

# Comparative Study of Data Availability Schemes in Various Blockchains

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**Abstract**—We make a Comparative benchmarking study of currently polkadot's ELVES data availability protocol with emerging data availability solutions which includes Avail, Celestia, Espresso's-Tiramisu and NEAR's sharded DA.

We made a comparison in terms of bandwidth, time, latency, block time, block size, robustness degree and cost per megabyte of data availability.

## I. INTRODUCTION

In recent years, the field of [Your Field] has seen significant advancements, driven by [mention key factors or technologies]. This paper aims to explore [briefly state the main topic or problem addressed in the paper].

The motivation behind this research stems from [explain the motivation, why this topic is important]. By addressing [specific issues or gaps in the existing literature], we hope to contribute to [state the expected contributions or outcomes of the research].

The objectives of this study are as follows:

- Objective 1: [Describe the first objective]
- Objective 2: [Describe the second objective]
- Objective 3: [Describe the third objective]

This introduction sets the stage for the subsequent sections, where we will delve into the methodology, results, and conclusions drawn from our research.

## II. METHODOLOGY

### III. METHODOLOGY

In this section, we detail the methods and approaches used in our research. The methodology is structured as follows:

#### A. Research Design

We employed a quantitative research design to gather and analyze data systematically.

#### B. Data Collection

Data was collected through surveys distributed to a sample population. The survey included questions designed to assess various parameters relevant to our study.

#### C. Data Analysis

The collected data was analyzed using statistical methods, including descriptive statistics and inferential statistics, to draw meaningful conclusions.

#### D. Limitations

We acknowledge certain limitations in our methodology, including potential biases in survey responses and the representativeness of the sample.

Future research may address these limitations by employing a more diverse sample and utilizing mixed methods for data collection.

## IV. RESULTS

### V. RESULTS

In this section, we present the results of our research. The findings are summarized in the following subsections.

#### A. Data Analysis

We conducted a thorough analysis of the collected data, which revealed significant trends and patterns. The results are illustrated in Figure ??.

#### B. Findings

The key findings from our research indicate that [insert key findings here]. These results contribute to the understanding of [insert relevant field or topic].

#### C. Discussion

The implications of these results are discussed in relation to existing literature. Our findings suggest that [insert discussion points here]. Further research is needed to explore [insert future research directions].

## VI. CONCLUSION

### VII. CONCLUSION

In this paper, we have explored the significance of [insert key findings or contributions]. The results indicate that [summarize main results]. These findings have important implications for [discuss implications]. Future work could focus on [suggest future research directions]. Overall, this research contributes to [state the broader impact of the work].