Data as Partner (DAP): Integrating Automation with Daily Living

SONIA HASSAN
Faculty of Business, Law and Digital Technologies
Solent University Southampton, Great Britain
sonia.hassan@solent.ac.uk

DRISHTY SOBNATH
Faculty of Business, Law and Digital Technologies
Solent University Southampton, Great Britain
drishty.sobnath@solent.ac.uk

ESTHER SNELL
Faculty of Business, Law and Digital Technologies
Solent University Southampton, Great Britain
Esther.snell@solent.ac.uk

OLUFEMI ISIAQ
Faculty of Business, Law and Digital Technologies
Solent University Southampton, Great Britain
Femi.isiaq@solent.ac.uk

Abstract—**This paper addresses the need to infuse automation of data management in daily lives and how beneficial it can be for people with Disabilities (PwD) and the general public. This paper presents the idea of making Data a Partner (DAP) so that data can act as a partner to humans; learning from its actions and decisions, making it self-sufficient to take its own decisions by learning from a human. This paper also presents a theoretical model called DAPT, which focuses on four sections of the survey conducted to assess the acceptability ratio in masses. Statistical analysis was performed on the survey conducted using SPSS. The survey's outcome, which gathered 875 responses, clarifies that 69.6% of the respondents voted that infusing automation in daily lives leads the way to the future of data management by automation. The survey concluded that infusing automation into daily lives can be helpful, especially for people with disabilities (PwD), such as those with visually impaired people.**

***Index Terms*—Smart Data, Hybrid Data, Data Automation, Smart Living, DAP, PwD.**

I. INTRODUCTION

As the world is moving into the era of the Internet of Technologies and smart cities, we cannot neglect the requirement of upgrading life standards for vulnerable people. IoT in today's age has contributed vastly to improving information sharing without human interaction [1]. For instance, people with disabilities and older adults are living solitarily or visually impaired people who require assistance in performing their day-to-day activities. Smart cities can improve QoL for people with the visually challenged by providing assistance in their daily lives and reducing the challenges they face in exercising their routines [2]. DAP can act as a helping hand for people living in such conditions; it can be proven enormously helpful in such conditions. Once deployed, it can accompany the user and take timely action for the user, which can be lifesaving in acute situations. For instance, if an older adult has an acute problem, DAP can monitor their condition regularly, monitor their medicine dose, take precautionary measures in an emergency, and call emergency services in time of need. This does not only help in taking care of such people, but it can also provide a fantastic opportunity to devise and learn solutions for future reference. In "Data Community (DC)", various data can learn from the experiences of one another**.**

The swift progress of the IT sector is triggering a major intensification of data production, causing a rise in data duplication and raising alarming concerns about the data storage [3]. All the highlighted issues are caused by one key concern that processes are manually handled, which proves that automation is a necessity today. The idea of exploring this area was perceived by spotting the concerns raised by maladministration, uncertainty, ignoring the importance of privacy, the rapid growth of data, and replication of matching data. The volume of data created by countless technologies, informative exploration, and industrial and individual contributions is rising at an alarming rate, giving rise to data proliferation; it is not wrong to state that we are in the age of a data-driven society [4]. Even though this provides a useful insight into data-driven partnerships and their advantages, a few challenges are highlighted as regulatory, organisational, data-related, and societal. Automation of management of data is an efficient solution to regulate the excess data production and curb the highlighted problems.

Automating the management of the data shall deliver dedicated, systematised, and organised data with well-organised storage resolutions rather than collecting similar data, causing data duplication [5]. Data duplication develops concerns about the worth of data; having dispersed data sets with replications makes data validity doubtful. Deduplicating data steadily can ensure high-quality, reliable data providing consistent decision-making by handling existing data sets [6]. Sustainable virtual reality rehabilitation has demonstrated that in the design of virtual smart cities IoT's are capable of identifying any failure in software, hardware, or system execution which ensures improved QoL by detecting and attending to the highlighted problem [7]; this practice eliminates the concerns of QoE or QoS highlighted for QoS over the internet [8].

Privacy and security of data is also a fundamental feature that has elevated concerns; the researchers have expanded their

drive to derive resolutions to enhance data protection in modern technologies, for example, cloud computing, and social networking; abundant approaches and schemes have surfaced because of amplified apprehension to deliver improved security and privacy to the users [9]. This has undoubtedly shed light on many critical aspects of privacy and security, in addition to opening gateways to look into the most critical factors, and provided direction for research.

A research analysis established that AI-driven workplace evaluations are accurate and improve the assessment and selection of the appropriate applicants for the role. It exhibited that automation of talent acquirement is an improved method that displayed constructive and regulated outcomes for the company's future [10]. It is also verified by an investigation in the USA that AI in medication can effectively evaluate the patient's state and perform triage, making the practice instantaneous and efficient. It is favourable in that it provides first aid after diagnosing, redeeming lives faster than the human-response valuation [11].

The primary concern addressed in this paper is whether infusing data management automation can benefit humans, including PwD, for instance, visually impaired people, at the individual level. Introducing automation in daily life can ease visually compromised people, for instance, automating the collection and storage of data, deduplicating existing data, handling security and privacy concerns at the same time, always keeping data accessible, etc. This shall provide ease in handling and storing data; in the long term, it can be majorly beneficial in the management and keeping track of data and always making it accessible. This is established that smart cities contribute to improved QoL of visually impaired people by providing better opportunities by creating ease for PwD by providing a supportive lifestyle [2].

Automation of data is the usage of software to execute several duties that people formerly perform. This involves jobs such as collecting and analysing data and making decisions based on the analysis of the gathered data. This shall also play a fundamental role in providing revolutionising, robust and efficient resolutions to handle several tasks at the same time, creating ease for PwD.

II. METHOD

The survey method was chosen to acquire the people's opinions on integrating automation into daily lives. Firstly, a systematic review was implemented for software assessment of automation positives and negatives in the literature. A total of 450 papers were gathered using keywords like Data Automation, Automation in daily lives, Automated Data, Managing Data, and Automation of Data management. In addition, AND, OR, and NOT operators were used for extracting literature. This survey was backed up by PRISMA to reach a meta-analysis for DAPT from 34 research papers which provided insight on the importance of the keywords Demography, Appeal, Personality, and Technology of context. The literature screening shed light on the significance of these four factors. This survey establishes a variety of beliefs by not limiting aspects, for instance, age, background, either professional, academic, or demographically; the majority of participants are female in this survey. This is unplanned and shall not influence the evaluation of results as contributors are distinct in the factors e.g., ethnicity, religion, professional and academic backgrounds

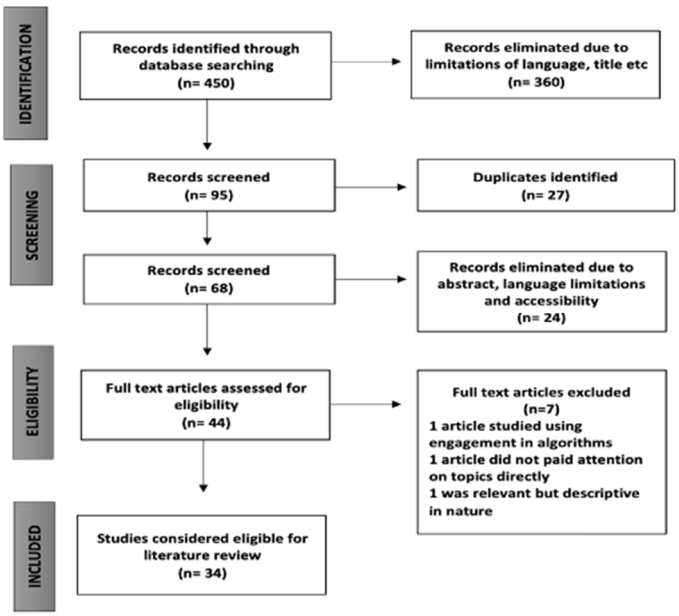

Fig 1: A Literature review using PRISMA Approach

This survey was developed after cautiously and analytically studying the literature. Overall, 450 results were produced by Google Scholar, Gale, Science Direct, IEEE, Springer, and Solent Library resources after applying PRISMA 34 (fig 1) were studied, which guided the initiation of the survey study and the DAPT approach to support it. The theoretical framework is attained by a qualitative method, and the literature review stresses apprehending the significance and advantages of automation of data management. The theory is sustained by article-based evaluation from several databases like Google Scholar, Research gate, IEEE, Gale, and Springer.

III. THEMES OF THE SURVEY SECTIONS (DAPT):

This survey was allotted four fragments, each backed up by a theory; these four segments are Demographic, Personality, Appeal, and Technology of context (social media) (DAPT). All sectors elucidate the adaptation of a theory from literature and its concurrence with this paper.

- *Demographic:*

The initial part is demographic containing the gender and age evaluation. In this part, demographic transition theory is focused on the demographic transition theory proposes an in-depth and inclusive representation of the means of alteration in death and birth rate with considerations on how it will contribute to developing and reforming a future world in the demographic context [12].

This theory affiliates directly with the issue addressed as the growth of data is a fundamental cause for the people as morals of the society are altering, it is now substantially more than ever to systematise and administer data generation not only at the organisational level but also at the superior level,

data proliferation today is a grim matter as global warming, it needs consideration and measure now to save the arising matter of unregulated and scattered data.

- *The technology of context (social media):*

The next section is about how frequently social media is used. In this part, the models supported by philosophical methods are examined, and many informative concepts of the use of social media subsist in information systems (IS). This theory follows the ideology of frequency of use of social media, adhering to the philosophical point of view in consideration. The investigation concludes that if the user is active on social media, they can understand and evaluate in a much more critical manner what concerns are and how those concerns can be addressed. Owning several accounts on many social media platforms plays a dynamic role in developing users' point of view, amplifying the possibility of a distinct thought process.

- *Personality:*

The third part consists of queries about the person's comfort in partaking on social media. In 2011, Pew Research Centre established that "if searching for news was the most important development of the last decade, sharing news may be among the most important of the next" [13]. The research has shown, for example, to uncover topological or time-based features of information distribution [14] [15], promote prototypes or processes to calculate the sharing tendencies in social media [16] [17], or assess how anticipation by social media users ultimately point to trending, sharing and their effects [18] [19]. This theory supports the third section that sharing personal data on social media platforms is considered normal today.

- Appeal:

The fourth part focuses on data automation. According to Forbes, 2.5 quintillion bytes are produced daily today, making manual organisation incredibly hard to systemise the data capably and contextualise, guard, mine, shape, and preserve the quality of the data, guard, mine, shape, and preserve quality of the data [20]. Data automation is recognised to increase data accuracy, productivity, quicker data retrieval, reduced costs, standardised processes, efficiency, and better-quality service and products in the method of the management of data.

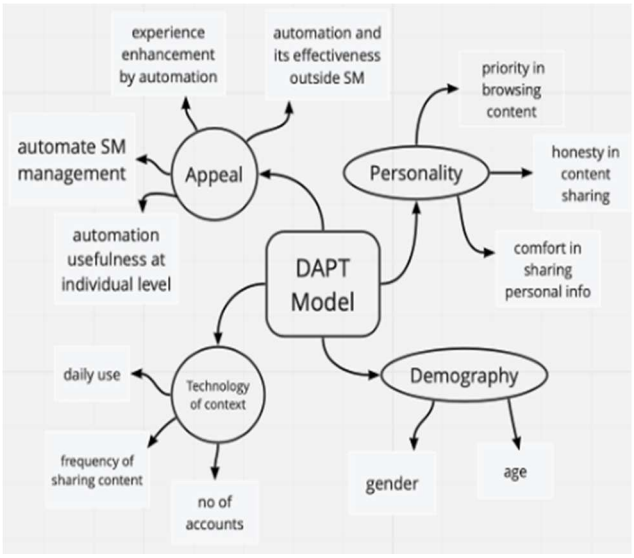

Fig 2: Attributes of DAPT

These aspects are immensely beneficial in crafting DAP because these are fundamental aspects in creating DAP, as they will contribute to DAP in understanding numerous characteristics of its owner's personality, which is the essential element in the efficiency of DAP.

Technology Acceptance Modal (TAM) [21], presents the potential areas to explore in the literature by examining previous studies. It has delivered valued understandings of, the factors and elements that influence personnel to take decisions on the acceptance and consumption of information technologies (ITs) in the office. Two system features associated with modifications that are seen as pleasure and impartial usableness were proposed by Venkatesh (2000) to act in shaping, moulding and becoming familiar with the new system. Internal consistency reliability (ICRs) was greater than .70 for all constructs at all measurement points.

In comparing DAPT and TAM, DAPT is a credible model as it not only emphasises the mental and emotional side of the human personality but additional critical features such as demography and the technological context in terms of social media and appeal.

However, in TAM, only staff working in an official environment are observed, not people in general; DAPT studies humans as individuals, making it a helpful tool to implement and get desired results according to the user's demand. This characteristic makes DAPT more appropriate to act as per the needs of individuals and be able to adapt and be advantageous. Moreover, the beneficiaries of TAM are workplace or organisation staff, which demonstrates it has limited application capability whereas DAPT has a vast capacity of an application as it can mould itself according to the demand of the consumer. For example, in medicine, it should be able to supervise and regulate the medicine as needed, and as per anticipation of the patient's history, it shall be able to foretell the associated problems that can appear in the long run.

IV. PROPOSED SYSTEM:

Acknowledging the necessity and use of data in the present age, this study aims to evaluate the point of view of people on the automation of their data; the primary idea behind conducting this survey is to assess the acceptance in people of the integration of automation in daily lives to manage data. As explained in the literature review, data management plays a vital part in decreasing proliferation, data redundancy, duplication, and data quality.

Automation of data management can decrease stress, be time efficient, and can prove to be a great help in today's busy life, especially for vulnerable people. It can be proven to be a significant help; for instance, automating maintenance can reduce the stress and difficulty they must go through to manage their data, keep important documents safe.

- Data As Partner Framework (DAP-Framework):

Advanced and practical practices driving the progression of high-performance resolutions for a growing range of problems from industry to academia to vulnerable people. Though automated tools applying these approaches are challenging to develop and use, this study aims to devise a solution to bring ease into the lives of people with special needs.

This study investigates the above-mentioned concern with the undermentioned contributions. Firstly, to design a formal explanation of issues and take the public's point of view on infusing automation at the atomic level and how it is received by the general public, this is a fractional application of the framework; this shall be used as a foundation for automated algorithm analysis and design framework called the High-performance Algorithm. Additionally, an application of the fundamental factors of this framework that delivers assistance for execution, remote monitoring, data management, data proliferation, security and privacy, storage optimisation, and analysis and application of the data will.

Next is the diagram illustration of the framework. In this illustration, the assignment of DAP in the system architecture, DAP shall be incorporated into the application layer directly to interact with the existing applications and users.

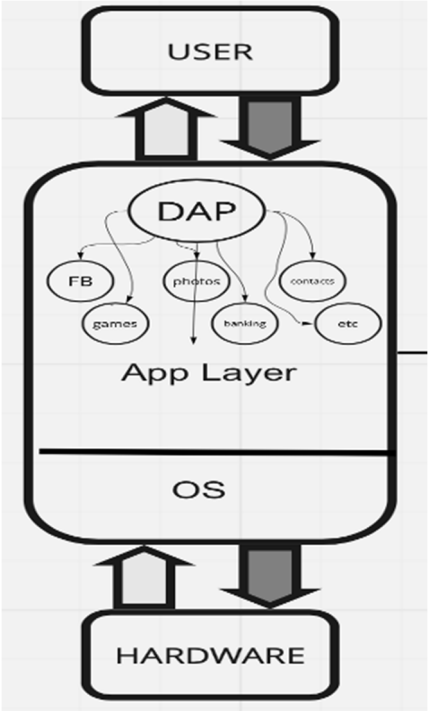

Fig 3: Representation of System Architecture

The above figure (Fig:3) represents the architecture of DAP; it should be sitting on top of all the applications and must be able to communicate with all the apps in the application layer.

According to the assertation of the issue, the review plans to make a mechanised interaction that gains a fair, strong, and comprehensive approach to supervision of information as a computerised source of an all-inclusive way of managing data as a digital asset in the Digital Global Village (DGV) in the data community most resourcefully and proficiently, valuing the will of its owner at the same time. So, an assessment of people's opinions on the implementation of automation is intended to be assessed via conducting a survey. The review and its outcome shall act as a base to build up the framework on top of it as it has enormously backed to setting up the idea of DAP and generically receiving views.

V. Survey Analysis and Results:

1. Reliability analysis:

When selecting a mechanism or developing a new theory for a study, the researcher is expected to consider the theory's relevance to specific research questions (National Research Council Committee on Scientific Principles for Educational Research, 2002), as well as the theory's quality. Quality is commonly understood in terms of impressions such as authenticity (the extent to which a theory reflects what it claims to assess, rather than extraneous notions) and dependability (the extent to which a theory can provide with same results when tested repeatedly) [22].

Four chief items are evaluated, i.e., User Opinion on Automation of social media, User Opinion on Usefulness of Automation, User Opinion on Automation for Experience Enhancement, and User Opinion on Automation Outside social media. Cronbach alpha values are interpreted as >.9 is excellent, >.8 is particularly good, >.7 is good, >.6 is ok, from

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.948	.948	4

Table 1: Reliability Statistics between 4 primary

the point >.5 and onwards, this shows an alarming situation and values must be reconsidered [23].

Inter-Item Correlation Matrix

	User_Opinion_on_Automation_of_SocialMedia	User_Opinion_On_Usefulness_of_Automation	User_Opinion_On_Automation_for_ExperienceEnahncement	User_Opinion_On_Automation_Outside_SocialMedia
User_Opinion_on_Automation_of_SocialMedia	1.000	.846	.771	.788
User_Opinion_On_Usefulness_of_Automation	.846	1.000	.836	.823
User_Opinion_On_Automation_for_ExperienceEnahncement	.771	.836	1.000	.856
User_Opinion_On_Automation_Outside_SocialMedia	.788	.823	.856	1.000

Table 2: Inter-Item Correlation matrix between 4 primary

Here, Cronbach's Alpha is observed as .948 (Table 1), which is greater than .9; this indicates that reliability, in this case, is exceptional.

The above table (Table 2) shows the correlation of every item with each other; as seen in the table, all items are correlated by more than .7 with each other, which shows that the results fall under the scale of good.

Examining the summary of the item statistics, it is observed that the inter-item correlation is .820, which validates that the correlation is credible, where it is indicated that if there are less than 5 items on the scale, the output value of .5 is

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.314	3.290	3.335	.045	1.014	.000	4
Inter-Item Correlations	.820	.771	.856	.085	1.110	.001	4

Table 3: Summary of item statistics between 4 primary items

significant as well. But as it is evident that the output is falling in the more important weighting calculations, this exhibits that the outcomes are consistent.

Here (Table 3) originally, the seven secondary important

Reliability Statistics

Cronbach's Alpha	N of Items
.206	7

Table 4: Reliability statistics

items are studied for reliability, amongst them named Time using SM, comfort in info sharing, Authenticity of shared info, Browsing preference, How is automation helpful, total no. of accounts, and frequency of SM use.

Reliability Statistics

Cronbach's Alpha	N of Items
.321	20

Table 5: Reliability statistics

In this diagram (Table 4), the reliability analysis for the questions addressing privacy has been carried out; how concerned do you feel about the privacy and security of the information?

The section's highest portion contains information about the steadiness of each item in contrast to the entire scale. It is used to determine whether any elements on the provided scale are inconsistent (for instance, the items that do not demonstrate the paradigm being measured). The Corrected Item Total Correlation column depicts the relationship between all individual items (Table 5) and the average of the other items on the specified scale. If an item is erased, the column labelled "Alpha" indicates how the scale's dependability is depicted if the items are deleted. Preferably, any outliers should be removed to accurately demonstrate reliability analysis.

2. The statistical analysis:

Social media can help predict future trends and provide useful information to users. In this study, the masses were surveyed to find their acceptance and inclination toward the use of data management software to automate their data collection. The study is conducted to analyse the various aspects of this technology and its implementation.

Age variances: Although social media is widely used today, it is still important to note that the users are more likely to be

No of responses

Age_Group	Responses	Percentage
	4	.5
17	1	.1
18-25	194	22.0
26-35	421	47.7
36-45	207	23.4
46-55	34	3.9
56-65	16	1.8
66	1	.1
67	1	.1
Total	875	100.0

Table 6: Total no. of responses

aged 26 to 35. The survey results showed that the users from this age group scored highest, with 421 responses (Table 6).

Gender

Responses	Frequency	Percent
	8	.9
Female	553	62.6
Male	318	36.0
Prefer not to say	4	.5
Total	875	100.0

Table 7: Gender ratio

Gender differences: Both males and females use social media at similar rates, but observing the survey outcome in view, women contributed more than men, resultantly providing higher female responses (Table 7).

authenticity of shared content

Responses	Frequency	Percent
Not at all	98	11.1
Least liekly	107	12.1
Indiferrent	100	11.3
Likely	84	9.5
Most likely	486	55.0
Total	875	100.0

Table 8: Authenticity of shared content by user

The authenticity of the content people share on social media is a subject discussed in the survey. The results of the survey revealed that most of the users are honest when it comes to sharing their content.

opinion on usefulness of automation

Responses	Frequency	Percent
	8	.9
Maybe	230	26.0
No	158	17.9
Please explain below	5	.6
Useful	1	.1
Yes	481	54.5
Total	875	100.0

Table 9: User opinion on the use of automation

The above diagram (Table 8) represents the authenticity of the content shared on social media by the participants, in which the most likely authentic response is 486.

This (Table 9) demonstrates the use of automation of data from one's viewpoint; from the survey outcomes, 54.5% of people suggest that automation can be valuable.

Opinion on automation of personal data

Responses	Frequency	Percent
	8	.9
Maybe	226	25.6
No	162	18.3
Yes	487	55.2
Total	875	100.0

Table 10: User opinion on automation of personal data

The following diagram (Table 10) is one of the fundamental inquiries, what is the stance on automated personal data, in which 487 or 55% of people indicated a positive response to automate their data, which justifies that people are in favour of making automation a part of daily routine.

3. Correlation analysis:

Some items in the survey are correlated and portray the perspectives of people about one another, for example, the questions "Do you think automation can be helpful outside of social media?", "Would you like to automate your data?", "Do you think automation can enhance your experience with social media?" are all straightforwardly related to each other and show the inclination of contributors to try automation of data to improve the user experience and introduce the novel idea of automation of fulfilling the daily routines to bring ease into their lives [23].

Correlations

		User_Opinion_on_Automation_of_SocialMedia	User_Opinion_On_Usefulness_of_Automation	User_Opinion_On_Automation_for_ExperienceEnahncement	User_Opinion_On_Automation_Outside_SocialMedia
User_Opinion_on_Automation_of_SocialMedia	Pearson Correlation	1	.846**	.771**	.783**
	Sig. (2-tailed)		.000	.000	.000
	N	883	869	870	875
User_Opinion_On_Usefulness_of_Automation	Pearson Correlation	.846**	1	.836**	.822**
	Sig. (2-tailed)	.000		.000	.000
	N	869	869	865	869
User_Opinion_On_Automation_for_ExperienceEnahncement	Pearson Correlation	.771**	.836**	1	.855**
	Sig. (2-tailed)	.000	.000		.000
	N	870	865	870	870
User_Opinion_On_Automation_Outside_SocialMedia	Pearson Correlation	.783**	.822**	.855**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	875	869	870	875

**. Correlation is significant at the 0.01 level (2-tailed).

Table 11: Correlations between 4 main items

The above diagram (Table 11) represents the correlation between four primary items, and the results show that the outcome is greater than 869, which depicts a strong correlation between all items.

The summary of the outcomes of the survey is as follows:

- Most participants have expressed that incorporating automation now can be beneficial in the long run.
- Most participants expressed that they will welcome automation as it can bring ease to their daily lives.
- Almost one-half of the participants express that infusing automation in their personal and professional lives is a practical and viable solution for daily tasks.
- Most participants do not show concern about privacy, security, or ethics when it comes to introducing automation tools.

The application of automation benefits society. It enables not only the masses but also People with Disabilities (PwD) to be more constructive and capable of earning and contributing to society without jeopardising their physical and mental health or stressing about the implementation of their decisions and will after they pass away, which will concern not only their material property but also their non-material assets. Businesses benefit from using automation and its support since it saves time and resources so that the focus can be on the other elements of the business.

Thereafter, this survey is carried out to evaluate the acceptance of the people for incorporating automation at the atomic level in everyday practices and to expect the viewpoint of software test automation benefits and limitations. The results demonstrated that the crucial advantages of infusing automation are reusability, repeatability, robustness in management, deduplication, storage optimisation, and can be attended instantaneously. These conclusions inspire the idea to apply automation where the partial application was acquiring the user's opinion, which has been achieved in this study. Additionally, the studies imply that automation escalates productivity, time management, etc., showing that automation gains even when extreme regression testing is not done.

Established on this survey and the originated questions from the literature, it is seen from the result that a significant majority are in favour of automation and have voted that automation can be of splendid use. Thus, it verifies that not only do people approve of employing automation as tremendously beneficial, but also the analysis results support it, and this is a limited application of the framework, which was evaluating the acceptability ratio before implementation. Regarding the limitations, it is acknowledged that automation requires a high early expenditure in the design and test stages, acquiring a trial automation device, and training the crew. Also, the upkeeping of these is perceived as challenging

VI. CONCLUSION:

Automation of data management and its acceptance is a valued tool for the future. It will allow faster and more structured information to be gathered and looked at by different bodies such as governments, companies, and common and vulnerable people with disabilities (PwD). If executed properly, the procedure could be much less tedious than it presently feels. The collected data can then be used to assess people's reactions to specific domains to assist in taking decisions based on the collected information.

The study results show automation of data management at the individual level, and its real acceptability by individuals was

intriguing. After analysing 875 responses, we can see that most respondents, 69.6 percent of those who participated in the study, believe that automation at the superior level is the future of data management. However, we discovered that 26.4 percent of respondents are personally opposed to automation, whereas just 4.1 percent declined to answer the question. Data automation has been utilised in various sectors for decades and is quite efficient in increasing efficiency and accuracy in these domains. It has also helped to lessen the need for human intervention in many employment sectors, which has resulted in job losses. However, this tendency is projected to alter as AI technology advances. It is crucial to understand that data automation is not a one-size-fits-all solution. Data automation will have an impact on many different sorts of individuals in diverse ways. Some people are more prone to be convinced by data, while others are less so. People who feel they can trust the figures and will act on the numbers supplied may be the most impacted by data automation. Others may be less interested in the study and data collecting and require persuasion before taking action.

This paper is a small portrayal of automation of data management is a huge domain to investigate. It can bring comfort into the lives of people, especially people with disabilities (PwD). It can ensure the management of data in an unbiased way after their death as well because the processes will be automated to be managed as per the will of the owner. DAP shall offer the solutions to all the addressed matters with competence, prove to be a base for creating a data community in DGV, and primarily act as a partner to the owner as per their reflection.

REFERENCES:

[1] H. Jaidka, N. Sharma, and R. Singh, 'Evolution of IoT to IIoT: Applications & Challenges', *SSRN Electron. J.*, no. August, 2020, doi: 10.2139/ssrn.3603739.

[2] D. Sobnath, I. U. Rehman, and M. M. Nasralla, 'Smart Cities to Improve Mobility and Quality of Life of the Visually Impaired', *EAI/Springer Innov. Commun. Comput.*, pp. 3–28, 2020, doi: 10.1007/978-3-030-16450-8_1..

[3] Q. He, Z. Li, X. Zhang, and D. Sirota, 'Council Post: Data Governance: Why Companies Need To Shift From Manual Management To Machine-Automated', *Forbes*, vol. 1, pp. 430–433, 2010, doi: 10.1109/fitme.2010.5656539.

[4] I. Susha, Å. Grönlund, and R. Van Tulder, 'Data driven social partnerships: Exploring an emergent trend in search of research challenges and questions', *Gov. Inf. Q.*, vol. 36, no. 1, pp. 112–128, 2019, doi: 10.1016/j.giq.2018.11.002.

[5] R. Pergl, R. Hooft, M. Suchánek, V. Knaisl, and J. Slifka, '"Data Stewardship Wizard": A Tool Bringing Together Researchers, Data Stewards, and Data Experts around Data Management Planning', *Data Sci. J.*, vol. 18, no. 1, 2019, doi: 10.5334/dsj-2019-059.

[6] F. Haneem, R. Ali, N. Kama, and S. Basri, 'Resolving data duplication, inaccuracy and inconsistency issues using Master Data Management', *Int. Conf. Res. Innov. Inf. Syst. ICRIIS*, no. July, 2017, doi: 10.1109/ICRIIS.2017.8002453.

[7] M. M. Nasralla, 'Sustainable virtual reality patient rehabilitation systems with iot sensors using virtual smart cities', *Sustain.*, vol. 13, no. 9, 2021, doi: 10.3390/su13094716.

[8] J. Pokhrel, N. Kushik, B. Wehbi, N. Yevtushenko, and A. R. Cavalli, *Multimedia quality of experience*. 2015.

[9] A. Cuzzocrea, 'Privacy and security of Big Data: Current challenges and future research perspectives', *PSBD 2014 - Proc. 1st Int. Work. Priv. Secuirty Big Data, co-located with CIKM 2014*, pp. 45–47, 2014, doi: 10.1145/2663715.2669614.

[10] E. Nica, 'Artificial Intelligence-supported Workplace Decisions: Big Data Algorithmic Analytics, Sensory and Tracking Technologies, and Metabolism Monitors Social Sciences, Sociology, Management and complex organizations', *Psychosociological Issues Hum. Resour. Manag.*, vol. 7, no. 2, p. 31, 2019, doi: 10.22381/pihrm7120195.

[11] I. Dankwa-Mullan, M. Rivo, M. Sepulveda, Y. Park, J. Snowdon, and K. Rhee, 'Transforming Diabetes Care Through Artificial Intelligence: The Future Is Here', *Popul. Health Manag.*, vol. 22, no. 3, pp. 229–242, 2019, doi: 10.1089/pop.2018.0129.

[12] F. Notestein, 'Demographic transition theory', in *Population the longview; Food for the World*, 1945.

[13] A. S. Kümpel, V. Karnowski, and T. Keyling, 'News Sharing in Social Media: A Review of Current Research on News Sharing Users, Content, and Networks', *Soc. Media Soc.*, vol. 1, no. 2, 2015, doi: 10.1177/2056305115610141.

[14] H. Kwak, C. Lee, H. Park, and S. Moon, 'What is Twitter, a Social Network or a News Media?', 2010, Accessed: 09-Feb-2022. [Online]. Available: http://bit.ly.

[15] H.-K. Peng and R. Marculescu, 'Identifying Dynamics and Collective Behaviors in Microblogging Traces', 2013.

[16] A. Goyal, F. Bonchi, and L. V. S. Lakshmanan, 'Learning Influence Probabilities In Social Networks, 2010.

[17] S. Myers, C. Zhu, and J. Leskovec, 'Information Diffusion and External Influence in Networks', 2012.

[18] M. Hu, S. Liu, F. Wei, Y. Wu, J. Stasko, and K.-L. Ma, 'Breaking News on Twitter', 2012.

[19] M. Kim, D. Newth, and P. Christen, 'Trends of News Diffusion in Social Media based on Crowd Phenomena', 2014, doi: 10.1145/2567948.2579325.

[20] D. Sirota, 'Data Governance: Why Companies Need To Shift From Manual Management To Machine-Automated', *Forbes*. 2021, [Online]. Available: https://www.forbes.com/sites/forbestechcouncil/2021/07/27/data-governance-why-companies-need-to-shift-from-manual-management-to-machine-automated/?sh=722457a723da.

[21] V. Venkatesh and H. Bala, 'Technology acceptance model 3 and a research agenda on interventions', *Decis. Sci.*, vol. 39, no. 2, pp. 273–315, 2008, doi: 10.1111/j.1540-5915.2008.00192.x.

[22] M. R. Matthews, *International handbook of research in history, philosophy and science teaching*, no. August. 2014.

[23] J. J. Vaske, J. Beaman, and C. C. Sponarski, 'Rethinking Internal Consistency in Cronbach's Alpha', *Leis. Sci.*, vol. 39, no. 2, pp. 163–173, 2017, doi: 10.1080/01490400.2015.1127189.