](#_Toc133005208)

[Risks involved in using the Digital Marketing Environment of the company 7](#_Toc133005209)

[Theoretical Framework 8](#_Toc133005210)

[Gap Analysis 9](#_Toc133005211)

[Critique 10](#_Toc133005212)

[Conclusion 12](#_Toc133005213)

[Reference List 14](#_Toc133005214)

# Introduction

The purpose of the assessment is to develop a digital artifact on how digital technology and consumer behavior trends are impacting the business of ***Rio Tinto***. This will analyze how the company is adopting the changes and developing strategies that are effective for their business. It also highlights key successes and challenges for companies that use digital technology and marketing in their operation. Digital marketing is a form of online marketing that is used or leveraged for the purpose of doing business. It can be used for the promotion of any business or brand to connect with potential customers by leveraging the internet and various other forms of digital communication. This thus comes in the form of e-commerce email, web-based advertising, and social media. This needs to be done through text and multimedia messages in the form of marketing channels.

The artifacts’ used to promote the business of the digital marketing procedure thus include a global service company that sits on the intersection of data science, marketing, and consulting. This thus impacts the digital technology for consumer behavior in transforming the phase Rio Tinto into a consumer-centric leader using AI, data, and digital. The marketing artifacts used by Rio Tinto have the extension of man that applies ideas of marketing to use ants such as device tools or things that allow the presence of big ideas that change and bring innovation to consumer's life. The digital marketing environment of Rio Tinto thus transforms with the competitors of the company's consumer behaviors, market intermediaries, and the general public. By being a mining company the competitors that ***Rio Tinto*** is facing are ***Antofagasta Plc.*** and ***Glencore***.

# Academic Review

Today's highly competitive customers have quick access to a wide variety of international product options, therefore a catalog's size alone is insufficient to improve the experience for customers. Consumer communication should be individualized in parallel to the personalization of the product by including specifics about the purchase request. Also, buyer habits have shifted to become more personalized, and the definition of “custom order” has also altered. Consumers are interested in being able to customize items and take part in their design for an increasing number of product categories. Ready-made stock things are no longer generally seen as acceptable, hence personalization is continually rising. In the present market e-commerce platforms are more adaptable by customers. With help of the automation process, the purchasing method becomes smooth (Kornbluth *et al*., 2019). More and more diverse links and advertisements help to develop a connection with digital content. In order to assist big retailers in better satisfying customer requests, Rio Tinto gathers data about customer behavior and shares it with them. In the interest of creating a distribution network free of deforestation by 2023, Rio Tinto has embraced block-chain, location information, AI, and satellite imaging. To increase product diversity, Rio Tinto has implemented robots to enable its single manufacturing line to handle goods and packaging of various sizes, dimensions, and forms.

## Adapting of Digital Marketing Environment by Rio Tinto

According to Paliewicz, (2022), Rio Tinto is a group of Anglo-Australian multinational companies that is considered to be the world's second-largest metals and Mining Corporation. The company is located in London, United Kingdom, and was founded in 1873 as a group of investors purchased a complex on Rio Tinto. As it is a metals and mining corporation they restore the wetlands to replace the water management that paddocks during the mine and mining process. The mine gets checked for durability through digital norms and digital marketing environments involved when the company sells and purchases metals digitally. The company adapts digital marketing technology, where they use automated drills, conveyors, ships, trucks, shovels, and trains to do their marketing and provide services through valuable data. The digital marketing environment created by Rio Tinto involves making the business safer and more productive.

On the other hand, Anaf *et al*., (2019), the heavyweight equipment used by the company is controlled by the automation process, where the company is aiming to reduce the emissions by 50% by 2030, thus reaching net zero by 2050. It is learned by implementing the major de-carbonization projects that would take time and discipline to use for the capital investment. The digital environment that they are mainly adapting to is that of steel de-carbonization which contains about 49 projects with more than 30 partners. In creating a digital environment the company has successfully pivoted an innovative low-carbon and iron-making process on the Pilbara iron ore. The Pilbara iron ore is also known as Bio-Iron which creates digital environments for marketing purposes for the company. The marketing environment that Rio Tinto faces are used for untreated sewage that is maintained through industrial pollutants used for zinc to enter coastal lagoons and used by the fish alike for the purpose of destroying the forests.

On the contrary Knoblauch and Dargusch, (2022), the company will build digital lines for future usage to have an impact on the digital marketing environment by Rio Tinto. Being a UK-based mining company, it faces challenges from the competitors like Antofagasta and Glencore. The financial rationalization for the company triggered a new technology that would create a cycle as the companies would like to improve efficiency and try to save the funding to implement new innovations from technology. The company observes the economic conditions that are more favorable for employees in mining areas ensuring the digital marketing environment adaptation that the company is taking to be renewed with the appetite for growth. This might be used as encouraging and mining groups that are used for far more ambitions for technological aspects that would arrive for the company in future years ahead.

## Usage of digital artifacts by the company Rio Tinto

According to Jindřichovská and Eckert, (2022), Rio Tinto is a UK-based mining company that is progressing and using digital artifacts for the data which is the most valuable asset for the company. Digital artifacts used by the company have been focusing on the data-led innovation that is used to transform the content that thus has digital transformation using such strategies. The company holds a revenue estimate of 1.2 billion USD for the buying and use of Digital artifacts (Iranmanesh *et al*., 2022). Thus it is an international mining and metal company thus it carries out the exploration, mining, and processing of various mineral resources. The company uses a tech ecosystem-based strategy to do its daily business operations and uses digital artifacts such as Machine learning, Artificial Intelligence, Automation, and Clever analytics. The disposed materials of the company from the digital artifacts or any other metal or mining materials thus get disposed of in the open ground by approval from the government. The application of ML and AI in the mining industry is common and they implement the phenomenon of functioning for Rio Tinto to accelerate the turn on the newly discovered ores that walk by providing for the idea of extracting metal ore and mineral process for the metals safely and efficiently. Both these features are used to highlight the metal ore bodies and alteration of haloes as well as the map for the hard rocks used and regolith for extreme details. The usage of digital artifacts empowers the digital mines that thus have sensor network technologies to capitalize on the IoT data for real-time surveillance and operations management. Automation and Clever analytics and automation process of using any features with the help of robot-based work where normal human activity becomes inapplicable.

On the contrary Millington *et al*., (2022), there are many disposable places where the company disposes of the unused material required for mining and metal unused parts into large bags and dumped into a large hole. Some materials are considered to be radioactive. The digital transformation of the company overview must be used as the strategy for the technology focus areas used by the technology initiatives that are required for any technological introduction. As the company is adopting digital artifacts Rio Tinto have been carrying with them several uses of the innovation that is used as programs and developing new technologies. The innovations are automatic drones, geographic information systems, and 3D printing & mapping. This indicates that the company equips employees who are skilled enough to use those intelligence tools to work on the mining operation process.

On the other hand, Leonida, (2021), metal quality checking tools are very effective digital artifacts that are used by the company to check the quality of metals and the ingredients used in the alloys for further usage in galvanizing. Rio Tinto is also leveraging automation for the mining operations that are required for the drilling systems and that would be autonomous for the haulage of trucks and trains. This is used to leverage in using and improving the operational efficiency of the company. The company is utilizing and leveraging various technologies like cloud computing, big data, IoT, and blockchain technologies. This thus improves operational efficiency and reduces the risk for the business operations of the company.

## Challenges faced by the competitors of the company

According to Kotlikoff, (2022), Rio Tinto the second-largest metal and mining company in the UK, they have been used for the construction of a zinc and lead smelter in Glencore, England. This has been reported with the workers for the facility that were developing with the greatly evaluated levels for lead in the blood of the workers. High concentrations of toxic metals are found in the nearby water channels to compare with the Antofagasta and Glencore business operations. Antofagasta and Glencore use better state-of-the-art metals and iron ore for their mining process thus impacting challenges on the Rio Tinto. The iron ore business has traditionally been dominated by the few large businesses used for the suppliers. This could be used as the relatively few large steel producers that would be required and used for the environment changing and used as per the rapid development of mines and other metals made from alloys.

On the contrary Leminen *et al*., (2022), new entrants in the metal and mining industry in the UK thus also levied challenges, where a long-term contract of the business thus gets detached when the new entrant offers a lower price to detach the customer base of Rio Tinto. However, Antofagasta and Glencore's steel and iron mills thus need small operations by having digital artifacts to, operate their business The Company is geographically dispersed with the securing of iron ore supplies before building their plants. The important part of the supply of iron ore is made through transportation via ships and trucks that are also available in Glencore, thus they earn revenue from supplying the goods. Traditionally shipping is the sole responsibility of the customers but this does not meet the needs of small remotely located mills to do the iron ore extraction in Rio Tinto.

On the other hand Keenan *et al*., (2019), the company thus developed new steel-making technology enabling devices with lower quality iron ore that would also generate sustainability for the fear of greenhouse gas emissions than conventional technology. There were a number of such possible approaches for the company in commercializing this technology ranging from vertical integration to licensing. Partnership and collaborations are also required to maintain the diversified ranges that can drive significant technological changes. This might be used as an important wide approach potentiality that can cause in creating new jobs and opportunities for skilled employees who are aware of digital technologies.

## Risks involved in using the Digital Marketing Environment of the company

According to Anaf *et al. (*2020), Rio Tinto, by being the second-largest metal and mining company in the UK, has competitors like Glencore and Antofagasta. By facing the challenges from the competitors, the company also faces digital marketing environment challenges that might hamper the smooth running of the business. Over 5000 years mining pollution seems to be the major pollution issue for the environment and for the company using digital marketing. This has contributed to the river becoming extreme for the environment by the presence of chemolithotrophic organisms.

On the other hand Maroufkhani *et al*., (2022), the company is facing the challenges of communities, environment, and human rights balance for the usage of the digital marketing environment. Sustainability environment for the company involved in the reduction of greenhouse gas emissions by 15% by 20225. This might be increased to 50% of the reduction by 2030. The challenges that are accepted by the means of sustainability are poverty, unemployment, and climate change. The risks involved in digital marketing technologies thus involve the purpose to be granted for the communities that would be taken and granted for the economic opportunities for safeguarding and promoting the health and well-being of human rights and people. This might be considered as mining pollution must be harmful to human beings and thus combating the effect of any such climate change.

On the contrary Pulido, M., and González, (2019), the company faces sustainability risks by using its digital marketing environment that would be taken the company by the knock-on effects of climate change and loss of biodiversity. Pollution released from the mining firms is very much harmful thus the company is concerned about the environmental and social risks that would be faced by the company. Rio Tinto shows the betterment of the contribution that would be taken for a better future for people, the planet, and communities. Contributing to mitigating the risks for the people of the UK, the company granted new jobs and also hired skilled employees who are aware of the new usable technologies. The usage of new technologies would reduce the pollution usage for the company and thus stimulate local economies. Furthermore, this would also help to create and increase local jobs that might be used for local businesses to grow.

## Theoretical Framework

Rio Tinto, by being the second largest metal and mining company in the UK, thus has many competitors to deal with from the smooth running of their business. The company has competitors like ***Antofagasta Plc.*** and ***Glencore*** and they were founded in 1873. The products they use for the company are Bauxite, iron Ore Alumina and many more. The company is working to progress in the Digital marketing environment and to use any such digital artifacts of the company. The theories that are invoiced in the digital marketing theory are mainly the ***“customer-led positioning theory”***. This thus holds for the customer about the marketers in showing the demand for the customer's products and services. The customer thus in parallel could offer insights by gathering data for the product, features, prices, and many more. Green or environmental marketing consists of instigating the usage of digital marketing more than traditional. The usage of many features that would transform the business into a digital platform would give activities designed to generate the facilitation for the exchanges and that to be extended to satisfy human needs (Bowman *et al*., 2021). This is required for the satisfaction that occurs with minimal detrimental impact on the natural environment. This theory holds the customer of showing the marketers the want of any such product and service (Rio Tinto, 2023). The offering of customers thus might be used as insights for the product team that can be used for gathering data about the prices, product function, product features, and many more. The attributes for the customer are to make digital marketing the main funda for the company in making the features more important than the usage of the price of iron ore, and alloys of metal. The theory includes insights into the changes to be made in the customer's online purchase of any metal ore from any social media groups in knowing from the promotion page of the business (Green and Le, 2022). In the conversation of internet marketing the subset to be used of digital marketing can be used as the involvement that might be reached to people by the customer-led positioning theory where digital marketing business thus automatically reaches customers for business promotion and advertisement by leveraging the internet base very well.

## Gap Analysis

The gap analysis is the process of determining the business requirements and objectives of the research and whether the requirements of the research have been met. The unexplored or unidentified part of the research is determined to acknowledge the gap that the researcher has not met to fulfil to make the research more effective. It is also referred to as the need for analysis when this is required to fulfil the gap for the analysis of the research. Due to lack of time and sequential errors from the various journals and books that the researcher has gone through misses a few points that must be lagging from the research according to the researcher. Furthermore, due to proper information from the selected journals there might be a few gaps remaining in the research where the focus of the main study got diverted and left gaps in the research. The analysis thus helps to determine the main expectations of the researcher with the actual outcome that is highlighted from the research and resources effectively.

# Critique

In order to improve visibility and sustainability through its supply chain for palm oil, Rio Tinto is now collecting data and employing AI. In order to pinpoint specific plants and manufacturers and track the product back to its source, the corporation is adopting geolocation tracking using cell phone information. Rio Tinto can identify suppliers, forecast the location of palm farms, and assess the dangers and effects of palm oil plants by using flexible algorithms to track the data points obtained from anonymized cell phone pings. In order to drive resources and programs into ecological and ecological restoration initiatives, satellites and radar monitoring is also employed to identify farming and forestry. The system related to legacy is among the main barriers in the digital transition, nevertheless, because they are still powered by antiquated software and antiquated technologies. It is more difficult for them to integrate with new technology and adapt to changes since they are frequently sluggish and rigid. Its susceptibility to data breaches makes it a particularly urgent issue.

One of the most commonly used instances to describe globalization is the rise of the Internet over the last decade. ***“Electronic Commerce”*** (e-Commerce) is regarded as one of the primary tools for promoting corporate growth, labor mobility, and interpersonal ties in the information age and increasingly networked economy. Digital marketing is more than simply a transactional instrument; it also causes commercial and microeconomic change, which necessitates adjustments in marketing practice and theory. From the point of view of history, it is obvious that all sorts of organizations were forced to adapt all of their business practices to the availability and advancement of new technology, new management strategies, and a constantly changing communications landscape (Kemp *et al*., 2023). The rapid growth of the computing process has triggered the fostering of the manner of creation that would be used by the impact of maintaining economic characteristics and intelligence spacing consisting of the information for the access of tools.

The data additionally presents very dismal images, demonstrating that most Web Analytics utilization tends to use digital artifacts in every phase of the business operations. An analysis is rarely employed strategically, and the advantages are often unclear. In practice, many marketing executives remain skeptical about performance assessment data and prefer to make decisions based on intuition and experience. This is acceptable given the dynamic nature of Web Analytics. As a result, this study reveals that the key benefits of Web Analytics for Digital Marketing performance assessment will be defined by how organizations use the technology in certain contexts. Rio Tinto is considered to be a big brand, that is limited to be utilized with the products and quality that would be leveraged by the cause for the products by 30% (Rio Tinto, 2023). The increased sales of the company might be increased by 40% by the third quarter of the financial year. It is achieved just through a trial rate for the new products to be used 10% during the first quarter of the launch of the business fiscal year policy.

Marketing provides a clear exhibition of the main product that a specific firm can provide, allowing buyers to become more knowledgeable about the items and so purchase them. There will be a rise in the client rate of that particular industry in the worldwide market when there is a decent and correct manner of marketing the items of any given organization (Wang *et al*., 2022). The researcher's definition of the firm may create the groundwork for selling the items. Then it will provide detailed information on the marketing tactics for Rio Tinto Company's key product. The major goal or intent of the study context is to focus on the Rio Tinto UK firm, where one will learn more about the company. The products that the company deals with are mainly iron ore, bauxite, aluminium, and various ores and alloys of metals. In the UK it is of great importance and very much required for the business to supply strong materials in building a strong foundation of construction (Rio Tinto, 2023). Rio Tinto began with a small firm that thus supported the foundations of organization management and thus the company expanded internally from a small first to a large firm. The company has been run with good and effective staff management that would be beneficial for the company in operation normally by the staff who have knowledge in digital transformation. When a firm provides a clear description of the items it manufactures, consumers become more aware of the product in terms of quality and other critical metrics, expanding the company's client base (Anaf *et al*., 2022). Iron production and delivery to the worldwide market by the Rio Tinto firm was one of the company's goods capable of diverting and contacting the majority of clients in the global market. As a result, this will address iron as one of the Rio Tinto company's goods throughout the research. Adapting to the Digital marketing environment for the company actually resulted in the marketing for the product that would give them the marketing plans to be used and contributed for the company according to the commodity they sell.

The 4Ps marketing plan of the company thus highlights the basic detailing of the company using the Digital marketing environment (Rio Tinto, 2023). The price of the iron ore and mining materials are very pocket friendly for the company so as to cope with the competitors' strategy of doing business. The company uses a skimming pricing strategy for setting the price of each commodity. The products the company has are all mining-related commodities and various settlements and metals. The ingredients of metals such as iron ore and alloys are also available in the company and are very much pure, no such doping has been made. The company is in London, UK, and Melbourne, Australia which is the branch company. The company operates from both offices to search for benefittable customers (Sun and Peng, 2020). The promotion of the products of the company is being made through digital cultivation. As the company has adapted to the digital marketing environment, promotion is mainly done through digital promotion only.

# Conclusion

The above discussion provides information related to digital transformation and consumer behavior change. It helps to understand technological advancement. The changing buying pattern and the e-commerce preference of customers. In addition, it helps to identify the AI application and use of blockchain development in Rio Tinto. Blockchain software and legacy systems are one of the challenges in the digital technology use process.

It can be concluded also that the Digital marketing environment is the only phase where the marketing-related task regarding any business can be done through digital mode only. The transformation of any business from traditional to digital phases. The major transformation could be enhanced through the use of digital artifacts of the company by the process of segmentation made through targeting various consumers to have the experience of digital features of the company. The company Rio Tinto is a mining and metal industry that is mainly focusing on the usage of digital artifacts and technology to make some innovations in their business operating procedure. Every customer thus buys metals and any such iron ores through digital mode and gets the products at their doorsteps by the usage of product and service differently. The academic review of the research has been made with proper gap analysis, and the usage of technology and its application is also made to understand the process of working in a digital marketing environment. There seem to be certain norms that might be used for the maintenance of the application of technology in adapting to the digital environment by the company. In parallel, there are some challenges regarding the usage of these technologies and challenges from the competitors also for Rio Tinto. Everything about the research has been discussed with proper Critique that has been discussed to understand the exact consequences of the research to be taken on.

# Reference List

Anaf, J., Baum, F., Fisher, M. and Friel, S., 2020. Civil society action against transnational corporations: implications for health promotion. *Health Promotion International*, *35*(4), pp.877-887.

Anaf, J., Baum, F., Fisher, M. and London, L., 2019. The health impacts of extractive industry transnational corporations: a study of Rio Tinto in Australia and Southern Africa. *Globalization and health*, *15*, pp.1-20.

Anaf, J., Fisher, M. and Baum, F., 2022. Using Critical Theory Critical Theory to Research Commercial Determinants of Health: Health Impact Assessment of the Practices and Products of Transnational Corporations. In *Global Handbook of Health Promotion Research, Vol. 1: Mapping Health Promotion Research* (pp. 497-511). Cham: Springer International Publishing.

Bowman, A., Frederiksen, T., Bryceson, D.F., Childs, J., Gilberthorpe, E. and Newman, S., 2021. Mining in Africa after the supercycle: New directions and geographies. *Area*, *53*(4), pp.647-658.

Green, L. and Le, V.T., 2022. Holding the Line: Responsibility, Digital Citizenship, and the Platforms. In *Digital Platform Regulation: Global Perspectives on Internet Governance* (pp. 85-109). Cham: Springer International Publishing.

Jindřichovská, I. and Eckert, E., 2022. Social Responsibility of Mining Companies at a Time of COVID-19: Dear Shareholders! *Sustainability*, *14*(1), p.350.

Keenan, J., Kemp, D. and Owen, J., 2019. Corporate responsibility and the social risk of new mining technologies. *Corporate Social Responsibility and Environmental Management*, *26*(4), pp.752-760.

Kemp, D., Kochan, K. and Burton, J., 2023. Critical reflections on the Juukan Gorge parliamentary inquiry and prospects for industry change. *Journal of Energy & Natural Resources Law*, pp.1-24.

Knoblauch, A. and Dargusch, P., 2022. Achieving Net Zero Through a Multi-Dimensional Approach to Carbon Management in Mining and Metals Processing–A Case Study of Rio Tinto. *Advances in Environmental and Engineering Research*, *3*(2), pp.1-30.

Kotlikoff, L., 2022. Do Prediction Machines Predict Our AI Future? A Review. *Journal of Economic Literature*, *60*(3), pp.1052-1057.

Leminen, S., Rajahonka, M., Wendelin, R., Westerlund, M. and Nyström, A.G., 2022. Autonomous vehicle solutions and their digital servitization business models. *Technological Forecasting and Social Change*, *185*, p.122070.

Leonida, C., 2021. Building Solid Foundations for Digital Mines. *Engineering and Mining Journal*, *222*(11), pp.18-20.

Maroufkhani, P., Desouza, K.C., Perrons, R.K. and Iranmanesh, M., 2022. Digital transformation in the resource and energy sectors: A systematic review. *Resources Policy*, *76*, p.102622.

Millington, R., Giles, A.R., van Luijk, N. and Hayhurst, L.M., 2022. Sport for sustainability? The extractives industry, sport, and sustainable development. *Journal of Sport and Social Issues*, *46*(3), pp.293-317.

Paliewicz, N.S., 2022. Industrial Pioneerism in the Beehive State: Rio Tinto and the Corporate Persona. *Western Journal of Communication*, *86*(1), pp.60-82.

Pulido, M. and González, J.V., 2019. Public relations and events: the organization of festivals as a tool for cultural promotion. *IROCAMM-International Review Of Communication And Marketing Mix*, *2*(2), pp.13-23.

Sun, S.Y. and Peng, L.H., 2020. Study of virtual reality education and digitalization in China. In *Journal of Physics: Conference Series* (Vol. 1456, No. 1, p. 012042). IOP Publishing.

Wang, W., Jia, J., Liu, Y. and Wang, P., 2022. The Prospect: Viewing Economic History as the History of Corporates. In *Profound Changes Unseen in Centuries: An Overview of China* (pp. 99-108). Singapore: Springer Nature Singapore.

Rio Tinto, 2023*. Rio Tinto: Global* (no date) *Rio Tinto | Global*. Available at: https://www.riotinto.com/en (Accessed: April 21, 2023).