

M09 – Digital Transformation and Innovation

**Assignment Title: Digital Transformation as a Driver of Business
Competitiveness**

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Abstract

The report critically evaluates the advantages of digital transformation that helped organisations to become more competitive through the use of digital technologies such as artificial intelligence (AI), internet of things (IoT), automation, and cloud computing. These technologies have been successfully implemented in various industries, such as TUI Group, Henkel, Zalando, and BMW, which have demonstrated benefits such as optimisation, data-driven decision making, customer satisfaction and market adaptiveness. There are too many examples to list here (and TUI could list a number): Henkel is mining the use of IoT to optimize their production process for sustainability; TUI is using AI tools to customize their offerings to meet their customers' needs. Zalando's logistics is automated, giving a reduced likelihood of errors and faster delivery, while BMW rely on cloud computing for their real-time decisions. It is evident from the analysis that digital transformation is not simply a technology adjustment or a technology adoption but a strategic approach to ensure the synchronisation of operations, customer interactions and management styles – in order to gain competitiveness. It is concluded in the report that a successful integration of digital technologies enables operational excellence as well as quick adaptation to the market and good positioning of an organisation on the market.

1. Introduction

Digital transformation (DT) is the use of digital technologies in all aspects of an organisation, vital to the way it operates, and how it adds value for its customers. It involves using cutting-edge technologies such as the cloud, artificial intelligence, large data analysis, automation and IoT to improve efficiency and innovation. DT is not only about technology adoption, but also changes in organisational processes, structures and culture to back and sustain digital initiatives. This strategic advantage of DT is that it enables us to be more competitive in the constantly changing world of business today. Firms which implement DT successfully are efficient and customer-friendly (Alojail & Khan, 2023). Given this evidence, one can only speculate that DT is a path that organisations can take to learn how to respond more rapidly to market change and make rational and timely decisions based on real-time information. With respect to the competitive advantage of a company, if they are not practising digital, then they are losing out on the chance of outperforming their competitors, losing their share of the market or not performing in an efficient manner. DT covers a variety of business areas such as marketing, supply chain, finance and customer service. AI-powered technologies, automation reduces human errors and increases productivity, and AI-supported analytics assist decisions. In addition to that, digital tools can assist in improving customer engagement and also enable data-driven strategy development.

This report is aimed at critically examining DT's methods to improve organisational competitiveness. The objectives are:

- To define the meaning and scope of DT
- To evaluate key technologies and their impact on operations, customer experience and decision making

- To provide examples of real-life organisations that harness the power of DT as a strategic tool to contribute to their competitiveness

2. Literature Review

2.1 Evaluate how key technologies are contributing to digital transformation

Several of these key technologies are reshaping organisations' processes and strategies, and they play a vital role in digital transformation. Cloud computing can be a service that offers a firm with computing and storage capabilities without the extensive capital purchase of equipment. This versatility makes for quicker deployment of digital services and inter-departmental collaboration (Martínez-Peláez et al., 2023). Companies that have adopted the Cloud experience very few delays in workflow and business processes have become easier. This indicates that cloud computing can truly cut costs and make more agile decisions to increase competitiveness, in markets as dynamic as those we live in. Hence, the global cloud computing market was valued at USD 889.39 billion in 2025, which could reach USD 4,890.05 billion by 2034. (Figure 1).

Cloud Computing Market

Size, By Region, 2021-2034 (USD Billion)

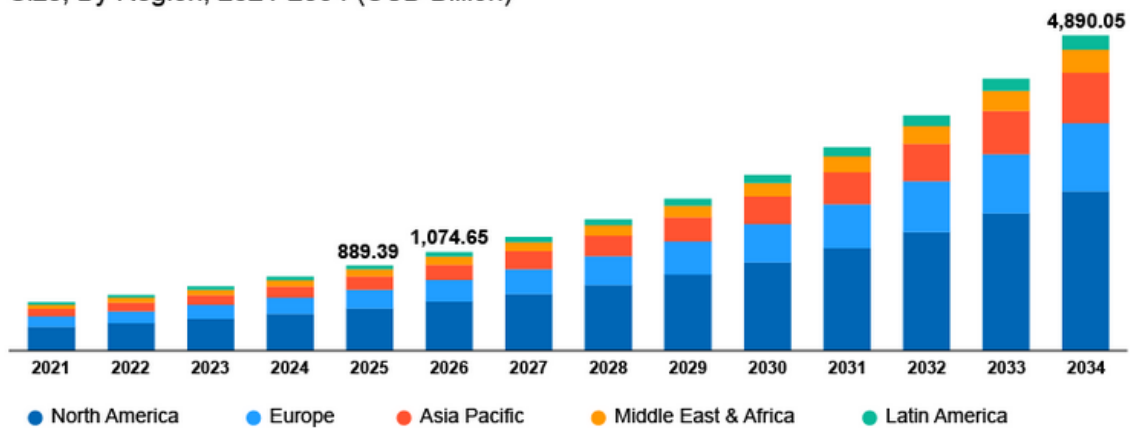


Figure 1: Cloud computing market globally

(Polaris Market Research, 2026)

Another important technology of digital transformation is artificial intelligence (AI). By 2026, an extra 78 million people will be using tools that are powered by AI, and there will be even more by 2027, with 95 million people using them. (Figure 2). AI handles automation of complex jobs, improves forecasting, and provides smart information to make business decisions. To enhance customer service and optimise internal processes, a lot of organizations use AI (Kitsios & Kamariotou, 2021). The technology can also be leveraged to make decisions; thus, managers can quickly adapt to new trends. According to the analysis, it helps organisations to move from passive to active and data-driven, which consequently has an effect on the competitiveness of the organisation.

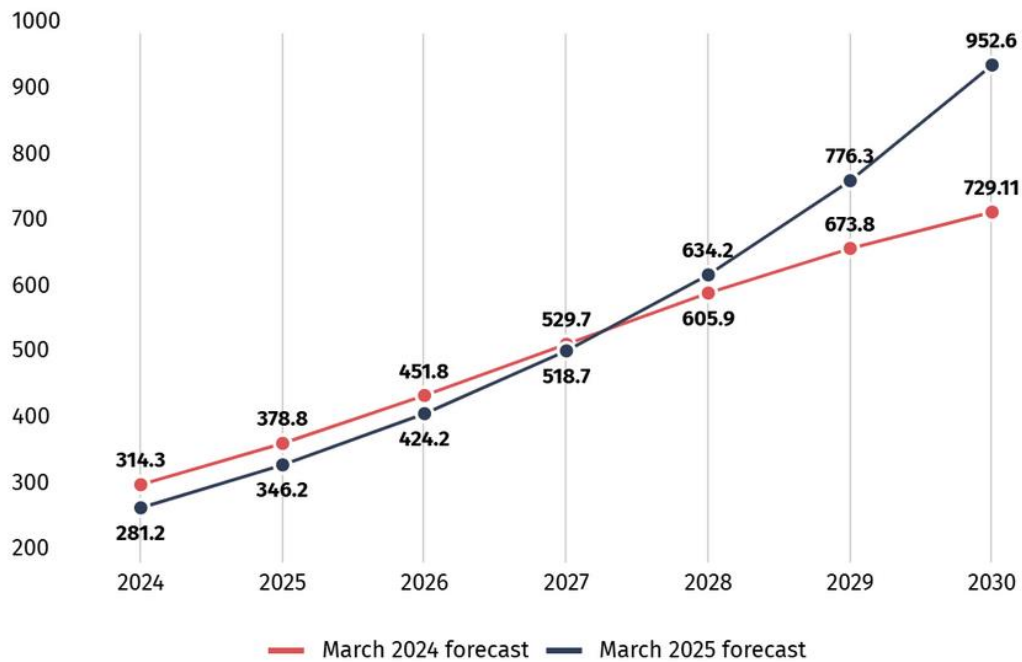


Figure 2: AI usage rise

(Verma, 2025)

The background of Big Data analytics is similar to that of AI, the challenge of extracting patterns and insights from a large amount of data. By analysing data, organisations can discover their customer preferences, operational inefficiencies, and market opportunities (Kostakis and Kargas, 2021). This will enhance the decision and assist in attaining specific strategies. In reality, companies harnessing the power of analytics see marketing efforts become more precise, resources become more efficient and problems get solved faster. Given these outcomes, companies need to stay competitive and customer-centric with data.

Automation and the Internet of Things (IoT) products further promote digital transformation. Automation allows for more time and increases productivity by eliminating repetitive manual tasks and reducing the risk of human error (Liu et al., 2021). IoT enables devices to be

interconnected and enables real-time data to be captured for monitoring and optimisation. The combined use of these technologies results in efficient, responsive and integrated systems.

2.2 Evaluation of the impact of the technologies on efficiency and decision making, on customer experience and market responsiveness

The influence of these Digital technology products in the realm of Digital transformation on the fields of efficiency, decision making, customers' trips and market responsiveness is enormous. Cloud computing drives the efficiency of work operations, so that they can easily access all resources and collaborate across the work team, even when working remotely from each other. It is concluded that the delay of the workflow is reduced and it is simplified, according to the inputs received from the organizations on basis of adopting cloud. This indicates that it's not just efficiency but the capability to take quicker strategic actions to create a competitive advantage (Wang et al., 2023). AI's algorithm can analyze vast amounts of data to deliver insights that can predict and inform decision making. An AI system, for instance, will be able to seek out patterns in customer behaviour or operational processes, and offer insights for information to be taken into account when making decisions. This indicates the decision-making process happens more quickly, is extremely precise and complies with business needs, and it results in authorising the competitiveness of the business. Big data can be used for decision making and customer experience analysis, as patterns and trends can be derived from a massive amount of data which could aid in decision making (Boikova et al., 2021). Different evaluations have demonstrated that organisations using analytics can offer more personalised services and are able to better meet customer needs. This clearly shows that the knowledge of data and action help each other reduce dissatisfaction and increase Customer satisfaction and loyalty. The automation helps to prevent human errors, freeing up time for employees to focus on more valuable work, and improves efficiency and consistency. The

Internet of Things enables linking devices to provide real-time information, enabling organisations to keep track of the situation and react quickly to the gaming market fluctuations.

2.3 Assessment of the contribution of digital transformation to improving Organizational competitiveness

Digital transformation can turn an organisation more competitive in a variety of ways by increasing their efficiency, innovation, and responsiveness. According to analysts' estimates, the total market value of the digital transformation would amount to \$8,567.4 billion by 2033 with a CAGR of 26.3% between 2023 and 2033, reaching \$829.5 billion (Figure 3). All organisations' digital transformation realisation will vary. It can start with a project on a particular technology or on the enterprise level (Cardoso et al., 2023). This may mean using digital technology and digital solutions to enhance existing processes and products or heralding a brand-new way of working and a new revenue stream made possible through still emerging technologies.

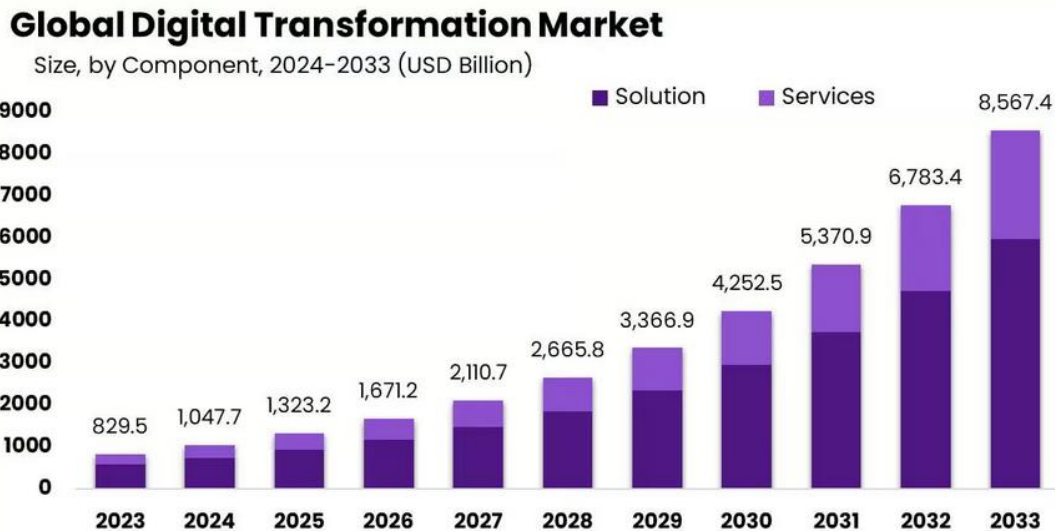


Figure 3: Global digital transformation market

(Market.us, 2024)

Cloud, AI, Big Data Analytics, Automation and IoT technologies can enable companies to operate more effectively and make smarter decisions. Businesses using these technologies can test that the cloud has the potential to help decrease operational bottlenecks and facilitate smooth teamwork in any location (Shehadeh et al., 2023). This analysis suggests that one can gain a competitive advantage through the magnitude of efficiency, as the organisations are able to produce the products or services more quickly than other organizations.

Finally, AI and analytics play a role in helping businesses become more competitive, assisting in informed decision-making and proactive approaches. AI can predict customers' behaviour or patterns, and then plan ahead in line with that (Amoako et al., 2021). From a business perspective, it is proven that information and knowledge analytics capabilities enable companies to focus on their services, manage their resources effectively and act swiftly to challenges. This suggests that the digital transformation moves companies from reactive (to damage control) to a more strategic and anticipatory management position, which is favourable

to the market. Digital resources contribute to the level of customer experience as well. Automation can save staffing time by increasing the efficiency of interactions – avoiding mistakes, better use of time etc. (Gerlich, 2023). The Internet of Things enables companies to continuously monitor their services and products, solving issues that can turn into major worldwide problems. Evidence has been found that the technologies improve customer satisfaction and promote customer loyalty in companies. So, Digital transformation could not only improve the efficiency of organisations on the inside, but also could help in building the reputation of the business, the competitiveness will not be maintained.

2.4 Literature Gaps

Although a lot of studies about digital transformation, there is still a lack of understanding related to the interaction of different technologies in order to increase competitiveness. Common research efforts only establish the impact of every single tool (such as AI or cloud computing) for efficiency, decision-making, customer experience and market responsiveness. There is evidence in practice from organisations of varying outcomes in varying contexts and implementations. This does not represent a clear recommendation as to how to use several technologies in an effective way. Doing so can enable a company to adopt a holistic strategy for digital transformation and guarantee it has a competitive edge.

2.5 Theoretical Framework

To understand the adoption of the digital technology used by employees and managers during digital transformation, the Technology Acceptance Model (TAM) is used to explain this. There are indications that perceived usefulness and perceived ease of use will be strong influencing factors of intent to use new systems. The more easily a solution is used and the more beneficial it is to the job, the more it will be used by staff assessing the solution (Park et al., 2022). This can help in conveying that digital transformations aren't just feasible by technology; they are

also worthwhile through consumer-based and based on consumer visualisation. TAM can work to find out obstacles to use, to educate potential users and to design systems for users. This enables the camp to be run efficiently, and allows for a competitive advantage by not underutilising the digital tools.

The Diffusion of Innovations (DOI) model is based on the concept of the way new tech diffuses in organisations/industries. It includes a number of parameters in adoption including relative advantage, compatibility, complexity, trialability and observability (Khan et al., 2022). Organisations that have adopted IoT and big data analytics are starting to show evidence that if doesn't involve a lot of work and complexity and the results are tangible, the technology will likely have a much easier time spreading through the various departments of any organisation. As this analysis confirms a critical condition of digital transformation is to adopt technologies that can be introduced accordingly; early adopters are needed to drive change. The strategic planning and change management aspects of the process of ensuring that innovations have a meaningful contribution in enhancing competitiveness and market responsiveness is highlighted with the use of DOI. TAM and DOI, when combined, offer a context in which we can comprehend both individual acceptance and organizational adoption patterns that are key to successful digital transformation.

3. Methodology

3.1 Research Philosophy

The philosophy of this research is interpretivist, which emphasises the meaning of digital transformation in organizations. From a practical and contextualist viewpoint, it is possible to make sense of the impact of the technologies on competitiveness using interpretivism (Ikram & Kenayathulla, 2022). There are real-world examples where the impact of a Digital Transformation varies based on the organisation's unique structure, culture and leadership. This

indicates that an interpretivist approach would be considered to be appropriate as it allows the complexity of organisational behaviour to be understood and examines behaviour from angles that have to be viewed through a lens other than a purely quantitative angle.

3.2 Research Approach

An inductive research approach has been chosen to identify the patterns and insights from the existing information in the field of digital transformation. Secondary sources and research show that the adoption of a technology and the effects such as increased efficiency, improved decision making, enhanced customer experience and market responsiveness, vary between organisations. Based on this analysis, the findings follow: Theory generation can illustrate why digital transformation initiatives can be successful in some situations and unsuccessful in others by observing them. The inductive method allows critical analysis and not testing of pre-conceived hypotheses, which is in line with interpretivist philosophy.

3.3 Data Collection Method

Secondary qualitative data has been collected from industry reports, news articles and company reports. Organisational reports have been provided and show examples of cloud, AI, automation, and IoT projects. The method helps to research practical actions and results, without a restriction on the primary data records. There are multiple perspectives in secondary sources and they can help in minimizing bias from the single-company study.

3.4 Data Analysis Method

To identify patterns, themes and insights in the data, themed analysis is employed. Reports are used to show evidence of the common drivers, challenges and benefits of digital transformation initiatives. This shows how thematic analysis can be applied in a critical understanding of the

impact technologies have on the competitiveness, decision making, efficiency and customer experience of different organisations.

3.5 Ethics

Ethical issues include using information provided at public sources only, reporting information sources correctly, and not providing inaccurate information. The reliability and prevention of plagiarism of evidence is critically analysed from company reports, news articles and industry publications. The careful approach guarantees the information presented is credible and trustworthy. It does this by ensuring integrity in research; respecting intellectual property; and demonstrating good academic practice, while it is being applied to analysing the digital transformation and its impact on organisational competitiveness.

4. Findings

Theme 1: TUI group leverages the capabilities of AI to enhance visitor satisfaction, sustainability and competitiveness

With the use of artificial intelligence (AI), the TUI Group can apply the technology to various aspects of its business, ensuring an improvement in visitor satisfaction, satisfaction rates, sustainability and competitiveness. By analysing booking trends, customer preferences, and feedback, AI can provide personalised travel recommendations, thereby improving customer experiences (TUI Group, 2024). This means AI can help to make the customer service experience more efficient and increase customer satisfaction with timely and relevant recommendations. In addition, TUI leverages AI technology for sustainable actions, like optimising energy consumption at resorts, forecasting the demand for different services and cutting waste. The projects have yielded welcome lessons, highlighting the potential of AI to support the company's existing resource management efforts and boost the processes'

environmental sustainability. An example of this was TUI entering into a strategic partnership with the AI tool in travel-based system Mindtrip to provide offers to bookers based on their travel history (TUI Group, 2025). From a strategic perspective, TUI might consider promoting a portfolio of individual and more sustainable traveller experiences to provide them with a unique value proposition and delight their discerning consumers, enhancing its market positioning. Analyses revealed that when AI is utilized in the customer-facing and operational parts of the company, it could support its ability to meet customer expectations timely and ensure operations are efficient. This technology is therefore a very significant enabler for TUI's quest to enhance their visitor experience, to facilitate sustainable operations and even a competitive advantage.

Theme 2: Henkel optimises production with IoT

Henkel is linking up with the Internet of Things (IoT) to label the manufacturing processes and make them more efficient. Machine-to-machine connections between devices, sensors and monitoring systems, made possible through IoT devices, will provide live information to production systems about the performance of machines and materials. The sensor, which was part of IoT, could give an account of the anomaly, information on how the system was operating (both temperature and pressure), and the predicted upcoming maintenance requirement before the system failed (Henkel, 2026). This means IoT can decrease downtime and guarantee a continuous high level of product quality and operational reliability. Through the technology, a manager can make well-informed decisions based on proper and current information and boost production planning and resource allocation. There is also evidence to show that the consumption of energy has been reduced, waste production has been curtailed and the company can fine-tune production with sustainability targets also in mind. As a potential cost saving and green analysis, IoT draws together an uncomplicated and connected panorama, helping to identify inefficiencies easily and efficiently. Business-wise, it brings about competitiveness

since LCO is constantly evolving in order to cater to market demands, and it has also been able to reduce risks in its operation. The incorporation of IoT into Henkel's production processes brings with it increased visibility of all processes across the entire lifecycle, as it makes it possible to better monitor the output, coordinate flows and increase productivity.

Theme 3: Zalando's automation in logistics to optimize operations

Zalando's logistics automation is closely integrated in order to support processes and to ensure the competitiveness. The automated systems allow the control of the order picking, packaging and shipment, reducing manual errors and improving time to delivery. Through the observation of the processes within Zalando, automated systems like conveyor belts, robotic arms and sorting systems can be seen to process a large amount of orders in a very high level of accuracy and efficiency (Zalando, 2022). This means that you're less likely to set your customers up with a shock, and automation also helps to boost speed. Furthermore, automated inventory management systems can offer real-time tracking of inventory, which can help in the timely replenishment of goods and prevent stockouts. This capability has proven to result in better market responsiveness for the company, allowing it to easily and quickly adapt to fluctuations in customers' needs and demand during certain periods. At the same time automation should free up time for employees who work on repetitive tasks thereby enabling them to work on higher value activities such as quality control, process optimisation etc., (NOA, 2026). This demonstrates the effects of using technology to improve operational effectiveness and boost productivity. On a strategic level automation is the difference-maker for Zalando because it helps them lower their costs, improve throughput and keep their service level. From this analysis, it was found that implementing automation in logistics leads to a more flexible, scalable and stable supply chain. In conclusion, automation is a valuable asset in Zalando's technology strategy, with the potential to infuse efficiency and improve the company's operations and overall competitiveness in the e-commerce market.

Theme 4: BMW leverages cloud to increase decision-making and competitiveness

BMW believes that the concept of cloud computing is a method of empowering decision-making and enhancing the competitiveness of organization. The company can handle, exchange and access huge quantities of data from around the world in real-time with the help of cloud solutions. Notably, in the case of BMW, the application of Amazon Cloud indicates that managers can track both production processes and supply chains simultaneously with customer trends, in different regions of the world (Kharpal, 2023). Cloud makes the decision making process better by delivering the company timely and accurate data and it responds to the market and operational conditions. Moreover, cloud systems encourage interactions and cooperation between members of the department, between members of the supplier, and between members of the partner, offering coordination and minimizing the delay during product creation and release. (BMW Group, 2022). Some evidence indicates that with the cloud set, BMW can perform simulation tests, predict the demand, and optimise the resources efficiently. This is because the cloud solutions have matured as an enabler to competitiveness and have not simply been a technical upgrade. I think that in terms of the market, it is a game-changer for BMW, because it enables them to innovate faster, it lets them customise their offerings and deliver a top-notch quality service at cost.

5. Discussion

According to results, digitally transformed wins the pivotal role in businesses from different industries for achieving competitiveness boosting with playing a key enabler role. AI can also be employed for customizing customer interactions on a travel company such as TUI Group by predicting what customers need to be satisfied, and optimize operational planning of travel companies. The kinds of examples cited are faster response times, or higher degrees of customer engagement, such as the use of AI-based recommendation systems by TUI Group

(2024). This means that AI can improve the efficiency of the processes and/or allow for decision-making by management based on the data. It plays a key role in Smart Cities and is a tool it uses for sustainability monitoring with the help of AI. Through this analysis, companies can use AI to not just enhance their service quality, but to stand out from the competition in highly competitive landscapes, too.

Where Henkel is doing it now is its production process, as it embraces the Internet of Things (IoT), making use of intelligence to be found in connected systems to make production processes more efficient and responsive. The IoT-certified production lines show how Henkel prevents its production devices from actually breaking down and optimises resource use. This minimises downtime and contributes to keeping things consistent while giving managers the ability to make swift and swift adjustments when needs fluctuate. As the process is always visible, IOT is given a game-changing role in the decisions made are revealed by the analysis. Besides, its energy and material consumption measure makes the management more sustainable and, on the other hand, it is an economically competitive product, resulting in a sustainable position in the market (Maraveas and Bartzanas, 2021). In fact, IoT shows its advantages of using technology and operational intelligence to meet rising demands for companies able to react in the blink of an eye in an increasingly demanding and fast-changing market like manufacturing.

Zalando's automated logistics highlight that the company works more efficiently and is faster in response to the market. By leveraging evidence, the company will be able to process volumes of orders with minimised error rates thanks to the automation of order picking, inventory management and sorting. This results in quicker delivery periods, increased reliability and leads to better customer experience (Zalando, 2022). The possibility conferred by automation on the upstream process isn't just the efficiency that can be achieved, but also the fact that workers will have more time to dedicate to value-adding tasks such as quality control,

reinforcing the positive aspect (Ferreira & Reis,2023). This leads to some other examples of technology's capabilities like its real-time tracking and automated inventory management, which allow for swift reactions to customer needs and preferences. This further highlights the potential of technology to improve operational efficiency and customer satisfaction.

Using cloud computing, BMW shows how using digital platforms can amplify its decision-making and coordination capacity for the company all across the globe. Managers have access to real-time production data and market conditions through a cloud-based analytics system, evidenced by its data, which is proving to aid with their strategy and operations decision-making. BMW can use this to align production with the forecasts for car demand, optimise the process and maintain the quality of the product (BMW Group, 2022). Cloud analysis indicated that the competitive pressure is a necessity to respond in a timely fashion and a faster innovation cycle is possible and the company can do this. The cooperation between different establishments and external cooperators is increased too: more market differences and also the customer's requirements are fulfilled better. With Cloud adoption, decision makers in an organisation can see that building digital infrastructure in these processes enables organisations to be agile, more efficient and to achieve better customer experiences.

Given points, it can be said that: along with the increase in digital channels and transactions, there will be an influx of contents that can be the reason for eliminating the traditional newspaper, radio and television - even encourage people to switch off the internet. AI, Internet of Things (IOT), automation, cloud computing can significantly improve operational efficiencies, reduce errors, give more visibility to the operations, predictivite maintain them. Additionally these technologies also improve customer experience by making processes personal, responses accurate, and product or service delivery of a high standard. It become possible to make a better decision with the real-time data, predictive analytics, and teamwork. It is possible because of the quick time to market attitude, for it is easier for the organizations

to adapt to the behaviour of the public, changes in the demand for their services or any change in the external or even internal environment and its boasting in the segment. However, the analysis also indicates that dominance within a given industry will not result from the concerted effort in the implementation of a single technology but rather the use of digital technology to operate the above processes in the most efficient way.

6. Conclusion

The company is digitising its operation, in order to be more competitive and get better performance of its operations by improving processes, decision making, user experience, and post-market demand. For example, the use of frequent artificial intelligence, internet of things, robotics, or cloud computing among other technologies at TUI, Henkel, Zalando or BMW helps them to hasten the process of making the decision, provides more information with quality and assists in providing services promptly. This is because digital technologies are more than just upgrading and digitising something; they are a smart investment that will have a positive impact on the company's market position and customer satisfaction rate. Amongst others of such benefits, these indicate that with the use of those tools, the businesses can change quickly in order to fulfil the market needs, reduce inefficiency within internal processes, as well as personalise experiences, hence improving their competitive advantage.

It is pertinent that investments must be made in technologies that foster success, enhance business processes, meet business objectives. Well-oriented employees, who know how to utilize the digital tools present at the company, and other costs contained within the thresholds of the cost per unit of output or those targets stakeholders have, enhances the benefits thereof. Companies have to acknowledge that ESC for decision making anticipates the use of technology and quick changes follow, inappropriately also using since the breach

of this sort of technology becomes apparent that it is actually quite flexible in terms of use. A Business Needs Professional Marketing Services.

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