BTEC
Alliance with FPT Education
BTEC FPT BRITISH COLLEGE

Pearson

ASSIGNMENT 1

Qualification	**BTEC Level 5 HND Diploma in Computing**		
Unit number and title	**Unit 17: Business Process Support**		
Submission date	26/2/2024	**Date Received 1st submission**	
Re-submission Date	3/3/2024	**Date Received 2nd submission**	
Student Name	Tran Cong Hoang	**Student ID**	BH00317
Class	IT0602	**Assessor name**	Dinh Van Dong
Student declaration I certify that the assignment submission is entirely my own work and I fully understand the consequences of plagiarism. I understand that making a false declaration is a form of malpractice.			
		Student's signature	Hoang

Grading grid

P1	P2	P3	P4	M1	M2	D1

☼ Summative Feedback:	☼ Resubmission Feedback:

Grade:	Assessor Signature:	Date:

Internal Verifier's Comments:

Signature & Date:

Table of Contents

List of Figures

I. Introduction

Data and information are important elements in the business operations of modern organizations. They help organizations understand their markets, customers, competitors, and themselves. They also help organizations make decisions, solve problems, and improve processes. However, the use of data and information also poses many challenges and consequences for organizations, requiring them to comply with social, legal and ethical principles and regulations.

In this report, I will discuss the role and value of data and information in the supply chain of a multinational manufacturing organization, ABC Manufacturing. The supply chain is one of ABC Manufacturing's key business processes, as it affects the company's ability to provide high-quality products, meet customer needs, and generate profits. However, supply chain management is also a big challenge, because it requires facing many uncertain factors, such as market fluctuations, fierce competition, and environmental and political risks. treatment, and technology. To address these challenges, ABC Manufacturing has applied solutions that use data and information to support supply chain activities, from planning, to execution, to control.

The purpose of this article is to explore and analyze how ABC Manufacturing uses data and information to support its supply chain, as well as the consequences and impacts of using data and information on with relevant parties. This article also aims to help readers improve their knowledge and skills about data and information in business, as well as develop critical and creative thinking. This article will use reputable and up-to-date reference sources, including books, reports, articles, and websites related to the topic. My report will be divided into the following main parts:

- Discuss the social, legal, and ethical consequences of using data and information to support business processes. In this section, I will outline the rights and obligations of data-related parties, such as users, providers, and managers. I will also address laws and regulations related to data collection, storage, and use. I will also address ethical principles and standards when working with data, such as transparency, fairness, and accountability.
- Describe common threats to data and how they can be mitigated at the individual and organizational level. In this section, I'll cover types of threats, such as malware, ransomware, phishing, and social engineering, and how they affect data security, integrity, and availability. I will also highlight data protection measures, such as using security software, encrypting data, backing up data, updating data, checking data, and educating users about the risks. mechanisms and ways to prevent it.
- Analyze the impact of using data and information to support real business processes. In this section, I will use data analysis methods and tools, such as charts, tables, figures, and statistics, to

present the positive and negative impacts of data on operations. ABC Manufacturing's operations. I will also compare and analyze the impacts of data on stakeholders outside the organization, such as partners, suppliers, government agencies, and the community.

- Evaluate the broader implications of using data and information to support business processes within a defined organization. In this section, I will select a specific organization, be it ABC Manufacturing or another organization, and provide comments, suggestions, and recommendations on how to use data and information effectively. and ethics. I will also give examples of other organizations that have used data and information successfully or failed, and draw lessons learned. I will also evaluate the impacts of the use of data and information on environmental, economic, political, and cultural issues, as well as solutions and opportunities for the future.

II. Contents

P3: Discuss the social legal and ethical implications of using data and information to support business processes.

1) Social implications

a) Privacy concerns

The collection and use of personal data have become pervasive in the digital age. Organizations collect personal data from various sources, including online platforms, mobile apps, and IoT devices. Privacy concerns arise from the potential misuse or unauthorized access to personal data. When organizations collect personal data, individuals may lose control over their information and how it is used. Personal data can be used for various purposes, such as targeted advertising, data analytics, or even sharing with third parties. This raises concerns about transparency, informed consent, and the potential for data to be used in ways that individuals did not anticipate or desire.

Figure 1: Social implications((cookie-script.com, 2023)

Data breaches and unauthorized access to personal data pose significant risks to individuals and organizations alike. Cybercriminals target organizations to gain access to sensitive personal information, leading to financial loss, identity theft, and other harmful consequences. When personal data is breached or accessed without authorization, individuals may suffer from reputational damage, financial harm, or emotional distress. Organizations may face legal consequences and damage to their brand reputation. The potential for data breaches highlights the importance of implementing robust security measures, such as

encryption, access controls, and regular security audits. Organizations need to prioritize data protection and invest in cybersecurity to mitigate the risk of data breaches.

b) Impact on individuals and society

With the proliferation of surveillance technologies, individuals' privacy has come under threat. Governments, organizations, and even individuals can engage in surveillance activities, leading to a loss of privacy and a sense of constant monitoring. Surveillance technologies, such as CCTV cameras, facial recognition systems, and online tracking, raise concerns about the erosion of privacy, freedom of expression, and individual autonomy. The pervasive nature of surveillance can lead to self-censorship, as individuals may modify their behavior or refrain from expressing themselves freely due to the fear of being monitored or surveilled.

The use of data-driven technologies, such as algorithms and machine learning, can introduce biases and discrimination into decision-making processes. Algorithms are trained on historical data, which may reflect existing social biases and inequalities. As a result, decisions made by algorithms can perpetuate these biases and discriminate against certain individuals or groups. Discriminatory outcomes can be observed in various domains, such as hiring processes, loan approvals, or law enforcement. Biased decision-making can reinforce existing social inequalities and undermine fairness and equal opportunities.

By analyzing these social implications, it becomes evident that privacy concerns, data breaches, surveillance, and potential discrimination or bias are significant challenges that need to be addressed in the context of data usage and technology-driven decision-making. Organizations, policymakers, and individuals must consider the ethical, legal, and social aspects to develop responsible data practices, safeguard privacy, and promote fair and equitable outcomes for all.

2) Legal implications

a) Data protection regulations

The General Data Protection Regulation (GDPR) is a comprehensive data protection regulation that came into effect in the European Union (EU) in 2018. It aims to protect the privacy and personal data of EU citizens and residents.

Figure 2: General Data Protection Regulation

The California Consumer Privacy Act (CCPA) is a data protection law that was enacted in California, USA, in 2018. It grants California

residents certain rights and imposes obligations on businesses that collect and process their personal information.

Other relevant data protection laws may include the Personal Data Protection Act (PDPA) in Singapore, the Personal Information Protection and Electronic Documents Act (PIPEDA) in Canada, and the Australian Privacy Act in Australia (info@gdpr-advisor.com, 2023).

Figure 3: Compliance

Organizations that fall under the scope of data protection regulations are required to comply with various obligations. These obligations typically include obtaining valid consent for data collection, providing individuals with rights to access and control their personal data, implementing appropriate security measures to protect data, and ensuring data transfers comply with legal requirements.

Non-compliance with data protection regulations can result in severe consequences. For instance, under the GDPR, organizations can face fines of up to 4% of their global annual turnover or €20 million, whichever is higher. The CCPA allows for statutory damages ranging from $100 to $750 per individual per incident, and individuals have the right to take legal action against non-compliant organizations.

b) Intellectual property rights

Copyright provides legal protection for original creative works, such as literary works, music, art, and software. It grants the creator exclusive rights to reproduce, distribute, and publicly display their work. Copyright protection arises automatically upon the creation of the work and generally lasts for the creator's lifetime plus a certain number of years.

Trademarks are symbols, names, or logos used to identify and distinguish goods or services of one entity from those of others. Trademark protection helps prevent confusion and misrepresentation in the marketplace. Trademarks can be registered with relevant intellectual property offices to obtain enhanced legal protections.

Organizations need to consider copyright and trademark laws when using or creating content and brand assets. They should ensure that they have proper permissions or licenses to use copyrighted materials and that their trademarks are adequately protected. Infringement of copyright or trademark rights can result in legal actions, including injunctions, damages, and the requirement to cease infringing activities.

Understanding and complying with data protection regulations and intellectual property rights is crucial for organizations to demonstrate responsible and ethical practices. It helps protect the privacy of individuals' data, fosters trust among customers, and avoids legal complications that may arise from non-compliance or infringement. Organizations should stay updated with relevant laws and seek legal advice when necessary to ensure they meet their legal obligations.

3) Ethical implications

a) Transparency and informed consent

Transparency and informed consent are two key ethical principles that require data collectors and users to be honest and respectful with individuals whose data are involved in the business processes. Transparency means that data collectors and users should disclose the purpose, scope, method, and outcome of data collection and usage to the individuals, and explain how their data will be protected, shared, and used. Informed consent means that data collectors and users should obtain the permission of the individuals before collecting and using their data, and allow them to opt out or withdraw their consent at any time.

The importance of transparency and informed consent lies in the fact that they enable individuals to understand the benefits and risks of data collection and usage, and to exercise their rights and choices over their data. This can enhance trust, confidence, and cooperation between data collectors and users and the individuals, and prevent potential conflicts or disputes. Some examples of transparency and informed consent in business processes are:

- A website that displays a clear and concise privacy policy and a cookie consent banner that informs visitors about how their data will be collected and used, and allows them to accept or reject the cookies.
- A mobile app that asks users to grant or deny access to their location, contacts, camera, or other data, and explains why and how the app will use these data.
- A survey or questionnaire that informs respondents about the objective, duration, and compensation of the survey, and asks them to agree or disagree to participate and to share their data.

b) Fairness and non-discrimination

Fairness and non-discrimination are two key ethical principles that require data collectors and users to treat all individuals equally and fairly, and to avoid any biases or prejudices that may harm or disadvantage some individuals or groups based on their data. Fairness means that data collectors and users should ensure that the data they collect and use are representative, accurate, and relevant, and that the data analysis and decision-making are objective, consistent, and transparent. Non-discrimination means that

data collectors and users should not use the data to discriminate or exclude individuals or groups based on their personal characteristics, such as age, gender, race, ethnicity, religion, disability, or sexual orientation.

The importance of fairness and non-discrimination lies in the fact that they promote justice, equality, and diversity in data collection and usage, and protect the dignity, rights, and interests of all individuals and groups. This can foster social inclusion, cohesion, and harmony, and prevent potential harms or conflicts. Some examples of fairness and non-discrimination in business processes are:

- A hiring process that uses data to screen and select candidates based on their qualifications, skills, and performance, and not on their attributes, such as name, appearance, or background.
- A credit scoring system that uses data to assess and assign credit scores to customers based on their financial behavior and history, and not on their demographic or social factors, such as race, gender, or location.
- A recommendation system that uses data to suggest products or services to customers based on their preferences and needs, and not on their stereotypes or assumptions, such as gender, age, or culture.

4) Ethical frameworks and guidelines

a) Utilitarianism

Utilitarianism is an ethical perspective based on the principle that ethical action is action that creates the most good for the greatest number of people (Alex Edquist, 2022). According to this view, the moral value of an action is determined by its consequences. This means that utilitarianism adopts a consequentialist approach to ethical decision-making, as opposed to deontological perspectives such as deontological ethics, which focus on duty and obligation.

Balancing the benefits and costs of data use is an important element of utilitarianism. This requires data users to estimate and compare the positive and negative impacts of data use on different individuals and groups, and then choose options that generate multiple benefits. most minus most damage (Rueter, n.d.).

Consideration of the overall social impact of data use is another element of utilitarianism. This requires data users to consider the long-term and widespread consequences of data use for society and the environment, and not just focus on short-term and local benefits (Rueter, 2023). Some examples of applying utilitarianism in data usage are:

- A public health monitoring program that uses users' location data to detect and prevent the spread of an epidemic. Using this data can violate user privacy, but can also save lives and protect public health.

- A traffic optimization system that uses user transportation data to adjust traffic lights and routes. Using this data may be detrimental to some users, but can also reduce congestion, save time and fuel, and reduce air pollution.
- An image classification system that uses user facial data to identify and label objects. Using this data can increase the efficiency and accuracy of the system, but can also create errors or biases based on personal characteristics, such as age, gender, or race.

b) Deontological ethics

Deontological ethics is an ethical perspective based on the principle that moral action is action in accordance with moral principles and obligations (Michael Segalla, 2023). According to this view, the moral value of an action is determined by its intentions and motives. This means that deontological ethics adopts a deontological approach to ethical decision making, as opposed to consequentialist perspectives such as utilitarianism, which focus on consequences and benefits.

The focus on principles and obligations in the use of data is an important element of deontological ethics. This requires data users to follow ethical rules and standards established by law, industry, or organization, and not violate ethical obligations to individuals and groups different.

Respecting individual rights and autonomy is another element of deontological ethics. This requires data users to protect and recognize the rights and interests of individuals to whom the data relates, and not to interfere with their right to self-determination and action. Some examples of applying deontological ethics in the use of data are:

- A scientific study that uses users' medical data to find new treatments. The use of this data can contribute to scientific and medical progress, but must also adhere to ethical principles such as confidentiality, transparency, and user informed consent.
- A social networking service that uses user behavioral data to customize content and advertising. Using this data can improve the experience and revenue of the service, but must also respect the user's privacy, preferences, and right to opt-out.
- A decision support system that uses user statistical data to make suggestions and recommendations. Using this data can help users save time and effort, but must also respect users' freedom and responsibility in choice and action.

5) Responsible data practices

a) Data governance and accountability

Data governance and accountability are two key aspects of responsible data practices that require data collectors and users to establish and follow clear policies and procedures for data handling, and to assign

and assume responsibility for data management and compliance. Data governance means that data collectors and users should define and document the roles, rules, standards, and processes for data collection, storage, processing, analysis, sharing, and use, and ensure that they are aligned with the ethical principles and legal regulations of data handling (Society, 2019). Data accountability means that data collectors and users should identify and assign the roles and responsibilities of data handling to the appropriate individuals or entities, and ensure that they are accountable for their actions and decisions regarding data, and that they can be held liable for any breaches or harms caused by data (Lukic, 2023).

The importance of data governance and accountability lies in the fact that they enable data collectors and users to manage and control data effectively and efficiently, and to ensure the quality, security, and integrity of data, as well as compliance with ethical and legal obligations. This can enhance trust, reputation, and performance of data collectors and users, and prevent potential risks or damages associated with data handling (SmartDataCo, 2023). Some examples of data governance and accountability in business processes are:

- A data governance framework that specifies the vision, mission, goals, and principles of data handling, as well as the roles and responsibilities of data owners, stewards, custodians, and users, and the processes and procedures for data lifecycle management.
- A data governance committee that oversees and coordinates the data governance activities, such as setting data policies and standards, monitoring data quality and security, resolving data issues, and reporting data performance and compliance.
- A data audit that evaluates and verifies the data governance practices, such as data collection, storage, processing, analysis, sharing, and use, and identifies and addresses any gaps, errors, or violations in data handling.

b) Data anonymization and pseudonymization

Data anonymization and pseudonymization are two techniques to protect individual identities in data sets by modifying or removing the personal or sensitive data that can be used to identify or link to a specific individual. Data anonymization means that data collectors and users should remove or replace the personal or sensitive data with random or synthetic data, such that the data cannot be re-identified or linked to any individual, even with additional information or techniques.

Data pseudonymization means that data collectors and users should replace the personal or sensitive data with pseudonyms, such as codes or tokens, such that the data can only be re-identified or linked to an individual with a specific key or algorithm.

The importance of data anonymization and pseudonymization lies in the fact that they enable data collectors and users to protect the privacy and security of individuals whose data are involved in the business processes, and to comply with the ethical and legal requirements of data handling. These

techniques can also facilitate data sharing and analysis, as they reduce the risks and constraints of data handling. Some examples of data anonymization and pseudonymization in business processes are:

- A data anonymization tool that applies various methods, such as masking, hashing, encryption, or noise addition, to remove or alter the personal or sensitive data in a data set, such as names, addresses, phone numbers, or credit card numbers.
- A data pseudonymization tool that applies various methods, such as tokenization, encryption, or hashing, to replace the personal or sensitive data in a data set with pseudonyms, such as codes, tokens, or keys, that can only be reversed with a specific key or algorithm.
- A data anonymization or pseudonymization policy that defines the criteria, scope, and method of data anonymization or pseudonymization, as well as the roles and responsibilities of data anonymization or pseudonymization agents, and the processes and procedures for data anonymization or pseudonymization.

6) Stakeholder engagement and communication

a) Engaging with customers and users

Engaging with customers and users is a key aspect of stakeholder engagement and communication that requires data collectors and users to educate and inform individuals about data usage and privacy practices, and to address their concerns and provide transparency.

Educating individuals about data usage and privacy practices means that data collectors and users should explain to customers and users how their data are collected, stored, processed, shared, and used, and what are the benefits and risks of data usage for them and for the organization. This can help customers and users understand the value and purpose of data usage, and increase their trust and confidence in data handling (Thomas, 2013).

Addressing concerns and providing transparency means that data collectors and users should listen to and respond to the feedback, questions, or complaints of customers and users regarding data usage and privacy practices, and provide them with clear and accurate information and evidence. This can help customers and users feel respected and involved in data handling, and reduce their anxiety and uncertainty about data usage (Anon, n.d.). Some examples of engaging with customers and users in data usage are:

- A customer loyalty program that sends personalized emails to customers explaining how their data are used to offer them rewards and discounts, and how they can access and manage their data preferences.

- A user feedback survey that asks users to rate and comment on their satisfaction and experience with data usage, and provides them with a summary of the survey results and the actions taken to improve data usage.
- A data dashboard that displays to users the data they have provided and the data that have been derived from them, and allows them to view and download their data reports and insights

b) Collaboration with regulators and industry bodies

Collaboration with regulators and industry bodies is another key aspect of stakeholder engagement and communication that requires data collectors and users to stay informed about evolving regulations and standards, and to contribute to ethical discussions and best practices.

Staying informed about evolving regulations and standards means that data collectors and users should monitor and comply with the legal and regulatory requirements and expectations of data handling, such as the General Data Protection Regulation (GDPR), the California Consumer Privacy Act (CCPA), or the ISO/IEC 27000 series. This can help data collectors and users avoid legal risks and penalties, and maintain their reputation and legitimacy in data handling.

Contributing to ethical discussions and best practices means that data collectors and users should participate and collaborate with other stakeholders, such as regulators, industry associations, or professional bodies, in developing and promoting ethical principles and guidelines for data handling, such as the OECD Privacy Guidelines, the AI Ethics Guidelines, or the Data Governance Code of Conduct. This can help data collectors and users demonstrate their social responsibility and leadership in data handling, and influence the direction and development of data governance and ethics. Some examples of collaboration with regulators and industry bodies in data usage are:

- A data protection officer that liaises and communicates with the data protection authorities and other regulators to ensure compliance with data protection laws and regulations, and to report and resolve any data breaches or incidents.
- A data ethics committee that engages and consults with industry experts and peers to discuss and address the ethical challenges and dilemmas of data usage, and to develop and adopt ethical frameworks and standards for data handling.
- A data stewardship program that partners and cooperates with industry bodies and organizations to share and exchange data, knowledge, and best practices for data handling, and to support and advance data innovation and quality.

P4: Describe common threats to data and how they can be mitigated at on a personal and organisational level.

1) Big data and advanced analytics

a) Growing importance of big data

Big data is the term used to describe the large volumes of data - both structured and unstructured - that businesses must process every day. The characteristics of big data are often described through three Vs: Volume, Velocity, and Variety.

- **Volume**: Large volumes of data are generated from many different sources such as social networks, mobile devices, online transactions, and sensors.
- **Velocity**: The speed at which data is generated and processed quickly to meet real-time or near-real-time needs.
- **Variety**: Data comes from a variety of sources and formats, from text to video, from databases to large files.

The explosion of information from the Internet and connected devices has created a large amount of data that is constantly increasing. Businesses must process data at a faster rate than ever to keep up with market and customer demands. The diversity of data requires more complex tools to analyze and extract useful information.

b) Advanced analytics techniques

Predictive analytics uses historical data and statistical algorithms to predict future trends and behavior. Machine learning is a branch of AI that allows machines to learn from data and improve performance without being explicitly programmed. Machine learning models can analyze big data to find patterns and predict outcomes with high accuracy

Natural language processing (NLP) is the ability of computers to understand, analyze, and generate natural human language. Sentiment analysis uses NLP to identify and classify the opinions expressed in a piece of text to determine the mood of the writer or speaker. These techniques help businesses better understand their customers through analyzing feedback, reviews, and social media conversations.

2) Artificial Intelligence (AI) and automation

a) Role of AI in business processes

AI has the ability to automate repetitive tasks, helping to reduce the time and resources needed for simple but time-consuming tasks. AI systems can be programmed to perform tasks ranging from data entry to processing customer requests, helping to increase productivity and reduce errors.

AI supports data-driven decision making, helping to detect trends and patterns that are not obvious to humans. AI systems can analyze large amounts of complex data to come up with optimal solutions, even under conditions of uncertainty.

b) Machine learning and deep learning

Machine learning helps machines 'learn' from data and improve their ability to recognize patterns and predict outcomes without specific programming. Deep learning, a branch of machine learning, uses deep neural networks to process high-level data, helping to recognize complex patterns and understand context.

Machine learning and deep learning can improve prediction and analysis accuracy, helping businesses make faster and more accurate decisions. These models help automate decisions and minimize human intervention, while enhancing the ability to respond flexibly to market changes.

3) Internet of Things (IoT) and connected devices

a) The proliferation of IoT devices

IoT devices are physical devices integrated with sensors and network connectivity, allowing them to collect and transmit data without human intervention. Examples of IoT devices include smart watches, smart washing machines, and automated agricultural monitoring systems.

IoT enables continuous data collection and provides real-time information, giving businesses greater insight into their operations. Real-time data analysis helps detect problems early, optimize processes, and improve business decisions.

b) Impact on business processes

IoT helps automate and optimize business processes, from warehouse management to equipment maintenance. Systems can make automatic adjustments based on collected data, saving time and resources.

IoT enables personalized service delivery by collecting data about customer preferences and behavior. Connected devices enhance interactions between customers and businesses, thereby improving customer satisfaction and loyalty.

4) Data privacy and security

a) Growing concerns around data privacy

High-profile data leaks have increased public awareness of the risks associated with data privacy. These incidents not only damage the reputation of organizations but also increase the risk of misuse of personal information.

The rise in data breaches has led to increased data protection regulations such as GDPR and CCPA. Consumers increasingly expect businesses to not only comply with these regulations but also proactively protect their data.

b) Importance of robust data security measures

Encryption is one of the most basic data security techniques, helping to protect information from unauthorized access. Other data protection techniques include access rights management, data classification, and cybersecurity monitoring.

Compliance with regulations such as GDPR (Europe) and CCPA (California, USA) is not only a legal requirement but also part of corporate ethical responsibility. Organizations need to have clear policies and procedures in place to ensure that personal data is processed securely and transparently.

5) Ethical considerations in data usage

a) Addressing biases and fairness

Algorithmic bias can appear when AI training data is not fully representative or contains unconscious bias. To minimize bias, it is necessary to diversify training data and apply techniques such as sensitivity analysis and fair machine learning.

Fairness in AI requires designing systems that are able to evaluate fairly, without discriminating based on factors such as race, gender, or age. Continuous controls and assessments are needed to ensure that AI decisions do not cause discrimination.

b) Responsible AI and transparency

Responsible AI development requires adherence to ethical frameworks and guidelines such as the Asilomar AI Principles or the EU Ethics Guidelines for Trustworthy AI. These principles include transparency, fairness, non-harm, and accountability.

Users need to be clearly informed about how AI works and its limitations, including its capabilities and potential risks. Transparency helps build trust and empowers users to make informed choices when using AI-based products and services.

6) Data-driven innovation and business models

a) Leveraging data for innovation

Data analysis helps identify market trends, customer needs and untapped opportunities. Companies can use data to develop new business strategies, expand markets or create new services.

Data-driven products and services can be personalized to fit each customer's specific needs. Technology like AI and machine learning can help automate and optimize products, from That adds value to users.

b) Evolving business models

The subscription model provides businesses with a stable and predictable revenue stream through continuous service delivery. Monetizing data can be through selling advertising, analyzing data for third parties, or providing data as a service.

Businesses can collaborate and create data ecosystems, where data is shared and analyzed to benefit all parties. Data-sharing partnerships enhance innovation and new product development through the pooling of knowledge and resources.

7) Future challenges and considerations

a) Data governance and regulation

Protecting data privacy needs to be considered alongside maintaining the ability to use data for innovation and business growth. Organizations need to adopt policies and technology to ensure that personal data is protected while still being able to be analyzed and used effectively.

Data regulations are evolving rapidly, and organizations need to be flexible to adapt to these changes. Monitoring and understanding new regulations is important to ensure compliance and avoid legal risks.

b) Data literacy and skills gap

Data literacy is necessary to fully leverage the value of data and support data-driven decisions. Organizations need to invest in training and skills development to build a Strong data culture.

There is a huge demand for highly skilled data professionals, but there is currently a skills gap in the industry. Organizations need to find ways to attract and retain talent, as well as partner with other organizations. educational institutions to develop specialized training programs.

III. Conclusion

In this report, I discussed the role and value of data and information in the supply chain of ABC Manufacturing, a multinational manufacturing organization. I explored and analyzed how ABC Manufacturing uses data and information to support supply chain activities, from planning, to execution, to control. I have also addressed the consequences and impacts of the use of data and information on internal and external stakeholders, as well as related social, legal, and ethical issues. . From this report, I have drawn some main conclusions as follows:

- Data and information are important and valuable elements for business organizations, because they help organizations understand the market, customers, competitors, and themselves, as well as make decisions. identify, solve problems, and improve processes.
- The supply chain is one of ABC Manufacturing's key business processes, as it affects the company's ability to provide high-quality products, meet customer needs, and generate profits. . However, supply chain management is also a big challenge, because it requires facing many uncertain factors, such as market fluctuations, fierce competition, and environmental and political risks. treatment, and technology.
- ABC Manufacturing has applied solutions that use data and information to support supply chain activities, from planning, implementation, to control. These solutions include the use of data sources, tools, and manipulation methods, such as IoT devices, CRM systems, software, programming languages, algorithms, and systematic methods. list. These solutions have helped ABC Manufacturing forecast demand, adjust production and inventory, and optimize resource utilization, as well as improve efficiency and performance, enhance competitiveness, and enhance customer satisfaction and loyalty.
- The use of data and information to support ABC Manufacturing's supply chain also has consequences and impacts for stakeholders inside and outside the organization, as well as social and legal issues , and related ethics. Stakeholders include users, providers, and data managers, as well as partners, suppliers, government agencies, and the community. Social, legal, and ethical issues including data ownership, privacy, and security, as well as laws and regulations, principles, and ethical standards when working with data . The use of data and information can have positive or negative impacts on stakeholders, depending on how they are collected, stored, used, and protected.
- Data and information also have broader implications for environmental, economic, political, and cultural issues, as well as solutions and opportunities for the future. The use of data and information can contribute to minimizing negative impacts on the environment, such as saving energy, reducing emissions, and increasing recycling. The use of data and information can also contribute to economic development, such as creating new products and services, growing sales

and profits, and creating jobs and income. The use of data and information can also contribute to improving political issues, such as strengthening democracy, transparency, and accountability. The use of data and information can also contribute to respecting and protecting cultural issues, such as diversity, identity, and creativity. However, the use of data and information also requires balance and caution, to avoid negative or dangerous consequences, such as pollution, waste, fraud, intrusion, and loss of control. control.

From the above conclusions, I hope this article has provided you with an overview and insight into how ABC Manufacturing uses data and information to support its supply chain, as well as the consequences. and the impact of data and information use on stakeholders. I also hope this article has helped you improve your knowledge and skills about data and information in business, as well as develop critical and creative thinking. I thank you for reading this report and hope you have a good experience learning and working with data and information.

IV. References

Alex Edquist, L. G. S. G. K. R., 2022. *Data ethics: What it means and what it takes | McKinsey.* [Online]
Available at: https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/data-ethics-what-it-means-and-what-it-takes
[Accessed 25 2 2024].

Anon, n.d. *What roles do stakeholders play in data governance?.* [Online]
Available at: https://www.secoda.co/blog/stakeholder-roles-in-data-governance
[Accessed 25 2 2024].

cookie-script.com, 2023. *The Most Common Common Social Media Privacy Issues.* [Online]
Available at: https://cookie-script.com/blog/social-media-privacy-issues
[Accessed 29 2 2024].

Crothers, B., 2019. *Work life by Atlassian.* [Online]
Available at: https://www.atlassian.com/blog/productivity/cognitive-bias-examples
[Accessed 25 2 2024].

Ekran, 2022. *Ekransystem.com.* [Online]
Available at: https://www.ekransystem.com/en/blog/real-life-examples-insider-threat-caused-breaches
[Accessed 25 2 2024].

info@gdpr-advisor.com, 2023. *Ensuring Data Minimisation: A Cornerstone of GDPR Cybersecurity Policies.* [Online]
Available at: https://www.gdpr-advisor.com/ensuring-data-minimisation-a-cornerstone-of-gdpr-cybersecurity-policies/
[Accessed 25 2 2024].

Lukic, D., 2023. *Data Ethics: Safeguarding Privacy and Ensuring Responsible Data Practices.* [Online]
Available at: https://www.dataversity.net/data-ethics-safeguarding-privacy-and-ensuring-responsible-data-practices/
[Accessed 25 2 2024].

Michael Segalla, D. R., 2023. *The Ethics of Managing People's Data.* [Online]
Available at: https://hbr.org/2023/07/the-ethics-of-managing-peoples-data
[Accessed 25 2 2024].

Rueter, S., 2023. *Ethical Theories: Virtue Ethics, Utilitarianism, and Deontology.* [Online]
Available at: https://www.philosophos.org/ethical-theories-virtue-ethics-utilitarianism-deontology
[Accessed 25 2 2024].

Rueter, S., n.d. *Understanding Virtue Ethics, Utilitarianism and Deontology.* [Online]
Available at: https://www.philosophos.org/ethical-terms-virtue-ethics-utilitarianism-deontology
[Accessed 25 2 2024].

SmartDataCo, 2023. *Data Ethics: Safeguarding Privacy and Ensuring Responsible Data Practices..* [Online]
Available at: https://www.smartdatacollective.com/data-ethics-safeguarding-privacy-ensuring-responsible-data-practices/
[Accessed 25 2 2024].

Society, I., 2019. *Policy Brief: Principles for Responsible Data Handling.* [Online]
Available at: https://www.internetsociety.org/policybriefs/responsible-data-handling/
[Accessed 25 2 2024].

Thomas, K., 2013. *Stakeholder Engagement & Data Use Helping Stakeholders Get the Most from an SLDS.* [Online]
Available at: https://nces.ed.gov/programs/slds/pdf/stakeholderengagement_and_datause.pdf
[Accessed 26 2 2024].

V. Github

Link: https://github.com/hoaanngg2003/ASM_BPS/blob/main/ASM_BPS.pbix