Master's thesis

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Data Democratisation in the Realm of Digital Transformation.

Organisational Approach towards Data Democratisation.

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Abstract

The thesis shed light into the connectivity between the Organization and Employees in terms of their acceptance and contribution towards Digital Transformation initiatives through the different elements of Data Democratisation. The study identifies Six key elements of Data Democratisation and how these elements are incorporated to successfully steer Digital Transformation in the organization. The six elements are Data Governance, Data Accessibility, Data Literacy, Data Culture, Data Security and Technology. A combination of Surveys and Literature Review are used to build a foundation for the research. The Democratised tools, Google Forms, Google Analytics and Power-BI are the data analysis methodologies to populate the study results. The results contribute to the organisations, seeking to optimize their Digital Transformation initiatives through Data-Driven methods over traditional Information Technology.

Keywords: Data Democratisation, Digital Transformation, Data Democratization, Elements of Data Democratisation.

Preface

The research has been conducted under the guidance of Imad Bani Hani, Assistant Professor at Halmstad University. I convey my special thanks for his esteemed help and guidance during this research. I also thank all my batchmates of the DSI 2021-2023 batch for their feedback and encouragement during the study period. Special thanks to Maria Åkesson, Michel Thomsen and Ahmad Ghazawneh for their encouragement and guidance throughout the thesis. The survey participants deserve special mention for their valuable time and contributions to making the study meaningful.

1 Contents

2 Introduction.

The ability to collect, process and transform the data is critical for organisations to gain a competitive advantage in the domain of Digital Transformation. Various departments generate massive amounts of data in an organisation, and today, the analytical possibilities of this massive data are essential for better business outcomes. According to the high growth scenario prediction, the value of the EU data market will reach € 106.8B by 2020, with a compound annual growth rate of 15.7% since 2016. By 2020, the EU data economy was expected to grow to € 739B with an overall impact of 4% on the EU GDP under a high growth scenario characterised by an effective driving function of digital innovation (Europa, 2017). Despite the vast amount of data generated, many studies show that organisations still struggle to transform the data into massive economic gains. Organisations become competent in the market according to the ability to collect, process, and transform this data to gain a competitive advantage in the domain. Data Democratisation is turning the data into useful insights by making it more accessible and fathomable to everyone in an organisation or society, regardless of their technical skill or hierarchy. Data Democratisation involves everyone in decision-making. While break-down the data silos in the organisation promote trust, agility, innovation, and customer experience; Data Democratisation opens the possibilities of Data misinterpretation, Security risks and Data duplication when more people are dealing with the same data (Maynard-Atem, 2019). Digital Transformation and Data Democratisation are closely interrelated as organisations can leverage Data Democratisation to drive Digital Transformation.

2.1 Background

Data has become an essential component of everyday life, from social media interactions, shopping, electronic records, business improvement and many more. The history of data is an undeniable fact of human evolution of technological advancement, with data playing a progressively cardinal role in our societies and economies. As technology endures to advance, the future of data promises even more thrilling developments and challenges.

2.2 The History of Digital Transformation

The history of Digital Transformation has notions from 1990 onwards. Davenport (1990) denotes the role of IT in reforming business processes by enabling organisational streamlining, gathering, and distributing information, facilitating, monitoring, analysing and decision making, and parallelising tasks (Davenport et al., 1990). An earlier form of Digital Transformation framework is represented by N Venkatraman (1994), which breaks IT-enabled Business Transformation into five levels. (N. Venkatraman, 1994). Heilig et al. (2017) identify three generations and analyse the stages of respective digital transformations using a well-known model from the literature (Heilig et al., 2017). Digital Transformation has become disruptive to the point that it has altered human lives and reshaped the needs and expectations of society.

2.3 Data Democratisation

Data Democratisation is the idea of making data accessible to everyone in an organisation or society, excluding their practical skills or hierarchy. Data Democratisation is an important concept of digital transformation, empowering non-technical users capable of making data-driven decisions. Feras Batarseh & Yang (2020) gives an analogy to demonstrate Data Democratisation. An employee with expertise in data analytics and visualisation is retiring after 30 years of service. The data expertise he gained in 30 years needs to be extracted and represented in a software system to keep the organisation running and to provide timely insights to the decision-makers who are following him. To achieve this, the employee should decide on his data analytical skills to be *democratised* for his followers (Feras Batarseh & Yang, 2020). Multiple applications and processes create data silos of structured and unstructured data in various forms, and data can add value if integrated (Patel, 2019).

2.4 Problem area

The need for data democratisation roots in the necessity to efficiently use data silos created by Digital Transformation, lower dependence on IT departments for data access, and encourage business users to make data-driven decisions. The rise of self-service analytics and cloud computing has also played a considerable role in enabling data democratisation. Easy to use Self Service Business Intelligence tools, especially with Drag & Drop functionalities, may help users, who do not have analytical or technical skills to bypass coding skills (code runs in the background during Drag & Drop) and can transform raw data into usable information (Bani-Hani et al., 2018). According to Awasthi & George, in Data Democratisation, data is made available to organisation-wide employees, including technical and non-technical, to observe, analyse, and use in data-driven decision-making. (Awasthi & George, 2020). The research background on the topic of Data Democratisation displays the organisational areas where the best practices have not been uncovered enough to attain Digital Transformation outcomes. Not much research is available to recognise the difficulties in understanding how Data Democratisation can benefit Digital Transformation for its users. The study searches for the answer on how the implementation elements of Data Democratisation are linked to digitally transforming the business practices, strategies and actions to take to reach a wholly digitally transformed organisation through Data Democratisation. Therefore, this research study uses the quantitative approach to evaluate Data Democratisation efforts in a user context.

2.5 The Aim

The research aims to address the implementation challenges and hassles and explore and identify the channels through which data democratisation can benefit users in the context of Digital Transformation. Strategy, as well as changes to an organisation, including its structure, processes and culture, are required to yield the capability to generate new paths for value creation (Samarasinghe et al., 2022). The Research aims to present an understanding of the benefits that Data Democratisation provides to users. Once data is democratised, it brings down the cost of access to information by providing necessary data and access facilities at employees' fingertips (Sachithra Lokuge & Darshana Sedera, 2020). The research's target audience is the IT industry users from various sectors who deal with data daily at their workplaces. The research aims to find the answer to how easy it is for the end user to embrace the practical elements of data democratisation like Data

Governance, Data Access, Data Literacy, Data Culture, Data Security and Technology. The research can add value to the existing research in the same domain of Digital Transformation and suggests a theoretical framework for the implementation elements of Data Democratisation based on the empirical results. In another way, data democratisation is information stored on a platform with privileged access management, making the data more accessible to people across the organisation regardless of technical skill or hierarchy.

2.6 Research statement including the question.

The thesis aims to identify the imperative aspects of approaching Data Democratisation through literature study and quantitative methods. A desired result of the thesis is to identify the impacts of the implementation elements of Data Democratisation and how an organisation's users can reap the benefits of Data Democratisation. A supplementary goal is recognising the key elements of strategizing digital transformations so that organisations and users can strategize Data Democratisation. The following research question is formulated to achieve the research goals. How does an Organisation's approach to Data Democratisation influence employees to adopt and contribute to its Digital Transformation Journey?

2.7 Motivation

The thesis intended to examine the organisational approach and employees' vision on implementation elements of data democratisation and how the various elements of data democratisation help users in an organisation to embrace the outcomes of Digital Transformation in a meaningful way. The research question is framed after literature reviews, background study and problem analysis about Data Democratisation.

2.8 Importance

Digital Transformation is a critical factor in the success of modern businesses, and data democratisation has the potential to be a key enabler of Digital Transformation. This research aims to identify the benefits of data democratisation, explore the challenges of implementing data democratisation, and provide recommendations for businesses looking to adopt this approach. The research will be conducted through literature reviews on digital transformation and data democratisation. Surveys on user understanding of the elements of data democratisation were conducted as part of the research to see how professionals embrace Data Democratisation as organisational users. The research emphasises the benefits of data democratisation from the users' perspective, implementation challenges, and success factors. The thesis aims to provide insights into data democratisation and its implementation during the digital transformation journey.

3 Literature review.

The Literature Review examines prior literature on the topics of Digital Transformation and Data Democratisation to get an in-depth understanding of theoretical and realistic information. As part of the thesis, an integrative literature review was conducted to locate reliable sources of support information. Data Democratisation is an emerging subject. For newly emerging topics, an integrative literature review is to create initial or preliminary conceptualisations and theoretical models rather than review old ones. An integrative review often requires creative data collection, as the intention is to associate assessments and awareness from diverse fields or research traditions (Snyder, 2019). The Literature review also helped to evaluate the quantitative data obtained as part of the research. The Literature review was based on the criteria Definition, History, and importance of Digital Transformation. Research articles, books, and other published texts on Data Democratisation were selected based on the criteria of Definition, importance, and relevance. ScienceDirect, Google Scholar, SpringerLink, ACM, AIS and ResearchGate were the major repositories referred for the literature search. Newer works of literature were referenced due to the novelty and concurrence of the subject. An extensive literature search was conducted to identify the elements of Data Democratisation. The literature review also included secondary sources like White papers and organisational articles from the internet. Various keyword combinations were used to retrieve the maximum available literature publishing to support the research. Some of the keywords include, "Data Democratis(z)ation" and "Digital Transformation". Multiple keywords and keyword iterations were used in the search string. Even though the subject is new, and importance was given to the latest articles, due to the relevance, some articles from earlier years are considered as well. The search results were screened by eliminating duplicates, relevance, concurrency, relation to the subject, and reliability. Out of 32 selected titles from various search repositories, Five pieces of literature on Digital Transformation and Seven pieces of literature on Data Democratisation were considered in the final review.

2.1 Digital Transformation

Digital Transformation opportunities and Data analytics approaches in recent years have influenced organisations to drive decision-making and improve business and operational results. Bharadwaj et al. (2013) mention that Digital Business strategy has taken over traditional IT strategy by incorporating all functions and processes under digital resources. Digital Business strategy depends on digital information exchange through Digital platforms across organisations. (Bharadwaj et al., 2013). Digital transformation indicates incorporating digitalisation into all business areas by changing how the business works and providing value to its customers. It is an intentional process that leverages the advantages of digital transformation to fundamentally change how organisations operate and deliver customer value (Kurtz, 2016). Digital Transformation requires organisations to make strategic changes to improve their employees' skills and coordinate people, processes, and technologies (Desmet et al., 2015). In today's rapidly changing business environment, organisations increasingly recognise the importance of digital transformation to remain competitive and relevant. Digital Transformation encompasses many technologies, including cloud computing, artificial intelligence, machine learning, and the Internet of Things. By leveraging these technologies, organisations can streamline processes, improve customer experiences, and drive innovation and growth (Weill & Vitale, 2001). If a company is not a disruptor, it is disruptable. The digital transformation thus becomes a survival tactic and a long-term strategy (Andriole, 2018).

2.2 Data Democratisation

The theoretical part of Data Democratisation is straightforward to understand and promising (Awasthi & George, 2020). Data democratisation is a continuing process that increases data access and helps employees search, access, process and share the data. Various implementation forms of Data Democratisation show decision-making success and improve organisational business outcomes. Various works of literature on Digital Transformation and Data Democratisation help organisations alter their traditional businesses into data-driven ones, focusing on data democratisation as a part of their data governance strategy (Samarasinghe et al., 2022). Data Democratisation is critical to promoting a data-driven culture because it empowers employees to use data in their daily work and make informed decisions (Ruijer et al., 2017). To tear down the knowledge obstructions between departments, organisations should develop an enterprise approach integrated across administrative and operational units (Jabbar et al., 2019). Technical, managerial, and organisational capabilities must combine to transform data into innovative business strategies (Ciampi et al., 2021). Access is a critical strategic tool to generate better firm outcomes, including innovation and performance. While 83 % of companies recognise the importance of turning data into insights, only 22 % felt they were achieving this objective (Klahr, 2020). According to the framework suggested by (Menon & Varadarajan, 1992), democratising data may facilitate knowledge utilisation. If more people within a firm can access relevant data and use it to inform their decision-making, they may be more likely to utilise knowledge effectively. The proposed framework and model for understanding knowledge utilisation may apply to understand how data democratisation initiatives affect decision-making in firms. Suppose a firm is trying to democratise data. In that case, it may be important to develop metrics for measuring the success of these initiatives and ensuring that they result in more effective decision-making (Menon & Varadarajan, 1992). Data democratisation means making data more accessible to users and fuelling Digital Transformation efforts. Many organisations are aware of the seamless possibilities of Digital transformation, and organisations are motivated to use the data for business improvement with the help of data analytics. AI and ML methods help organisations to achieve their goals in a better way with data analytics. This research discusses the importance of data democratisation in the domain of digital transformation. With the considerable speeding up of digital transformation, many studies have recognised that better decisions derive when more people are involved in data-driven decisions. One of the benefits of data democratisation is that technical and non-technical users can add value to data insights in various implementation forms of Data Democratisation. Bringing data across the users enables the business to achieve add-on results. The study by the European Commission indicates that 6M people in Europe worked in data-related jobs in 2015 and 6.16M in 2016. Regarding medium-term developments, it is estimated that under a high-growth scenario, the number of data workers in Europe will grow to 10.43M, with a compound average growth rate of 14.1% by 2020 (Europa, 2017).

4 Methodology

The extensive Literature Review helped in developing a methodology for this research. The LR also revealed the focus on Digital Transformation and its influence on organisational data practices and a comprehensive understanding of the elements influencing Data Democratisation. The Conceptual model of data usage in organisations identified was based on the work of Menon and Varadarajan. They are organisational, task, environmental, informational, and individual factors (Menon & Varadarajan, 1992). Even though the literature is from the early nineties, they provide a telescopic view, where the impact of Data Democratisation can be structurally analysed through organisational focal points. Incorporating insights from Samarasinghe & Lokuge, contribute to the broader organisational goal of achieving a data-driven culture and the key factors facilitating Digital Transformation means prioritising Data Accessibility, Data Quality, Data literacy and Technology (Samarasinghe & Lokuge, 2022). The dimensions of success outlined in the literature by Barthel, and are Strategy, Governance, Culture, Competency, and IT infrastructure (Barthel, 2021). Fischer, identified critical parameters of successful Digital Transformation are Strategy, Governance, Culture, Competency, and IT infrastructure (Fischer et al., 2020). These dimensions serve as essential markers for evaluating the effectiveness of Data Democratisation initiatives within the broader spectrum of Digital Transformation. Schlosser draws the factor that IT alignment, including Communications, Dynamic IT Scope, IT Governance, and Value

Analytics, are the measurements of Digital transformation (Schlosser et al., 2015). The literature review identifies six critical elements of Data Democratisation: Data Governance, Data Accessibility, Data Literacy, Data Culture, Data Security, and Technology. These elements serve as the crucial points for the subsequent analysis, providing a precise understanding of how each element bestows to the achievement and effectiveness of implementing Data Democratisation for business enhancement. Through this approach, the research endeavours to disclose the association between Digital Transformation, Data Democratisation, and organizational outcomes by shedding light on the decisive factors that drive the dynamically expanding data-driven business trends.

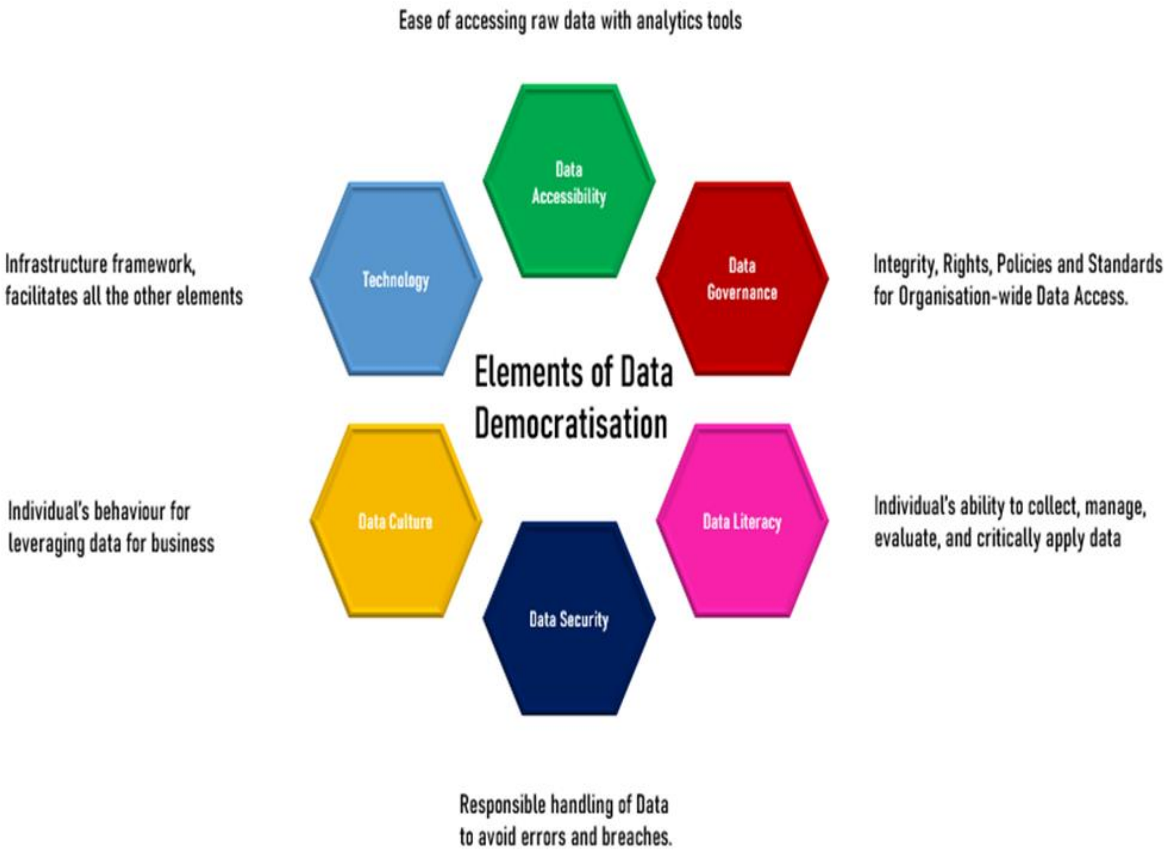

Figure 1. *Elements of Data Democratisation.*

4.1 Data Governance

According to Otto (2011), Data Governance means considering data as a valuable organisational asset, defining, and implementing access limits for decision-making on data handling, and the necessity of imposing rules and guidelines for quality data management (Otto, 2011). According to the Data Governance Institute, Data Governance is a system of decision rights and accountabilities for information-related processes, executed according to agreed-upon models which describe who can take what actions with what information, and when, under what circumstances, using what methods (*Defining Data Governance*, 2020). In a simplified form, it is organising and implementing the policies and standards for an organisation's availability, integrity, and data access security. Data governance requires the management and orchestration of Digital Services and aims to achieve value creation and data protection (Vial, 2023).

4.2 Data Accessibility

Data Accessibility is the easiness of access to the backend data using a user-friendly interface or representation tools and with direct or interactive access to the backend while hiding the technical complexity of data retrieval from the user (Ferreira et al., 2017). Data accessibility can be obtained using data analytics tools or self-service tools, which allow users to manage data and picturise it without much technical expertise. It is the easiness of accessing the data for a user in the most reliable way. Technology is crucial in making data super accessible to the end user. Analytics tools and cloud-based solutions help users and organisations bring value additions. According to McKinsey & Company, organisations implementing Analytics tools as part of data democratisation have measured the results by operational efficiency and decision-making process (McKinsey & Company, 2016).

4.3 Data Literacy

Data literacy is the ability to ask and answer real-world questions from large and small data sets through an inquiry process with ethics. Data literacy is based on core practical and creative skills, with the ability to extend knowledge of specialised data handling skills according to selecting, cleaning, analysing, visualising, critiquing, interpreting and communicating data insights as part of a design process (Wolff et al., 2016). Gartner defines data literacy as the ability to read, write and communicate data in context, including understanding data sources and constructs, analytical methods and techniques applied, and the ability to describe the use case, application and resulting value. Data literacy is an underlying component of an employee's ability and desire to use existing and emerging technology to drive better business outcomes (Panetta, 2021). Data Literacy is the ability to collect, manage, evaluate, and critically apply data (Ridsdale et al., 2015).

4.4 Data Culture

According to Forbes, data culture is the combined beliefs and behaviours of the individuals in the organisation for leveraging data for enhanced business performance (Southekal, 2022). A report from MIT indicates that a data-driven culture results in better revenue, better profitability and increased operational productivity (Brown, 2021).

4.5 Data Security

Digital transformation fetches critical data security concerns that must be addressed suitably through specific measures based on the organisation's internal and external environments, managerial and organisational aspects, and digital strategy formulation (Gebremeskel et al.) According to Simmonds (2018), Data security consists of implementing technology solutions and promoting a culture of personal responsibility within the organisation. Even though the technical measures are in place, lack of focus or human errors often cause security breaches in an organisation. The awareness of potential security threats and the consequences of noncompliance with regulations are also critical (Simmonds, 2018).

4.6 Technology

Technology represents the infrastructure framework which facilitates the other elements of data democratisation to the end user. While dealing with a large amount of data, technology is a significant element which fuels data democratisation to enable users to deal with a large amount of data. Technological innovations like cloud storage data, visualisation software, and self-service business intelligence applications are some examples to help users take advantage of Data Democratisation (Talha, 2021).

5 Approach

A mixed approach with Qualitative and Quantitative methods is selected to conduct this research. Considering the freshness of the topic, an integrative literature study was conducted. A literature review constructs the basis for developing a new conceptual model or theory, and it can be valuable when aiming to map the development of an individual research field over time (Snyder, 2019). The survey helps to get quantitative information from the participants. Carefully drafted multiple-choice answer questions can give insights into the implementation elements of data democratisation. The participants are selected based on their experience with data and interest in participating in the research. People with different job titles are identified to conduct this research. Following is the number of participants from various organisations in the IT industry.

6 Design

The questionnaire was structured into various sections. The significance and the research purpose were communicated to the participants. Demographic information, including job title, experience, industry sector, and organization size are collected in the next section. The qualitative investigation, integrating open-ended questions and multiple-choice questions, including the Likert scale for each Data Democratisation element was the focus in collecting the required data from the participants. The survey is conducted among IT professionals, data analysts, and information security professionals engaged in organizational data handling. This ensured the participation from various streams of experience. For the result tabulation, data analysis will comprise a thematic analysis of descriptive statistics for quantitative data, correlating responses to the elected elements of Data Democratisation. This survey structure intends to provide a systematic understanding of the status and impact of Data Democratisation elements within the participant's organisation, blending the foundation of qualitative and quantitative data.

7 Empirical case

To study the role of data democratization in the domain of digital transformation, a mix of quantitative and qualitative research approaches was elected. The study represents the real-life contribution of data democracy, towards digital transformation. The following table represents the participant information.

# No	Industry	Employee Strength	Employees involved in the research
1	IT-Hardware	60000	8
2	IT Software	11000	4
3	IT -Services	150000	2
4	Telecommunications	15000	3
5	IT-Other	<10000	3

Table 1. *Participant information.*

8 Data collection

The survey respondents were twenty. They were categorized into four groups. Professional experience from zero to two years, two to five years, five to fifteen years, and above fifteen years. The job levels were divided into four sections. Beginner, Intermediate, Specialist and Manager or above. The majority (70%) of the respondents, were more than five years of experience and belonged to the category of specialists and Managers (95%). 25% of the respondents were beginners. The survey questions are divided between 6 implementation elements of data democratization and each category contains 3 questions. The first three questions project the participant's information. Fig2

9 Ethical Considerations

All the participants are informed about the purpose of the research, Data collection and how the gathered data will be used for the research. The Data collection was anonymous and personal, sensitive or identification information was not collected during the survey. The participants from various demographics were involved in this survey and organisation-sensitive or identifiable information was not collected. Transparency and trust were ensured in every stage of the process considering all ethical and social aspects of the research.

10 The Limitation of the Research

The research is primarily limited to Literature Reviews and Survey questions. The survey respondents may not provide accurate data due to organisational limitations and social response bias. The organisational structure, culture and technological divisions can also be a factor influencing the accuracy of the data. The research subject is also a matter of consideration due to the scarcity of associated literature and research as well as the dynamically emerging trends in the Digital Transformation domain.

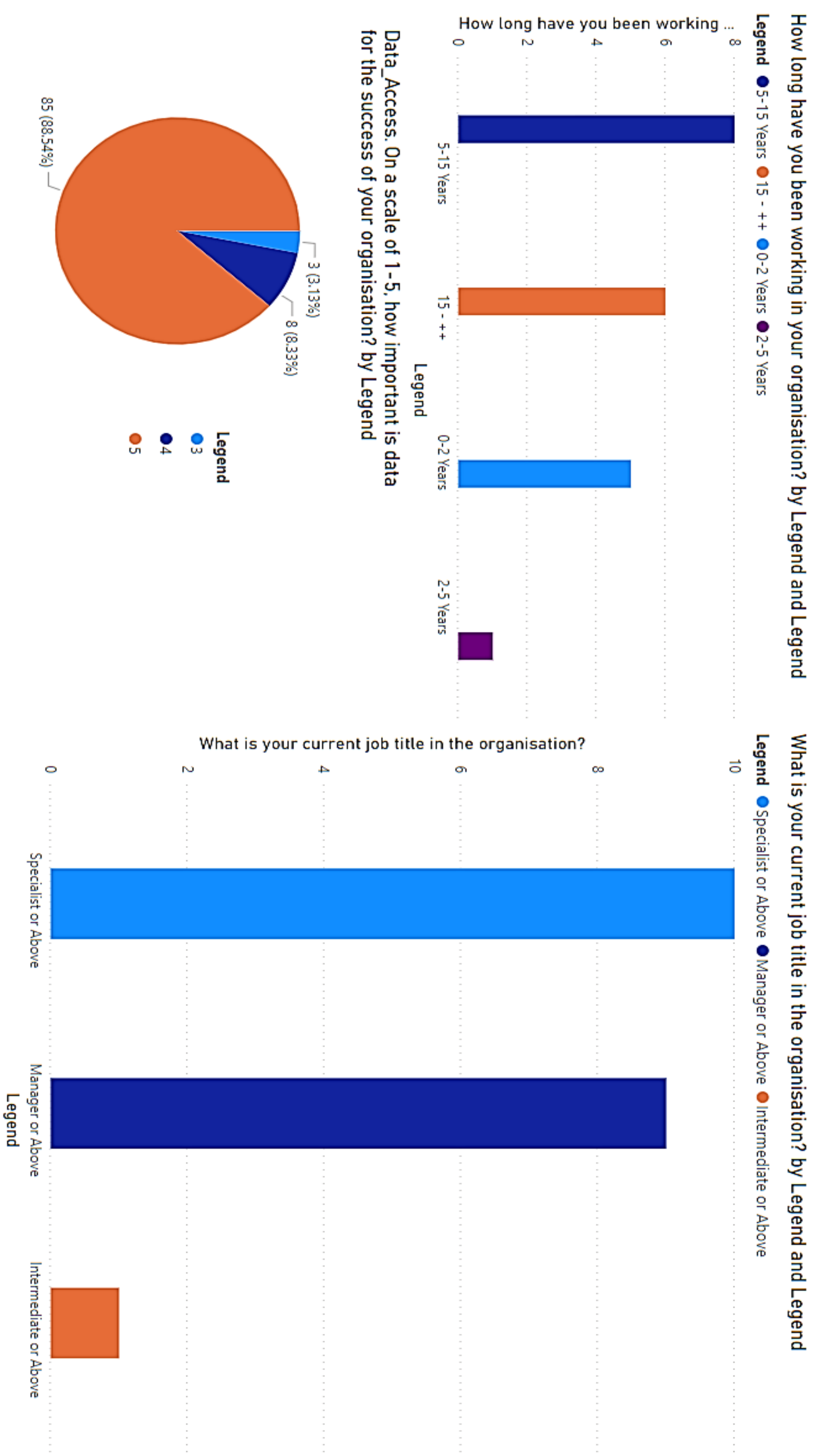

Figure 2. *Basic information.*

11 Analysis

All respondents of the survey acknowledged the significance of data in their organisation. The survey responses were visualised using data visualization methods. Google Forms offers simplicity and a prominent geographical presence. Google Forms also helps in the efficient gathering of survey responses and basic built-in visualisation capabilities. So, Google Forms was used to collect the data and initial analysis. Microsoft Power-BI is used for in-depth visualization and analysis of the final data. The combination of Power BI and Google Forms helped in the formation of better integration of results. For visualisation purposes, the questions and results are given in *Figure 3* and *Figure 4*, which are generated by Power BI analytics.

12 Findings

Organizations enforce a strong significance on data governance. 85% of the survey participants reported that the organisation's policy enforcement is in place. This highlights a determination to protect sensitive information. 85% of the respondents had access to Data in the organisations. A large edge (90%) reported that the organizations implement strict data access levels to safeguard data integrity and protection, showing a commitment to maintaining data security. Overall, the findings indicate that the organisations follow a strict focus on data governance and security.

According to the Data Accessibility, a majority (85%) of respondents acknowledge that data is critical to their organization's success. Additionally, 55% reported frequent data access regularly in their daily tasks. Another 85% of the respondents also mentioned that they can access organisational data without restrictions.

The majority of 90% express confidence in their data literacy, mentioning their confidence in controlling data for decision-making. Response from 45% of respondents regarding employees' ability to use relevant data across departments emphasizes data democratisation principles. This denotes that an opportunity exists to bridge the gap between the importance of Data and enabling practical data usage within organisations.

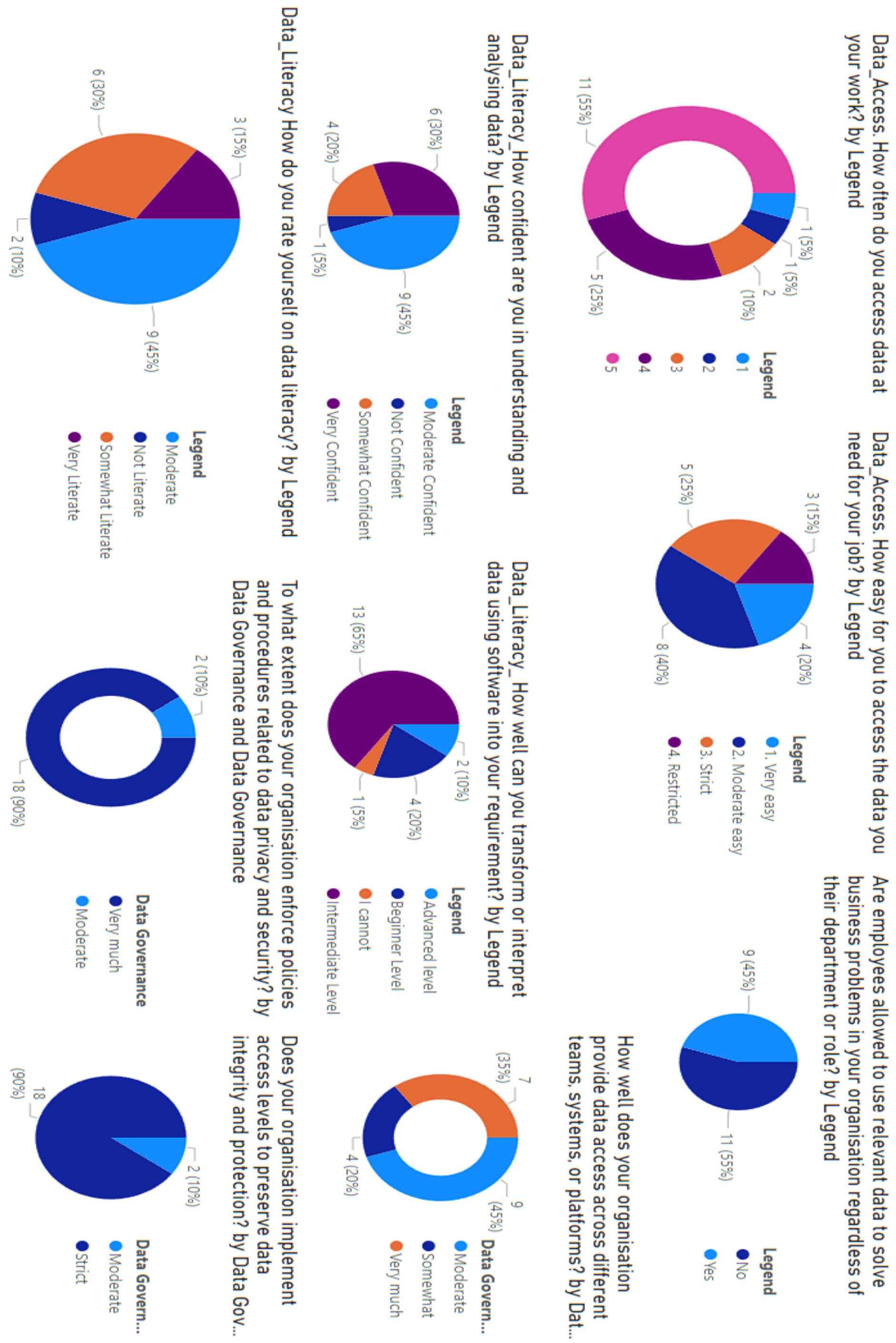

Figure 3. *Data Governance, Access, and Literacy*

All participants agreed that data analytics or analytics tools helped their organisation to optimise operational efficiency, productivity, and customer value. Except 10% of the participants believe in their organisation's ability to use data across various departments and teams for decision-making purposes. Everyone believes that their organisation is capable enough to use data for new ideas and innovations.

Everyone was confident about two facts about data security and privacy. Their organisation’s ability to prevent cyber threats and data breaches and the security of the data they access at work. All the organisations educated their employees about data security breaches and their impact on the business.

Towards Technology as an element of Data Democratisation, it’s been noted that all the participants concurrently agreed that their organisation rely on Technology to store and manage data. This shows that organisations seriously address the fundamental role of Technological infrastructure in storing and managing the data. Results indicate the convincing importance of infrastructure and Technology in facilitating Data Democratisation.

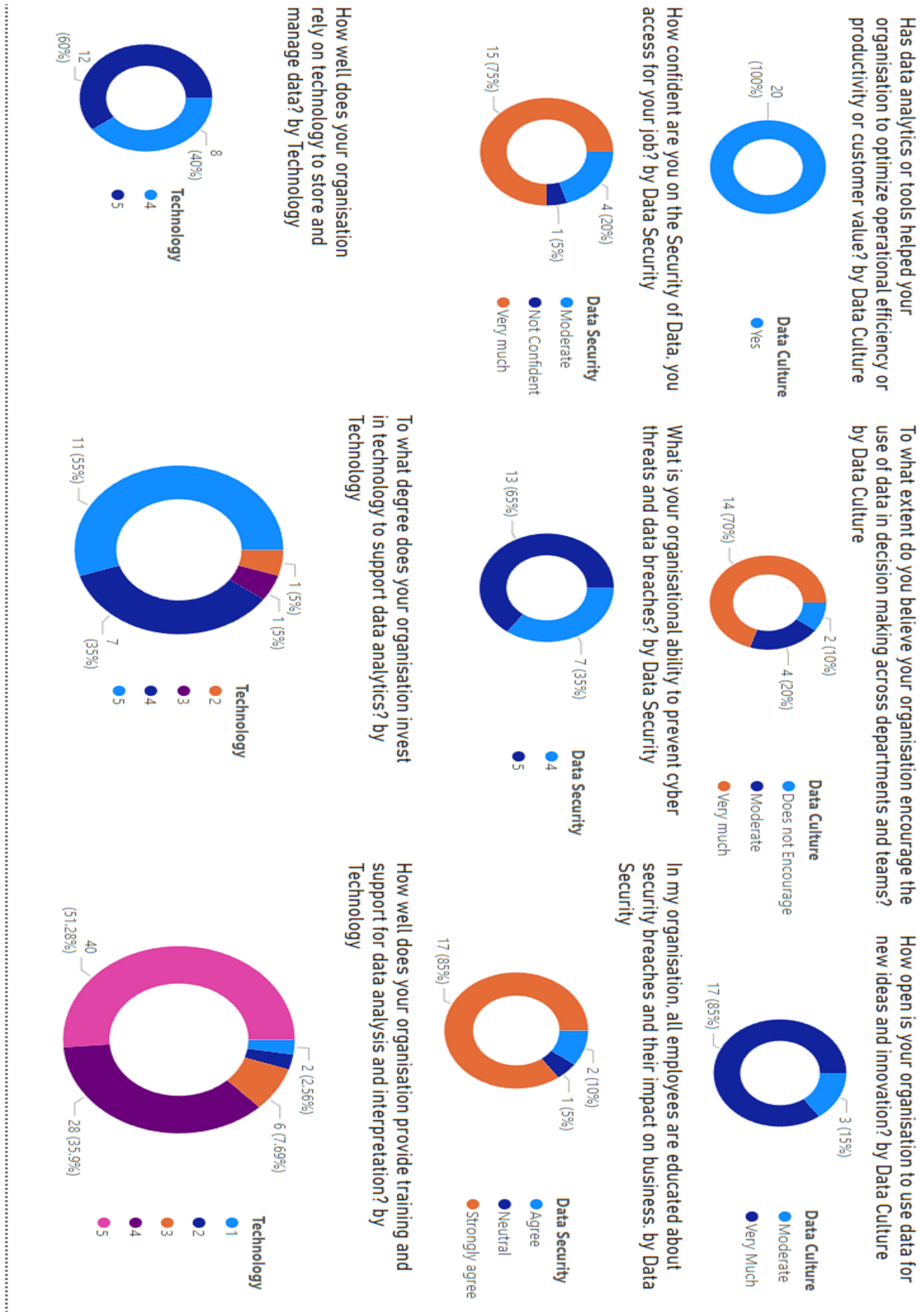

Figure 4. *Data Culture, Security and Technology*

13 Discussion

The study aimed to investigate the elements of Data Democratisation and how organisations and employees are influenced by them with the help of the research question, “How does an Organisation’s approach to Data

Democratisation influence employees to adopt and contribute to its Digital Transformation Journey?”. Addressing the elements of Data Democratisation and its influence on employees of an organisation are key focal points to advance Digital Transformation efforts. According to various case studies, a wider organisational approach to Data Democratisation is to form a framework according to their needs. Awasthi & George (2020) analyses case studies from four organisations. The case studies conclude that the publishing of organizational data to as many employees as possible with access controls through organisational frameworks brings measurable positive outcomes (Awasthi & George, 2020).

14 Conclusion

The research presented intentions to evaluate the elements of Data Democratisation through the angle of Digital Transformation. The implementation elements of Data Democratisation yield Data value determination and using the value through diverse analytical means represents modern-day business. Towards this end, a structured literature review and quantitative study are conducted and based on the results, the implementation of Data Democratisation accelerates the Digital Transformation efforts, and the implementation elements can vary between organizations depending on the need and circumstances. However, according to this research, it's clear that data democratisation is a significant component of Digital Transformation. Finding, accessing, and leveraging exact data is an obstacle in conducting research and innovation. Data Democratisation hence becomes a crucial enabler of digital transformation by giving access to data and analytics. As the organizations steer this journey of Data Democratisation, the relationship between data accessibility, employee confidence, and collaborative data usage will be of crucial importance in nurturing a culture for employees to contribute to and adopt the digital transformation initiatives. Organisations can foster innovation and better decision-making through their employees. Data democratization reduces data silos, gives excellent alignment with business objectives, creates a healthier organizational culture, and improved data governance and security. Implementation of data democratization ensures accuracy, compliance, regulations, and data protection in an organization. Data Analytics and visualisation approaches for the organisation can be started with in-house Data Democratisation endeavours. The subject is of extensive dimensions and prospects. More studies need to arise, and every organisation should advance to reap the benefit of Data Democratisation.

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II. Appendices

Note to the participants.

Data refers to any electronic information, collected, stored and processed by the organisation, an employee or a software program. Data can be in any form of digital information stored as raw or organised, ranging from customer, financial, marketing, inventory, sales, production, HR, statistics information, logs, bugs etc. The data can be accessed, analysed, interpreted, or represented using various software for decision-making, efficiency improvement, and business value addition. This survey does not aim to analyse confidential or proprietary data.

Survey Questions

1. How long have you been working in your organisation?
2. What is your current job title in the organisation?
3. On a scale of 1-5, how important is data for the success of organisation?

   Data Access

4. How often do you access data at your work?
   a. Very often
   b. Often
   c. Rarely
   d. Never
5. How easy for you to access the data you need for your job?
   a. Very easy

b. Moderate easy
c. Strict
d. Restricted

6. Are employees allowed to use relevant data to solve business problems in your organisation regardless of their department or role?
   a. Yes
   b. no

Data Literacy

7. How confident are you in understanding and analysing data?
   a. Very Confident
   b. Moderate Confident
   c. Somewhat Confident
   d. Not Confident
8. How well can you transform or interpret data using software into your requirement?
   a. Advanced level
   b. Intermediate level
   c. Beginner level
   d. I cannot
9. How do you rate yourself on data literacy?
   a. Very Literate
   b. Moderate Literate
   c. Somewhat Literate
   d. Not Literate

Data Governance

10. To what extent does your organisation enforce policies and procedures related to data privacy and security?
    a. Very much
    b. Moderate
    c. Somewhat
    d. Does not enforce.

11. How well does your organisation provide data access across different teams, systems, or platforms?
    a. Very much
    b. Moderate
    c. Somewhat
    d. Does not provide.
12. Does your organisation implement access levels to preserve data integrity and protection?
    a. Strict Access
    b. Moderate
    c. Somewhat
    d. No

Data Culture

13. Has data analytics or tools helped your organisation to optimize operational efficiency or productivity or customer value?
    a. Yes
    b. No
14. To what extent do you believe your organisation encourage the use of data in decision-making across departments and teams?
    a. Very much
    b. Moderate
    c. Somewhat
    d. Does not encourage.
15. How open is your organisation to use data for new ideas and innovation?
    a. Very much
    b. Moderate
    c. Somewhat
    d. Not open to ideas.

Data Security

16. How confident are you on the Security of Data, you access for your job?
    a. Very much
    b. Moderate
    c. Somewhat
    d. Not Confident

17. What is your organisational ability to prevent cyber threats and data breaches?
    a. Expert
    b. Advanced
    c. Intermediate
    d. Beginner
18. In my organisation, all employees are educated about security breaches and their impact on business.
    a. Yes
    b. No

Technology

19. How well does your organisation rely on technology to store and manage data?
    a. Expert
    b. Advanced
    c. Intermediate
    d. Beginner
20. To what degree does your organisation invest in technology to support data analytics?
    a. Expert
    b. Advanced
    c. Intermediate
    d. Beginner
21. How well does your organisation provide training and support for data analysis and interpretation?
    a. Very much
    b. Moderate
    c. Somewhat
    d. Does not provide.