THE DATA AS PARTNER (DAP) FRAMEWORK: A CONCEPTUAL EVALUATION - QUALITATIVE STUDY

Sonia Hassan
Department of Science and Engineering
Solent University
Southampton, England
sonia.hassan@solent.ac.uk

Drishty Sobnath
Department of Science and Engineering
Solent University
Southampton, England
drishty.sobnath@solent.ac.uk

Esther Snell
Department of Science and Engineering
Solent University
Southampton, England
esther.snell@solent.ac.uk

Olufemi Isiaq
Creative Computing Institute
Department of Computer and Data Science and AI
Universiy of Arts London
f.isiaq@arts.ac.uk

***Abstract*— *This paper explores the innovative Data As Partner (DAP) philosophy as a transformative approach to organisational data strategy, drawing upon established concepts of information value, technology acceptance, and inclusivity for people with disabilities (PwD) in smart cities. The study conducted a comprehensive systematic review, retrieving 380 relevant documents from diverse databases using specific keywords for precision. After meticulous screening, 20 eligible papers were selected, forming the foundation for deriving the key components of the DAP framework.*

Subsequently, a qualitative focus group study engaged 18 participants from diverse sectors to evaluate the practical applicability of the DAP conceptual framework. Thematic analysis of the focus group sessions revealed five key themes: practical value, pragmatic performance, ethical perspective, clarity of the framework, and enhancement tools. These findings offer valuable insights for refining the DAP framework and optimising its integration into real-world scenarios, particularly in empowering individuals in smart cities, especially those with disabilities.

Future research should explore larger and more diverse samples to generalise findings and assess the framework's long-term impact through longitudinal evaluations. By adopting user-centred methodologies, the DAP framework can be further enhanced as a strategic tool, empowering data to actively participate in organisational decision-making processes.

Keywords- *Data As Partner, Automation, Duplication, Privacy and Security, Hybridisation, Smart Cities, People with Disabilities.*

I. INTRODUCTION

The Data As Partner (DAP) philosophy represents a new frontier in organisational data strategy but has foundations in established concepts around information value and technology acceptance and providing ease for people with disabilities (PwD) in smart cities. Understanding predictors of information use and adoption can provide insights into integrating DAP in practice. Information has no inherent value – its utility depends on targeted human application [7]. DAPT's Model categories information value into various schema. Key elements include relevance, timeliness, accuracy, aggregation, and completeness. This underscores that data's worth stems not just from its availability, but its contextualisation into meaningful, actionable insights. However, information use does not automatically follow availability.

The rapidly expanding volume and variety of data represents an invaluable asset to drive strategic decision-making and enhance performance. The Data as Partner (DAP) framework aims to address emerging opportunities and ethical challenges in data automation. Automating data management offers immense potential to streamline information gathering and analysis across sectors as discussed in previous paper. Research carried previously indicates widespread acceptance of data automation among individuals, with 69.6% of survey respondents believing it represents the future of superior data management. Though, 26.4% personally oppose automation, highlighting the need to understand diverse perceptions [1]. Data automation i.e., using technology to perform tasks competently to process, manage, analyse data; has been leveraged for decades across industries, dramatically enhancing efficiency and accuracy while reducing human intervention [2]. Yet, individuals may be impacted differently based on their trust in data-driven insights and willingness to act upon them. Data automation can particularly benefit people with disabilities (PwD) by ensuring accessible, unbiased data management even after their demise, in alignment with personal preferences [2]. Simply collecting large datasets does not automatically generate useful insights. To fully realise the promise of "Big Data", a paradigm shift is essential in how organisations perceive and relate to data. The emerging DAP philosophy catalyses this transformational change. Rather than view data as a static, passive resource, the DAP concept recognises data as an active partner that can reveal key insights, guide evidence-based decisions, and unlock new sources of value [3]. Implementing this pioneering vision to implement in smart cities requires robust frameworks providing structured guidance on integrating data as an equal decision-making partner across organisational processes. McKinsey advocates developing a "data partnership model" between business and analytics teams to drive data-based problem solving [4]. Launching cross-functional DAP initiatives can break down data silos, promote collaboration, and enable data democratization [5]. Nonetheless, research assessing and enhancing DAP frameworks for real-world application remains scarce. This represents a critical knowledge gap, as conceptual models require empirical validation and refinement to maximise relevance and adoption.

These theories highlight that data must actively generate tangible value to be accepted as a partner in smart cities to improve quality of life (QoL) for people with disabilities (PwD). Qualitative studies also reveal key enablers for data utilisation, including analytical acumen, tools, leadership support, and data governance [8]. Smart cities can foster partnership with data by cultivating a data-driven culture, removing access barriers, and tightening links between

analytics and business operations [9]. Still, as data volumes grow exponentially, new challenges emerge around extraction, integration, security, and talent acquisition [10]. Developing comprehensive frameworks to harness data as partner remains an open research priority; core components such as data automation, duplication, privacy and security and hybridisation are essential in addressing this framework. DAP facilitates unbiased, owner-centric data management by treating data as an active partner rather than a passive asset. This paper provides a concise introduction to DAP's potential for streamlining information use while safeguarding individual rights and preferences. Further research is carried to fully investigate the multifaceted landscape of data automation and realise DAP's promise of converting data into an empowering, lifelong partner via conducting focus groups.

II. Methodology

A. Study Design and Sampling

To evaluate the DAP conceptual framework, a qualitative focus group study was undertaken. Focus groups are a well-established method for eliciting rich insights into attitudes, perceptions, beliefs, and experiences through open group discussion [6]. 18 total participants took part across 5 separate sessions, with 3 and 4 participants in each group to maintain engagement. This group size fits best practice guidelines for generating dynamic discussion while being small enough for all voices to be heard [37]. The sample comprised industry professionals from sectors including technology, academia, and with government job experience. This ensured collection of multifaceted insights on the DAP framework from both theoretical and applied perspectives.

The interaction between participants provides valuable data, reveals areas of consensus or divergence, and enables clarification of viewpoints. For eliciting feedback on a complex organisational framework like DAP, interactive focus groups are more appropriate than one-on-one interviews. Purposeful sampling was used to recruit participants with relevant knowledge in IT across diverse industries. Instead of representativeness like probability sampling, deliberate sampling focuses on in-depth understanding from information-rich cases [38]. The inclusion criteria required participants to have hands-on experience along with good conceptual knowledge of IT.

B. Focus Group Procedure

The focus groups were conducted via video conference using Microsoft Teams. Each session lasted average 60 minutes. A moderator facilitated the sessions using a semi-structured guide, allowing flexibility for open-ended discussion while also keeping on topic. To contextualise, participants were first provided a summary of the DAP framework's rationale, aims, components, and proposed application in organisations. They were then asked a series of open-ended questions to elicit their insights and feedback on the framework. Questions probed their initial impressions, perceived strengths and weaknesses, understanding of key concepts, implementation feasibility, and suggestions for improvements. Participants were encouraged to share examples from their own experience analysing organisational data. The moderator prompted clarification or elaboration as needed. All sessions were audio recorded with participant consent.

C. Data Analysis

The focus group recordings were professionally transcribed. To rigorously analyse the qualitative data, conventional content analysis methodology was applied using NVivo software [39]. This inductive approach involved iteratively coding the transcripts to identify recurrent themes, patterns, and categories reflecting participants' perspectives on the DAP framework.

Table 1 presents the repetition of keywords used during the qualitative analysis to extract themes from the group sessions. These carefully selected keywords encompassed relevant concepts and experiences discussed by the participants, enabling researcher to identify recurring patterns and connections within the transcribed text. The systematic application of these keywords facilitated the formation of meaningful themes, contributing to a comprehensive understanding of the research topic and the insights shared during the group sessions.

The analysis followed a systematic sequence aligned to best practices [40]. First, the lead researcher thoroughly read the transcripts to gain full immersion in the data. Next, open coding was conducted by assigning descriptive codes to small units of content capturing distinct ideas. These surface codes were consolidated into higher-order categories through axial coding. Finally, selective coding developed overarching themes integrating the core concepts. NVivo's query and visualisation functions were leveraged to examine intersections between themes and codes, table 1 and figure 1.

	A : clarity of framework	B : Enhancement Tool	C : ethical perspective	D : practical value	E : pragmatic performance
1 : focus g...	11	3	8	19	33
2 : focus...	4	2	0	13	15
3 : focus...	9	3	0	9	8
4 : focus...	0	3	0	0	0
5 : focus...	0	3	0	0	0

Table 1: Themes extracted from qualitative analysis

Five themes were extracted from the analysis of the group sessions: practical value (real world application), pragmatic performance, ethical perspective, clarity of the framework, and enhancement tools which represent the key areas of focus and discussion among the participants. The practical value theme reflects the emphasis on the applicability of the framework in real-world contexts and its potential to address practical challenges faced. The pragmatic performance theme centres around the effectiveness and efficiency of the framework in supporting processes. The ethical perspective theme highlights considerations related to ethical implications and responsibilities within the framework. The clarity of the framework theme pertains to the participants' evaluation of the framework's comprehensibility and its ability to provide clear guidance. Lastly, the enhancement tool's theme captures the suggestions and recommendations put forth by participants regarding the inclusion of supplementary elements to enhance the framework's utility. These five themes provide a comprehensive overview of the participants' perspectives and insights related to the DAP conceptual framework.

Fig. 1. Primary themes of framework

D. Conceptualization of DAP

The research methodology encompassed a systematic review to construct the framework and identify its constituent components. The review process commenced by conducting a comprehensive search across multiple databases, yielding a total of 380 relevant documents [1]. Employing specific keywords for the search ensured precision and relevance in document retrieval. Subsequently, a meticulous screening process was undertaken, leading to the selection of 20 papers that met the criteria for eligibility. These 20 papers served as the foundational source of data for the analysis, enabling the derivation of the key components that constitute the framework.

III. DAP Conceptual Framework

The automation of data management has the potential to provide numerous benefits, and user opinions on the implementation of automation are important. A questionnaire was designed and circulated to gather insights on the matter [11]. Data plays a critical role in making informed decisions and meeting objectives. As data generation increases, automating data management allows for strategic focus and efficiency. Surveys can provide insights into people's behaviour and preferences, aiding in identifying areas for automation [12]. Various social media applications have improved information distribution and interaction between users. However, selection biases exist based on factors like age, gender, and interests. Understanding user preferences on different platforms is crucial [13]. Ethical implications arise when data acts as a partner to humans. Consent, privacy, and security need consideration. Addressing vulnerabilities in human emotions and cognitive patterns is essential. Securing Industrial Control Systems (ICS) networks and IoT devices is crucial. Ethical responsibilities, such as consent, privacy, and informed data collection, are vital. Trained digital supervisors and data administrators can support ethical data sharing [14].

In conclusion, while technological advancements bring benefits, ethical implications must be addressed. Considerations include consent, privacy, security, vulnerability mitigation, ICS network security, and ethical data collection. Society can maximise technological advantages while safeguarding rights, privacy, and security. The systematic review conducted in this study was instrumental in identifying the core components of DAP i.e., Data Automation, Duplication, Privacy, Security, and Hybridisation. Through an exhaustive analysis of relevant literature from academic databases, journals, and conferences, the review synthesised and examined key research findings and conceptual frameworks.

A. Core Componenets of DAP

The Data as Partner (DAP) framework consists of four core pillars: Automation, Duplication, Privacy and Security, and Hybridisation. Automation involves using automated processes to streamline data management and improve productivity. Duplication ensures data availability and accessibility through redundant copies. Privacy and Security focus on protecting data from unauthorised access and breaches. Hybridisation integrates different data access technologies to accommodate diverse sources and user requirements.

Concerns arise regarding copyrights and misuse in global data sharing, highlighting the need for effective management strategies. Data duplication leads to redundancy and increased storage and traffic requirements, but a limited amount of contributed data can enhance efficiency. Removing multiple copies of same data set mitigates duplication, reducing costs and improving data retrieval processes. Data privacy and security are crucial, and comprehensive security plans should be established to safeguard data. The hybridisation of data with intelligence offers opportunities for efficient data management, but human-machine relationships and ethical considerations must be addressed.

In conclusion, the core pillars of DAP (fig:1), to provide a robust framework for data management. Strategies for managing duplication, ensuring privacy and security, and addressing the challenges of global data sharing are essential. Continued efforts in automation and the hybridisation of data can promote open science and advance research.

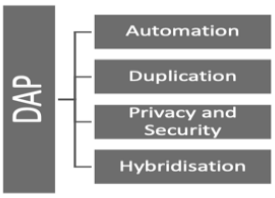

Fig. 2. Core components/Pillars of DAP

1) Data Automation: Data automation plays a crucial role in modern data management, aiming to streamline processes and enhance the value of data publications. The FAIR (Findable, Accessible, Interoperable, and Reusable) principles provide guidelines for data generators and distributors to overcome challenges and improve data dissemination [15]. However, limitations exist in current approaches, including manual revision, storage for data updates, testing in controlled environments, and cost constraints.

Well-organised repositories such as Genbank, Worldwide Protein Data Bank (wwPDB), and UniProt in the life sciences, along with the Space Physics Data Facility (SPDF), offer systematically organised datasets, refined for intellectual output, and provide efficient tools for accessing content [15]. Automation simplifies data de-duplication, enables data mining, and facilitates access to a diverse range of knowledge, fostering open science and extending research horizons [16]. Tools like DTool offer lightweight and efficient management of repositories and data handling [2].

In conclusion, the FAIR principles and automation of data management have the potential to overcome limitations in global data sharing. Continued efforts in developing robust strategies and tools for data automation can further advance research and promote open science.

2) Data Duplication: Data duplication poses challenges in data management, and de-duplication has emerged as a

solution to mitigate duplication [17]. De-duplication involves identifying and removing redundant or identical records, offering benefits such as reduced storage costs, improved data retrieval, and enhanced data backup and security [18]. However, limitations such as sample size restrictions, financial constraints, and time and speed limitations exist [19].

So, data de-duplication is valuable for mitigating duplication, with benefits such as cost reduction and improved data management. However, challenges associated with data duplication need careful consideration. Robust security plans and individual control over personal information are crucial for data privacy and security.

3) Privacy and Security: Data privacy and security are of utmost importance, yet strategies for preserving data privacy, security, and integrity are lacking [23]. Preventing data loss is crucial, and consumers' understanding and vigilance regarding data privacy agreements need improvement [20]. Testing products in controlled environments may not capture real-world scenarios, leading to security failures in open environments [24].

Comprehensive strategies for data privacy and security should consider real-world scenarios, educate consumers, and empower them to make informed decisions about their data. Robust security measures and addressing platform limitations are necessary to bridge the gap between current practices and the increasing need for data integrity and confidentiality [21, 24].

4) Data Hybridisation: Data hybridisation, combining data with intelligence, offers solutions for efficient data management, de-duplication, and security resolution. Artificial Intelligence (AI) has shown its effectiveness in various fields and can enhance data's self-identification and rectification capabilities [25]. However, limitations such as inflexible models, high budget requirements, limited scale of implementation, and security and privacy concerns exist. Careful consideration of the human-machine relationship and ethical considerations is necessary in hybridising data [25].

Hybrid intelligent optimisation algorithms have emerged as a promising approach to address optimisation problems by combining diverse algorithmic mechanisms [26].

In conclusion, automation provides robust solutions for data management, de-duplication, and security. Careful consideration of the human-machine relationship is necessary in data hybridisation. The development of hybrid intelligent optimisation algorithms offers potential for resolving applied engineering issues.

B. Defining Responsibilities

Figure 3 illustrates the hierarchy of data sharing partnerships, showing that as the partnership decreases, so does the access control and sharing percentage of the data. To ensure data privacy and security, it is crucial to define and differentiate the responsibilities of data holders and sharers. Standardised practices can greatly contribute to the future of data privacy and security [20]. Another important advancement could be the creation of systems that can operate efficiently in the absence of an administrator, providing users with independence and confidence in using the system [27]. Increased awareness through detailed documentation and the use of security terminologies can also help protect and observe security in data handling [20]. Additionally, there is a need for revised legislation for big data and data mining to meet current needs and requirements, as existing legislation may be outdated [28, 29].

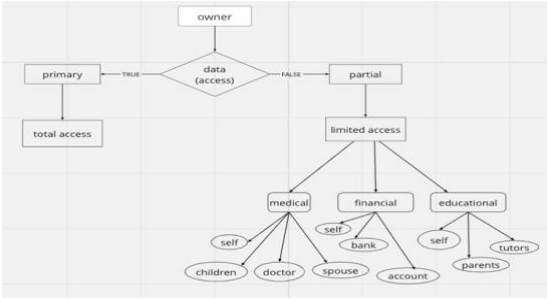

Fig. 3. Partnership Heirarchy

IV. RESULTS

The qualitative analysis yielded 30 initial codes, synthesised into 18 sub-categories and five key themes highlighting participants' perspectives on strengths and limitations of the DAP framework, along with suggested improvements.

A. Theme1: Practical Value

The most dominant theme emphasised evaluating the framework's applicability and utility for addressing real challenges faced in data analysis contexts. Sub-themes highlighted the need to demonstrate value in practical settings and tailor tools to different user personas. Figure 4 contains a mind map highlighting the main themes that emerged from the qualitative analysis of practical value of framework.

P1: "We really need to understand how this would work in the real world. Using some case studies and examples would make the concepts more concrete."

P5: "It needs to prove its value in action to get buy-in. Piloting it first in a small setting before large-scale adoption would be smart."

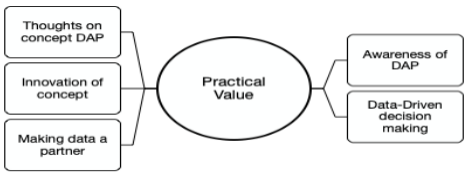

Fig. 4. Practical Value

B. Theme2: Pragmatic Performance

Many participants highlighted the importance of assessing the DAP framework's tangible impact on optimising data analysis performance and decision-making effectiveness. Quantifying efficiency gains was considered key. A mind map representation of the identified themes is presented in figure 5, pragmatic performance or real-world application.

P11: "I'd want to see quantitative evidence applied in multiple organisational contexts, proving this can boost performance outcomes."

P8: "Certainly focus on whether this improves decision quality. Too many frameworks sound good in concept but flop in practice."

Fig. 5. Pragmatic Performance

C. Theme3: Ethical Perspective

Multiple participants emphasised the need to proactively address ethical concerns around closely integrating data analytics with decision workflows. Issues raised included privacy, bias, and over-reliance on data. Figure 6 depicts a mind map summarising the key themes extracted through the analysis of ethical perspective.

P2: "We cannot forget about ethics just because the data is internal. Respecting employee privacy is still crucial."

P8: "There could be risks of perpetuating bias by giving algorithms too much influence on decisions."

Fig. 6. Ethical Perspective

D. Theme4: Clarity of concepts in Frmaework

Many participants highlighted a need for clearer explanations of key concepts and components in the framework documentation to improve understanding for users. Addressing complex terminology was suggested. The mind map in figure 7 illustrates the extracted themes in a visual format of clarity of concepts in framework.

P4: "Honestly, I had to re-read many sections multiple times to grasp some concepts. Using more everyday language would help."

P12: "I got confused whether certain aspects were mandatory or optional. Spell out the minimum requirements to implement this."

Fig. 7. Clarity of Framework

E. Theme5: Enhancement Tools

Incorporating more hands-on resources, templates, examples, and training programs was commonly suggested to maximise the framework's utility and adoption. Addressing role-based needs was advised. Figure 8 elaborates mind map of extracted theme, additional features.

P18: "To adopt in reality, teams would need tailored training and workshops breaking down the methods."

P14: "Having templates or sample plans would be useful, almost like a DAP toolkit."

Fig. 8. Enhancement Tools

V. Discussion

The five key themes provide valuable practitioner-informed insights from data analysis experts to refine the DAP conceptual framework and enhance its real-world application. The prominence of assessing practical applicability and performance impact aligns with key technology adoption models like DAPT that emphasise perceived usefulness as a driver of uptake [1]. This indicates that demonstrating the framework's capacity to address real challenges and tangibly improve outcomes is vital for integration in applied settings. The suggestions for piloting, use cases, metrics, and customisation reflect recommendations for effective translation of a conceptual model into workable reality. The emphasis on proactively addressing ethical, legal, privacy, and bias risks highlights that the DAP paradigm cannot overlook principles of responsible data management in the pursuit of close data-decision partnerships. As highlighted by Cobbe [41], failing to assess risks of anthropomorphising data can propagate harms. The framework requires robust ethical guardrails, not just technical guidance. The findings also mirror insights from diffusion of innovation theory, which points to clear communication and simplicity as key for uptake of new tools and processes [42]. Participant feedback showed the DAP framework's documentation needed to convey complex concepts more understandably to non-technical users. Lack of clarity risks deterring adoption. Suggestions for role-based training and resources further emphasise that hands-on support facilitates successful execution [43].

Interestingly, no substantial negatives or limitations of the core DAP philosophy emerged, implying experiential experts perceive partnership with data as a strategically valuable paradigm shift. Concerns centred on optimal implementation. This underscores the timeliness of this research to bridge conceptual promise and applied actualisation.

VI. DAP-Framework Representation

The concept of machine learning through experience and artificial intelligence, as presented by Zoubin Ghahramani, empowers and reshapes artificial intelligence for the better. It finds applications in scientific data analysis, machine learning, robotics, cognitive science, and artificial intelligence [30]. Automation of key tasks can revolutionise and streamline outcomes, as demonstrated by studies showing how AI-supported decision making can enhance productivity in talent acquisition [31]. The potential of AI in healthcare has also been demonstrated, with promising results in various healthcare data. Implementation is needed to fully unlock its potential [32]. However, drawbacks such as high budgets and maintenance costs may limit AI adoption to high-end organisations that can afford the initial investment [33]. Ethical concerns may also arise due to the costs and careful handling required, potentially hindering exploration and experimentation with AI [31, 34]. Positive outcomes of human-machine collaboration have been demonstrated in various fields, including teaching, healthcare, industry decision making, and data mining. Research is extending based on cognitive psychology theory, showing promising results when used with appropriate manipulators. Suggestions have been made for optimising human-machine collaboration, and defining ethics in working with machines can lead to a successful relationship between humans and machines, resulting in increased work efficiency [35]. However, limited studies also highlight unethical behaviour towards machines, emphasising the need for setting boundaries and defining ethics in working with machines [36].

The learning lifecycle of the DAP is explained; Continuous learning is emphasised as the core element for achieving self-

sustainability. Regular updates of the context serve as crucial inputs for DAP's learning process. By staying up to date with its environment, DAP gains a better understanding of changing circumstances, patterns, and dynamics. This improved understanding enables DAP to make informed decisions and take appropriate actions. The data automation lifecycle (DALC), where data collection and storage form the foundation for subsequent processes. As the data becomes more familiar with its characteristics and context, it develops self-awareness. Continuous learning plays a crucial role in enhancing its understanding not only of itself but also of its surrounding environment. Concepts such as ownership and partnership foster harmonious integration within the system. By reaching a state of harmonisation, the data becomes capable of fulfilling its purpose and executing tasks accordingly. It not only learns from existing data but also from the actions of its owner. This continuous learning process contributes to the development of the DAP decision-making capabilities, as it gains a deeper understanding of the owner's preferences and personality traits. To achieve self-sustainability, data protection, security, and privacy become paramount. Safeguarding both the DAP and the data community within the digital global village (DGV) framework becomes a priority. The advanced level of awareness ensures the DAP's self-sustainability and self-sufficiency.

One significant aspect of DAP's self-sustainability is its ability to regulate itself. The diagram (fig:3) highlights the concept of ownership of regulation, wherein DAP assumes responsibility for managing access to its relevant data. By discerning the appropriate access levels for different individuals based on their roles, DAP demonstrates its ability to protect data privacy and ensure that relevant information is appropriately shared. The continuous cycle emphasises the importance of data automation, learning, and regulatory frameworks in achieving the DAP. Understanding the will and preferences of data owners through surveys and focus groups plays a critical role in constructing an effective and efficient framework. The goal is to regulate the data community and digital assets within the digital global village (DGV). The framework aims to respect the will and preferences of the data owner while ensuring an unbiased, robust, and comprehensive approach to managing data as a digital asset. The final product shall depict a continuous cycle towards achieving DAP within the system architecture, enabling data automation and steady learning. The framework emphasises the importance of regulating the data community and digital assets within the DGV. Flexibility is granted to data owners to determine the fate of their data, even after their demise, with respect to their personal wishes. The framework is built upon collective input obtained from surveys and focus groups ensuring alignment with the preferences and expectations of the data community.

In summary, the research illustrates the importance of defining responsibilities, implementing standardised practices, and updating legislation to ensure data privacy and security. The DAP-Framework provides a comprehensive approach to data management, while the learning lifecycle and data automation lifecycle emphasise continuous learning and self-sustainability. The regulatory frameworks aim to align with the preferences and expectations of the data community, respecting the will and preferences of data owners.

VII. Conclusion

This paper presented focus group research evaluating a DAP conceptual framework from the perspectives of data analysis experts across industries. Thematic analysis revealed important priorities including demonstrating applied value, optimising performance impact, addressing ethical risks, improving conceptual clarity, and providing supplementary resources. The findings provide data-driven recommendations to refine the DAP framework for real-world integration. They underscore the need for qualitative and collaborative approaches in translating cutting-edge data philosophies into organisational reality. With thoughtful development guided by end-user experiences, the promising vision of data as an active partner in business decisions can be impactfully realised.

This focus group study provides valuable insights into strengths, weaknesses and areas for improvement of the DAP conceptual framework. Through engaging data analysis experts in interactive discussions and conducting rigorous thematic analysis, the research identified five major themes highlighting participants' perspectives.

A key strength of the framework found was its substantial practical applicability and utility for addressing real-world data analysis challenges. Participants emphasised the need for demonstrating value in applied settings through piloting, use cases, and customisation based on user maturity levels. Assessing the tangible impact on optimising performance and decision-making quality also emerged as an important consideration, aligning with technology acceptance principles. However, the findings reveal that enhancements are required in certain aspects of the framework. The clarity of guidance and concepts needs improvement through plain language explanations and defining minimum requirements. Incorporating supplementary resources like templates, examples and tailored training programs is also essential to maximise adoption. Proactive consideration of ethical implications around data-based partnerships is paramount.

Overall, the qualitative feedback provides data-driven insights and recommendations from experienced practitioners to refine the DAP framework. By addressing the highlighted areas of improvement and leveraging the identified strengths, the framework can be optimised for real-world integration. This will help bridge the gap between the conceptual model and practical application. As an exploratory qualitative study, findings are not statistically generalisable to the full population of professionals. Participants were limited to 18 purposefully sampled experts in the United Kingdom. Larger samples spanning various nations could reveal additional viewpoints. Conducted questionnaires or surveys on the DAP framework focussed on acceptability of automation provided valuable data on attitudes and adoption readiness [1].

Future research should also evaluate the framework longitudinally after implementation through case studies and expert interviews to assess on-ground impact. Applying thematic analysis to case data could produce rich insights on refinement needs post-adoption. While this study offers rich insights, further research with expanded sample sizes across diverse geographical contexts is recommended to generalise

findings. Additionally, longitudinal evaluations post-implementation can provide vital knowledge on refinement needs during actual adoption. By leveraging collaborative, user-centred methodologies, the DAP framework can be enhanced as a strategic tool to actualise the paradigm shift of data as an empowering partner in organisational decision-making.

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