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Redefining Business Intelligence Architecture with the EDAS Optimization Model

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ABSTRACT

Business Intelligence (BI) architecture serves as the backbone for data-driven decision-making by integrating various tools, processes, and methodologies to transform raw data into meaningful insights. This study explores an enhanced BI architecture, evaluating its efficiency using EDAS (Evaluation Based on Distance from Average Solution) is a method for evaluating alternatives by measuring their distance from an average or ideal solution. The approach calculates the differences between the alternatives and the average solution to assess their relative performance. This technique is often used in decision-making processes where multiple options need to be compared based on various criteria. Comparing it with alternative circular models. The study aims to assess BI architecture's effectiveness in terms of user safety, adaptability, cost, and time. Research Significance: The growing complexity of data management and the increasing demand for real-time analytics necessitate a robust BI architecture. This research identifies critical factors influencing BI performance and provides a comparative analysis of alternative models.

The findings contribute to optimizing BI solutions for various industries, ensuring scalable and secure decision-making frameworks. Methodology: EDAS The EDAS method is employed to evaluate BI architecture by analyzing its deviation from an ideal solution. It quantifies performance based on predefined evaluation parameters, ensuring an objective assessment. Alternative Models: Circular 1 – Traditional BI model with structured data processing. Circular 2 – A cloud-based BI framework focusing on scalability. Circular 3 – A hybrid BI approach integrating AI-driven analytics. Circular 4 – A decentralized BI model for real-time, distributed data handling. Evaluation Parameters: The BI architecture is assessed based on the following factors: Users' Safety – Ensuring data security, privacy, and compliance. Adaptability to Changes – Ability to integrate new data sources and adjust to evolving business needs. Cost – Budget efficiency concerning implementation, maintenance, and scalability. Time – Speed of data processing, reporting, and overall system performance. Results: The study offers a comparison of the different BI models, identifying the most efficient architecture based on the evaluation parameters. The findings highlight the optimal balance between security, adaptability, cost-effectiveness, and time efficiency in BI implementations.

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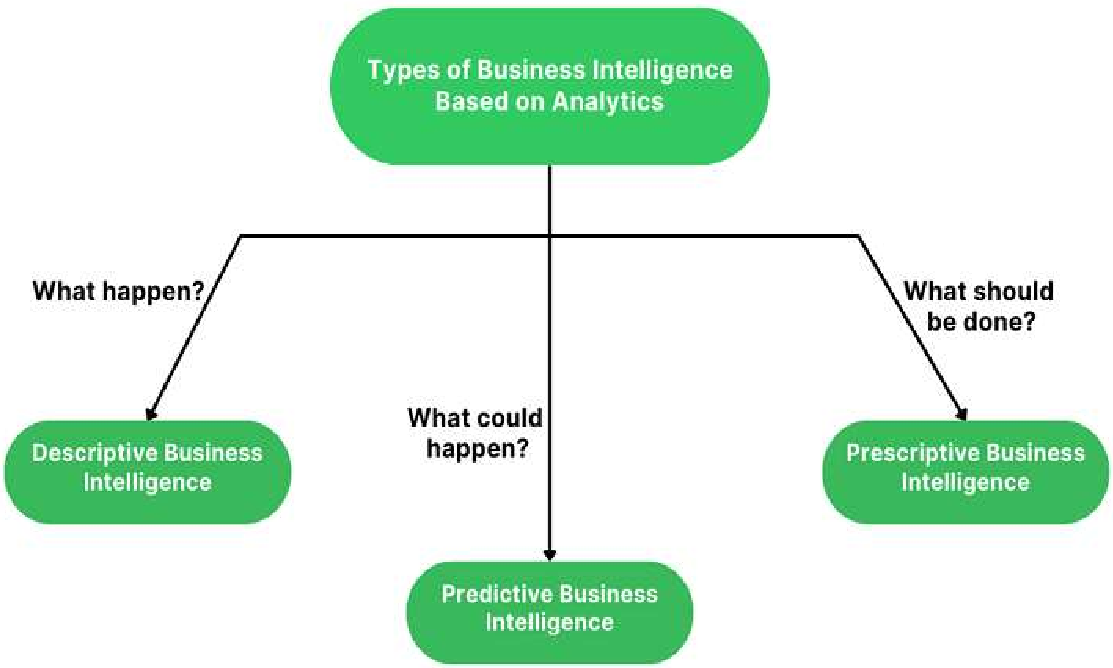
Introduction

In the fields of architecture and civil engineering, these assessment tools facilitate progress toward constructions with reduced economic, environmental, and social impacts. Currently, a variety of numerous technical reviews have looked at the various approaches and scopes of assessment instruments and procedures. A number of prototype cobots are used to illustrate the power-injection architecture. Section V concludes with a discussion on how cobots compare to traditionally Nonholonomic and actuated robots, as well as a summary of certain open issues. It has proven difficult to safely and smoothly amplify human effort in several dimensions. The cobot architecture simplifies this issue by limiting it to one degree of freedom, which makes it easier to control. While the endpoint can move in only one direction at a time mechanically, the full range of control inputs allows software-driven steering, enabling that direction to be adjusted anywhere within the -dimensional task space.[1]

The importance of virtual channel buffer allocation and topology selection in maximizing total system performance is demonstrated by the Direct Connect architecture for glue less multiprocessing as well as the latency and bandwidth characteristics of these systems. In distributed shared-memory architecture, the SCI protocol allows a single shared address space to be shared by an arbitrary number of nodes. It achieves this by maintaining lists of shares for every line that has been cached using doubly linked queues, with features for adding and removing sharers.[2]This results in the creation of an architecture that manages all dynamic aspects while preserving traditional software engineering principles. A top-down analysis of a control architecture reveals that entities become increasingly specialized as one approaches the lower levels. lists of sharers with the ability to add and remove users for each line that has been cached using doubly linked queues -related factors hold equal significance. Due to the current absence Global simulation is essential in the design and testing of hybrid systems because it provides tools for completely forecasting and formally analyzing the performance of a nonlinear system controlled by multi rate architecture. continues to be a key element of an integrated environment.[3] Our experience indicates that developers accustomed to less dependable designs must undergo a fundamental change in mindset in order to understand a single-level store model. Therefore, it would seem appropriate to present these ideas first as a starting point. for the rest of the KeyKOS description of the architecture. Each domain will have its own address slot in architectures that include distinct instruction and data spaces. Furthermore, every domain has a meter key that allows the domain to run for the amount of time the meter specifies.[4]



An architecture that guarantees compressed archives will remain accessible in the future by embedding the necessary decompress or directly within the archive. This architecture is similar to what Java users are accustomed to: the code producer writes source code and compiles it into byte code using their preferred compiler. However, before the code user runs an applet, they first verify it using a separate byte code verifier. However, save and restore operations can be expensive on modern architectures, so to prevent GCC from relocating comparisons away from their corresponding branches, we disable instruction scheduling.[5]Microprocessors designed with an optimized instruction set and architecture for synchronous, fast searching. With the entire database available on the broadcast channel and content filtering capabilities in real-time, this permits records to be directly chosen depending on the values of any attribute or set of attributes. By utilizing filtering-mode operation, the architecture can develop and include selection operations that were not included in the original data filter design since the query complexity is not constrained by the data filter instruction set primitives. A key objective goal the Data cycle project has been to create a transaction processing architecture in which the addition of processing resources results in an improvement in throughput.[6]A fully realized architecture based on For the forwarding function and entities to remain modularly separated, the FARA model needs to specify an interface specification (API) that corresponds to the red line. However, such mechanisms must be defined in an architecture that applies the FARA model; Section Four specifically explains the mechanism of M-FARA. Although HIP was first intended to be an expansion of the existing Internet infrastructure, its workings may be used to integration.[7]The aim of this article is to demonstrate, using human dynamics as an example, Basic knowledge of network dynamics as well as network structure and architecture is necessary for a thorough comprehension of complex systems.

A thorough comprehension of a complex's entire behavior However, the network needs to take into account both its design and the characteristics of the dynamic processes occurring within it. As a result, structural network theory is not the final destination but rather a necessary a step closer to realizing the ultimate objective of comprehending complicated systems.[8]We examine the idea of architecture in the first part of our paper and show how organization science has used it in its discussions of organization design. Technology, solutions architecture, hosted client work, power and cooling, compliance and interoperability, marketing, small and medium companies, membership perks, bylaws, and membership are among the topics covered by these committees, which are organized according to their functions. Additionally actors are able to independently mobilize around issues and opportunities, enabling them to establish objectives and determine how resources are distributed to achieve them. [9]Architectures shift developers' focus from individual lines of code and custom systems to system families and coarse-grained components.

A definite focus on architectures provides developers with greater adaptability, as seen by the possibility of component substitution and reuse. the altered architectural components, decipher them, and make the required adjustments to the operational system. Changing A connector port's filtering policy has the ability to "rewire" the design. But some challenges arise, such as the possible message loss in the event that a component is eliminated during processing.[10]Additionally, we were able to use a variety of data collection techniques for diverse networks. Although benchmarks are useful for collecting bandwidth information, they are often too costly and intrusive for many networks. As a result, Lighter methods, like the SNMP Collector, are what we must use. Even yet, there are some differences between the suggested Grid Monitoring Architecture and our architecture.[11]The fundamental structure of the application is similar to that of a conventional architecture: most tasks are carried out locally, with communication mainly used for boundary exchanges or other infrequent operations. In the next section we take these results into consideration in porting and optimizing the Sweep3D application to the Roadrunner architecture.[12]Long before John von Neumann outlined the benefits of a computer architecture that separates the processor from the memory, Zuse had already reached the same conclusion. I have maintained that indirect addressing and a small instruction set are necessary for universal computation.[14]The creation of tools, methods, procedures, and applications to evaluate vital company data in order to obtain fresh perspectives on markets and business is known as business intelligence and analytics, or BIA.

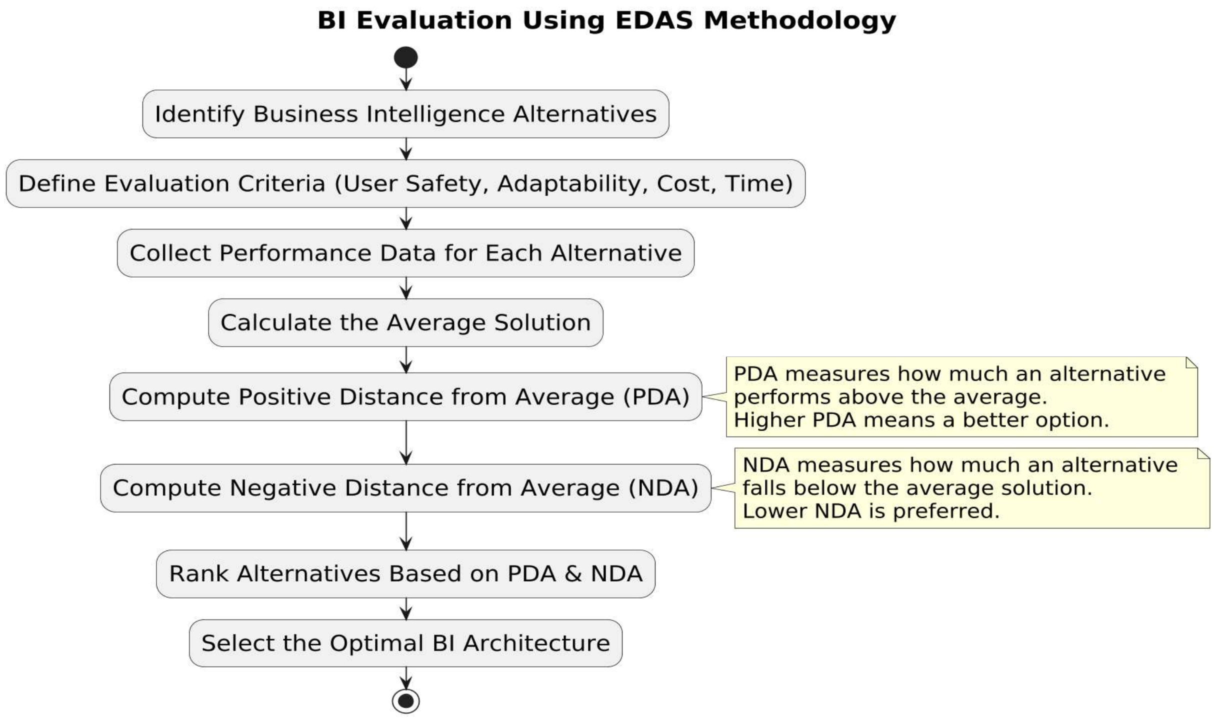
They can obtain a competitive edge by using business intelligence (BI) approaches to better understand and manage company operations. The main purpose of business intelligence (BI) is to increase the quality and timeliness of information and give managers a better understanding of their company's position relative to its competitors. The most often used approach among the several that are available is the Artificial Neural Network (ANN), which was initially developed as an attempt to simulate human learning capacities and was inspired by the biological neural networks seen in the human brain.A software architecture outlines the assignment and identification of system components, the ways in which these components work together to form a system, and the degree of communication necessary for these interactions. In order to find any discrepancies between the current protocols and the applications they are intended to support, we next compare the abstract model with the Web architecture that is already in use. Architecture is independent of implementation. Rather than how those interfaces and protocols are implemented in a specific piece of software, the Web is defined by its standard interfaces and protocols.[15]Only one dimension of scaling is possible with a monolithic architecture.

Although we can run extra instances of the program to enhance the amount of transactions, this architecture cannot scale with an increasing data volume. The next major concern is the technology stack. In the case of the monolithic architecture. [16]Expose its parallelism in a manner that aligns with the architecture that was envisioned. This algorithmic modification yields a very efficient implementation using just aligned short-vector memory accesses. The design uses parallelism at the instruction and data element levels to overcome a number of issues in high-performance DSP computation. We provide an overview of the architecture of JIVE, offering high-level descriptions of the interprocess communication mechanism through which JIVE and its visualization client exchange data. [17,18]The focus is on minimizing or eliminating dependence on centralized infrastructure services such as water, energy, and waste, as seen in autonomous house designs. According to Ujam and Stevenson, this involves "challenging the concerns of some 'Green' architects about 'Green' solutions that are technically effective but culturally unsustainable, particularly when placed within existing building typologies."[19]

Materials and method

Alternatives: Circular 1: Introduction to Sustainable Practices This circular introduces the core principles of sustainability, focusing on reducing resource consumption and minimizing environmental impact. It explores the need for businesses and individuals to rethink traditional practices in favor of more eco-friendly alternatives, such as renewable energy, energy efficiency, and sustainable waste management. Key strategies for adopting circular economy practices in daily operations are also discussed. Circular 2: Implementation of Green Technologies Circular 2 highlights various green technologies that can be incorporated into both residential and commercial spaces. It provides guidance on selecting renewable energy sources including solar and wind power, energy-efficient appliances, and technologies that support water conservation. The goal is to reduce reliance on non-renewable resources and transition towards a more sustainable future by implementing cutting-edge green innovations. Circular 3: Reducing Waste and Promoting Recycling These circular focuses on effective waste management practices, emphasizing the importance of reducing waste production and increasing recycling efforts. It covers best practices for waste segregation, composting, and reusing materials in manufacturing processes. The circular also discusses the role of individuals, communities, and businesses in creating a circular waste system where products are repurposed, recycled, or safely disposed of, minimizing their environmental footprint. Circular 4: Collaborative Approaches to Sustainability Circular 4 delves into the importance of collaboration in achieving sustainability goals. It discusses how communities, governments, and businesses can work together to implement policies, share resources, and drive initiatives that promote a green economy. The circular also highlights successful case studies where partnerships have resulted in impactful environmental benefits and outlines steps for fostering more widespread collaboration in the future.

Business Intelligence Evaluation Process (EDAS Methodology)



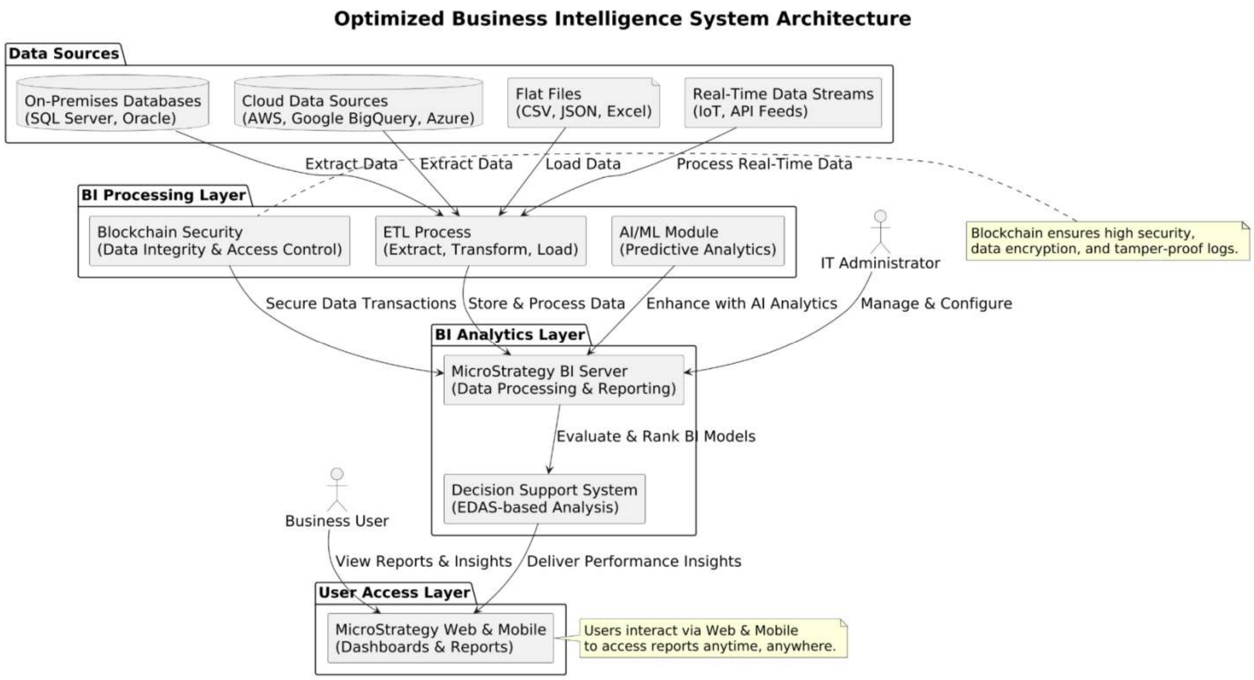
Evaluation parameter: Users' Safety: When evaluating a system or product, users' safety is of paramount importance. Ensuring that users can interact with the system without risking harm involves assessing potential hazards and mitigating them through design, functionality, and features. This includes designing systems with built-in safety protocols, emergency responses, and clear user instructions. It also requires ensuring compliance with industry standards and regulations, such as safety certifications or ergonomics guidelines, to minimize risks during use. Ultimately, a focus on users' safety not only prevents accidents but also builds trust and confidence in the product. Adaptability to Changes: Adaptability to changes is a critical parameter when evaluating a system's long-term viability. As user needs, technological landscapes, or business environments evolve, a system must be able to adjust without requiring extensive redesign or causing disruptions. This includes examining the system's flexibility to accommodate future updates, new features, and increased demands. A system that adapts well to changes is scalable, upgradeable, and compatible with emerging technologies, ensuring that it remains useful and efficient as requirements shift. This adaptability helps the system stay relevant and operational, even as circumstances evolve. Cost: Cost is essential to figuring out a system's overall viability. Assessing the cost involves assessing both the initial investment required and the ongoing operational expenses.

This includes the cost of acquiring, implementing, and maintaining the system, along with any additional expenditures for training, support, and upgrades. Additionally, cost-effectiveness should be measured by comparing the value delivered by the system with its cost, considering factors like productivity gains, efficiency improvements, and potential cost savings over time. A well-balanced system ensures that its benefits justify its financial investment, providing good value for money. Time: Time is an essential factor in evaluating a system's effectiveness and efficiency. It is important to consider not only the time required for system implementation but also the operational time saved by automating tasks or optimizing processes. Evaluating response times is equally critical, as quick processing and reduced delays directly improve user experience and system performance. Moreover, the time it takes for a product or solution to reach the market (time to market) can significantly affect competitive advantage. Systems that save time whether in development, deployment, or daily use can lead to improved productivity and faster outcomes for all stakeholders.

EDAS

To evaluate alternatives, EDAS requires two metrics. With high values, these metrics are called PDA stands for positive distance from the mean. While with low values, they are called NDA stands for negative distance from the mean. In light of low NDA and/or high PDA values, the other strategy is superior to the average option. By contrasting the effects of other MCDM or different approaches applied to the same cases, the current study uses some RSP examples from the relevant literature to demonstrate the applicability of EDAS as a suitable and successful MCDM method. To our knowledge, this study is the first to use EDAS for industrial robot selection. This study aims to illustrate the EDAS approach's applicability and effectiveness in contrast to the existing MCDM approaches for resolving industrial robot selection issues. In this regard, four sample issues that are frequently utilized in the literature were resolved, and the outcomes of the EDAS method were contrasted with the approaches taken to handle these samples. One of the four scenarios is selected using the EDAS approach, which is evaluated. The EDAS method was chosen for robot ranking because it is a new approach with a wide range of applications and lower computational cost than previous MCDM techniques. Since its answer is obtained, EDAS removes the chance of experts unjustly favoring other solutions. The average solution. The main benefits of the EDAS approach are its ease of use and the reduction in the number of computations required. The proposed hybrid BW-EDAS approach allows robot preferences to be ranked based on a range of qualitative and quantitative variables. The suggested technique is a general procedure that may be used to handle any industrial selection problem with a limited number of selection criteria. In the future, we will compare our suggested method for the ranking process with EDAS approaches and apply the FUCOM methodology to calculate the weights. The work can be expanded to the fuzzy environment. However, it is evident that the application of fuzzy EDAS results in solutions that are vulnerable. One well-known area of decision-making is MCDM. To deal with ambiguity in decision-making issues, this method can be combined with fuzzy logic. Fuzzy MCDM approaches combine many different and sometimes conflicting principles into parameters, making the assessment process much more flexible, objective, and suitable for the different alternatives.

Business Intelligence System Architecture



These are just a few advantages of using fuzzy MCDM approaches in energy decision-making and policy-making issues. EDAS is a distance-based approach that ranks the available solutions using both positive and negative distances from the average response. The positive and negative distance measurements were computed using the different kinds of useful and non-beneficial criteria. The alternative with higher PDA (positive distance from average) values or lower NDA values is the better one. EDAS is a great tool since it is easy to use and allows you to take into account a plethora of options and criteria while making decisions. Consequently, the existing methods usually include complex computations and give decision makers inflexible responses. This paper aims to address this issue by offering an approach based on the normal distribution's characteristics and the EDAS technique.

As mentioned before, one of the MCDM strategies is the EDAS approach. Keshavarz Gorbea created this relatively new and effective technique. Based on the importance of the normal distribution, its characteristics, and the EDAS technique, this paper suggests an extension of the EDAS to efficiently handle the stochastic MCDM problems. Since the EDAS approach has never been used or extended for stochastic MCDM problems, the proposed approach is novel. The results of the stochastic EDAS technique are compared with those of a number of other currently used approaches, and a sensitivity analysis is performed to demonstrate how stable the results are when the weights of the criteria are modified. The proposed approach can be used to a variety of practical scientific problems, management, and engineering, even though it was used in this study to evaluate bank branches.

As an example, we analyze a bank branch using the stochastic EDAS technique. To demonstrate the reliability and validity of the stochastic EDAS results, we also do a sensitivity analysis and a comparison in this section. Conclusion and directions for further research. Consequently, we can conclude that the suggested stochastic EDAS approach can help decision-makers consider data uncertainty while weighing their options. We have proposed a stochastic version of the EDAS method to solve MCDM issues using normally distributed data. To account for data uncertainty throughout the evaluation, we have set optimistic and pessimistic values for several of the parameters of the proposed technique. To address fuzzy multi-criteria group decision-making problems with a wider membership domain and more flexibility, interval-valued Pythagorean fuzzy numbers are utilized.

The evaluation based on distance from the average solution (EDAS) is expanded upon in this work. The usefulness and applicability of the suggested model are demonstrated using an example of the car selection problem, and the outcomes are contrasted with those of the intuitionistic interval-valued fuzzy EDAS technique. A sensitivity study is also performed to observe the impact of the weights on other ranks. The decision makers' ability to communicate their preferences for alternatives is restricted by one of the extended fuzzy EDAS, which means that the total of the upper end points of membership and non-membership degrees is Furthermore, since decision-making is a knowledge-intensive process, removing these constraints enables decision makers to make more intelligent choices. As a result, the proposed methodology is more effective at removing these constraints than earlier fuzzy extensions of EDAS systems, providing decision makers with more flexibility in communicating this information and improved representation of uncertain information.

Results and discussion

TABLE1

	Users' safety	Adaptability to changes	Cost	Time
Circular 1	879	874	254	750
Circular 2	942	786	843	845
Circular 3	876	951	624	378
Circular 4	987	357	425	654

The table 1 data reveals key insights from the four circulars across the evaluation parameters. Users' safety is highest in Circular 4 (987), indicating a strong focus on ensuring user protection. Adaptability to changes is prioritized in Circular 3 (951), showing flexibility in evolving environments. Cost is most favorable in Circular 2 (843), suggesting it provides the best value. Time is a key factor in Circular 2 (845), indicating efficient implementation and operation. Circular 4 also performs well in users' safety, but its adaptability and cost scores are lower, highlighting a trade-off between safety and other parameters.

TABLE 2

	Positive Distance from Average (PDA)			
Circular 1	0.000	0.178	0.000	0.142
Circular 2	0.023	0.059	0.571	0.287
Circular 3	0.000	0.282	0.163	0.000

Circular 4	0.072	0.000	0.000	0.000

The table 2 presents Positive Distance from Average (PDA) data highlights how each circular performs relative to the average in different parameters. Circular 2 stands out with a high PDA in Cost (0.571) and Time (0.287), indicating it performs significantly better in these areas compared to the others. Circular 3 shows a strong PDA in Adaptability to Changes (0.282) and Cost (0.163), highlighting its strengths in flexibility and cost efficiency. Circular 1 and Circular 4 have minimal PDAs across most parameters, showing that their performance is closer to average in all aspects, with Circular 4 excelling slightly in Users' Safety.

TABLE 3

	Negative Distance from Average (NDA)			
Circular 1	0.046	0.000	0.527	0.000
Circular 2	0.000	0.000	0.000	0.000
Circular 3	0.049	0.000	0.000	0.424
Circular 4	0.000	0.519	0.208	0.004

Circular 1: Circular 1 shows an NDA of 0.046 in Users' Safety, indicating a slight negative deviation from the average, suggesting it performs marginally worse than other circulars in terms of user protection. In Cost, the NDA is 0.527, marking a more significant deviation from the average and highlighting that it is performing poorly in terms of cost-effectiveness. There are no negative deviations for Adaptability to Changes or Time, as both values are 0.000. This indicates that Circular 1 performs on par with the average in these two areas. Circular 2: Circular 2 stands out with an NDA of 0.000 across all four parameters. This indicates that Circular 2 performs exactly at the average in every category and does not deviate negatively from the norm. This suggests Circular 2 is highly balanced in all aspects, offering a middle-ground solution in terms of safety, adaptability, cost, and time. Circular 3: Circular 3 exhibits a small negative deviation in Users' Safety (0.049) and Time (0.424), suggesting that while it performs well in adaptability (0.000), it falls behind the average in terms of safety and time efficiency. The deviation in Cost is 0.000, meaning Circular 3 performs at the average level for cost. Circular 4: Circular 4 has an NDA of 0.519 in Adaptability to Changes, which shows it significantly underperforms in flexibility compared to other circulars. In Cost, the NDA is 0.208, indicating that it is somewhat less cost-effective than the average, though it is not as poor as Circular 1 in this aspect. The NDA values for Users' Safety (0.000) and Time (0.004) are both low, indicating that Circular 4 performs close to the average or slightly better in these categories.

TABLE 4

	Weight			
Circular 1	0.25	0.25	0.25	0.25
Circular 2	0.25	0.25	0.25	0.25
Circular 3	0.25	0.25	0.25	0.25
Circular 4	0.25	0.25	0.25	0.25

In this table, the weights for each circular section (Circular 1, Circular 2, Circular 3, and Circular 4) are evenly distributed across all four weight categories. Each section receives a weight of 0.25, indicating an equal distribution or balance. This suggests that the measured weights or values for these circular categories are uniform, perhaps for a balanced comparison or a controlled experimental setup.

TABLE 5

	Weighted PDA	Spi

Circular 1	0	0.044474	0	0.035497	0.079971
Circular 2	0.0057	0.014825	0.142824	0.07166	0.235009
Circular 3	0	0.070418	0.040774	0	0.111191
Circular 4	0.017915	0	0	0	0.017915

The provided table presents the data for Weighted PDA and SPI values across four circular sections, highlighting the relative distribution of values across different indices. Each circular section represents a specific category or experiment, where the "Weighted PDA" values suggest some form of primary measurement or baseline index, and the SPI values represent additional measurements or metrics (perhaps performance or response) related to each circular section. In Circular 1, the Weighted PDA is 0, indicating no significant baseline measurement. However, the SPI values exhibit small contributions, with SPI 2 showing a value of 0.0445 and SPI 4 showing 0.0355, suggesting some form of minor activity or response. Circular 2, on the other hand, displays a more diverse range of SPI values, including a high value of 0.1428 in SPI 2, alongside smaller but still notable values in SPI 1 and SPI 3. This indicates a higher level of activity or response in Circular 2 compared to Circular 1, with a total Weighted PDA of 0.0057, implying a slight positive influence or baseline measurement. Circular 3 shows a combination of moderate SPI values, particularly in SPI 1 (0.0704) and SPI 2 (0.0408), while Circular 4 has minimal SPI activity, with a Weighted PDA of 0.0179 and SPI 4 showing the same value. Overall, Circular 2 seems to have the most diverse and significant set of SPI values, suggesting it plays a more prominent role in the data compared to the other sections.

TABLE 6

	Weighted NDA				SNi
Circular 1	0.011401	0	0.13164	0	0.143041
Circular 2	0	0	0	0	0
Circular 3	0.012215	0	0	0.10611	0.118325
Circular 4	0	0.129717	0.051957	0.001047	0.182721

The table displays the relationship between "Weighted NDA" and "SNi" values across four circular sections, providing insights into the performance or activity levels across different metrics. Each circular section represents a distinct category or measurement, with "Weighted NDA" values indicating the primary baseline values and "SNi" representing supplementary or specific response metrics. In Circular 1, the Weighted NDA is 0.0114, which is relatively small. The corresponding SNi values show a strong value of 0.1316 in SNi 2 and 0.1430 in SNi 4, suggesting a noticeable response or activity in those indices. Circular 2 shows no measurable activity across both Weighted NDA and SNi, with all values being zero, indicating no significant response or performance in this section. Circular 3 features a modest Weighted NDA of 0.0122, with SNi values distributed across different indices. The most significant SNi value is in SNi 4 (0.1183), suggesting a noteworthy response, while other indices show lower values. Circular 4 has a Weighted NDA of 0, but significant SNi values appear, especially in SNi 1 (0.1297) and SNi 4 (0.1827), indicating more substantial activity in those areas.

TABLE 7

	Spi	Sni
Circular 1	1	0.217162
Circular 2	0.473137	1
Circular 3	0.076233	0.35243
Circular 4	0	0

The provided table presents the values for SPI and SNI across four circular sections, offering insights into the distribution and relative performance of these two metrics. The first column represents the SPI values, which could correspond to a primary metric or baseline measurement, while the second column represents the SNI values, potentially indicating a supplementary or secondary measure, such as a response or performance indicator. In Circular 1, SPI is 1, which represents a maximum or full value, while the SNI value is 0.2172. This suggests a high baseline measurement with a moderate supplementary response. Circular 2 shows an SPI of 0.4731, indicating a moderate level of activity, with a corresponding SNI of 1, representing a maximum response in the supplementary metric. This indicates a balanced yet notable performance in both primary and secondary measures. Circular 3 features a lower SPI value of 0.0762, indicating minimal activity, while the SNI value is higher at 0.3524, suggesting a moderate response in the supplementary metric despite the lower baseline. Circular 4 has no measurable activity in both SPI and SNI, with both values being zero, reflecting no observed performance or response in this section.

TABLE 8

	ASi
Circular 1	0.608581
Circular 2	0.736569
Circular 3	0.214331
Circular 4	0

Circular 1 has an ASi value of 0.6086, indicating a moderate to high level of performance or activity. This suggests that Circular 1 has a notable influence or output, but it is not at the maximum level. Circular 2, with an ASi value of 0.7366, shows the highest value among the four sections, suggesting it is the most significant or active section in this context. This higher value reflects stronger performance or response in Circular 2 compared to the others. Circular 3 has a lower ASi value of 0.2143, indicating a relatively minimal contribution or performance in comparison to Circular 1 and Circular 2. This suggests that Circular 3's impact is less significant within the metric being measured. Circular 4 has an ASi value of 0, indicating no measurable activity or performance in this section, making it an outlier with no contribution in the context of ASi.

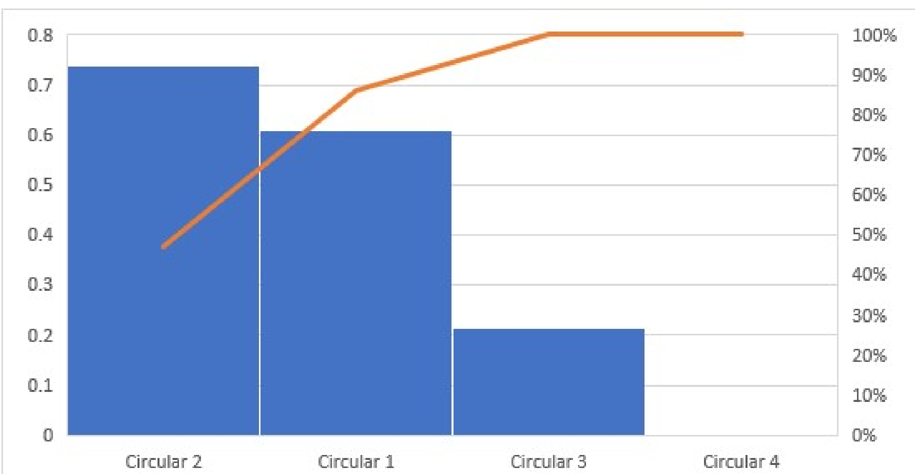


Figure2

The bar graph illustrates the distribution of four different circular types, accompanied by a cumulative percentage line (shown in orange). Circular 2 shows the highest frequency at approximately 0.74 units, followed by Circular 1 with about 0.61 units. Circular 3 demonstrates a significantly lower frequency of roughly 0.22 units, while Circular 4 shows minimal or near-zero representation. The cumulative line indicates a progressive increase, starting at around 45% with Circular 2, rising sharply through Circular 1 (reaching approximately 80%), and approaching 100% after including Circular 3. This distribution pattern suggests a clear dominance of Circular 2 and Circular 1 types, which together account for more than 80% of the total observations, while Circular 3 and 4 represent a smaller proportion of the overall distribution.

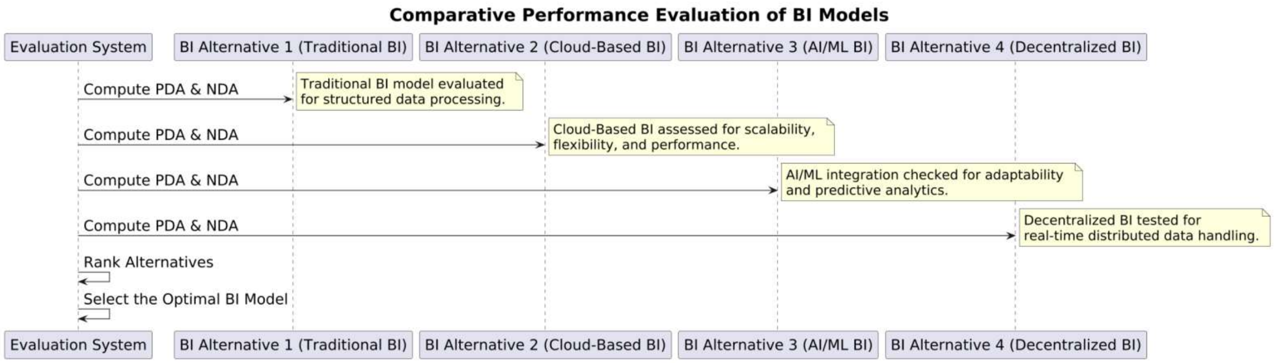
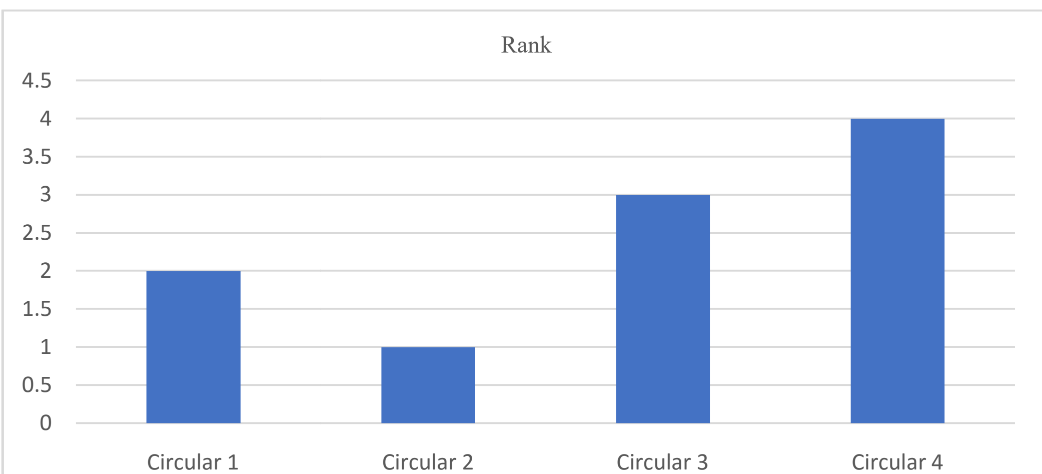


TABLE 9

	Rank
Circular 1	2
Circular 2	1
Circular 3	3
Circular 4	4

The table presents the ranking of four circular sections, indicating their relative performance or significance within a given context. The "Rank" column suggests an ordered evaluation, with lower values representing higher performance or importance. Circular 1 is ranked 2, indicating it holds the second-highest position in terms of performance or significance. This suggests that Circular 1 performs well but is slightly outperformed by another section, likely Circular 2. Circular 2 holds the top rank, with a ranking of 1, meaning it performs the best or holds the highest importance within the measured parameters. Circular 3 is ranked 3, reflecting a moderate level of performance, as it is surpassed by Circulars 1 and 2 in this ranking system. Despite not achieving the highest rank, Circular 3 may still show considerable significance, but its performance is not as strong as the leading sections. Circular 4 is ranked 4, representing the lowest performance or significance within the group. This ranking indicates that Circular 4, although included in the measurement, exhibits the least impact or contribution.



The three-dimensional bar chart presents the ranking distribution across four circular categories, where a higher value indicates a lower performance ranking. Circular 4 shows the highest rank value at 4.0, indicating it ranks lowest in performance among all categories. Circular 3 follows with a rank of approximately 3.0, placing it as the second-lowest performer. Circular 1 maintains a moderate position with a rank value of about 2.0, while Circular 2 demonstrates the best performance with the lowest rank value of approximately 1.0. This ranking distribution clearly illustrates a hierarchical pattern where Circular 2 emerges as the top performer, followed by Circular 1, while Circular 3 and Circular 4 consistently rank in the lower positions. The even spacing between ranks suggests a systematic and distinct performance differentiation between each circular category.

Conclusion

In conclusion, the data presented across the various tables highlights the relative performance and significance of different circular sections in relation to the measured metrics. Each table showcases a unique set of measurements, whether it's the Weighted PDA, SNi, SPI, or ASi values, which collectively contribute to a deeper understanding of the activity and response levels within each circular section. Circular 2 consistently stands out as the most significant performer, particularly in metrics such as SPI and SNi, indicating a higher level of activity or response compared to the other sections. Circular 1 follows closely, showing notable contributions in several categories, though it is surpassed by Circular 2 in many respects. Circular 3 demonstrates moderate activity but does not achieve the same level of significance as Circulars 1 and 2. Circular 4, on the other hand, often shows minimal to no measurable performance, highlighting it as an outlier in terms of activity. The ranking data further supports this analysis, with Circular 2 securing the top rank, followed by Circulars 1, 3, and 4. The hierarchical structure across the tables offers valuable insights into how different sections perform in relation to one another, allowing for a clearer understanding of which sections contribute most significantly to the overall analysis. These findings can be utilized to guide decision-making, optimize performance, and target improvements in areas where lower-performing sections, like Circular 4, may need attention.

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