

## Practical 1 – Research Methods and Applications

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For the analysis, two papers have been taken into consideration, in which each paper follow one unique paradigm, such as Positivist approach, and Phenomenalism approach. The papers selected are as given below.

1. **Positivist Approach (Quantitative research):** AI-based Personalization and Trust in Digital Finance (Kanaparthi, 2024)
2. **Phenomenalism Approach (Qualitative research):** A Large-Scale Survey on the Usability of AI Programming Assistants: Successes and Challenges (Liang, 2024)

The papers have been attached with this, PFA.

### 1. **Positivist Approach (Quantitative research):**

The paper taken into consideration proposed a model which does credit risk detection using Artificial Intelligence (AI). The author begun the paper with a literature review of the research work happened in digital finance and how it relates to AI. To do this, 16 research papers have been analysed, compared, and concluded with 5 main gaps with AI and digital finance. Further, the author implemented one of the gaps among the 5 gaps concluded. The concept of the problem, that is credit risk identification, has been clearly mentioned, including the data collection and data analysis. Further, the simulation and performance analysis of the model created also has been provided in the follow up sections.

The steps involved has been observed. The implementation of the proposed model followed structured strategy. From stating the hypothesis, testing the hypothesis. For which background work has been analysed, data has been collected, and it has been analysed with respect to the system. Finally, the simulation with results has been provided with a thorough discussion. The validity of the outcomes also has been discussed along with the accuracy enhancement noticed and further improvements that can be made. This paper follows the steps need to be taken care while doing a quantitative research.

### 2. **Phenomenalism Approach (Qualitative research):**

The paper chosen under Qualitative research presents a comprehensive survey carried out to formulate the successes and challenges of AI driven programming assistants, like Copilot, and ChatGPT, which is driven by the curiosity backed by the observation the author made that how extend the developers use AI based programming assistance and the challenges they face during the application. The author has carried out the related works published in the recent years associated with the topic. Then followed by that a methodology has been created which investigates the responses received from 410 developers across the field. After the analysis, the usability of AI programming assistants has been discussed. Then the validity of the implication made have been discussed with the directions to several future works which can be done further with respect to this paper.

The authors approach to the situation has been clearly defined at the beginning of the report. And the steps needed to be done to make interpretation has been followed strategically and presented the methodology well defined. The conclusions drawn and the implications

against the validity of the conclusion drawn have been discussed very clearly, along with giving directions briefly to the possibility of future work that can be done as a follow up to the research done. The paper uses the qualitative approach to do the research through the process.

## References

Kanaparthi, V., 2024. AI-based Personalization and Trust in Digital Finance. *arXiv preprint arXiv:2401.15700*.

Liang, J. T. a. Y. C. a. M. B. A., 2024. A large-scale survey on the usability of ai programming assistants: Successes and challenges. In: IEEE, ed. *Proceedings of the 46th IEEE/ACM International Conference on Software Engineering*. s.l.:s.n., pp. 1-13.