Let us first start by finding out what Exploratory testing is. Exploratory Testing, known as ET, is testing without detailed pre-specified test cases, for example, unscripted testing. ET is not a single testing technique or strategy, but it is rather an approach to testing, where test design is performed as part of test execution. The paper displayed data, which showed that the main reasons for using ET in companies were the difficulties in designing test cases for complicated functionality, and the need for testing from the end user's viewpoint. It is also stated that the biggest shortcoming of Exploratory testing was managing test coverage. As such, further research on the subject is needed. Also due to a lack of research in this domain, the certain situations in which ET is best to be used as a complementary testing method are unknown. The paper studies the use of ET in three different companies to increase the understanding of its applicability, benefits, and shortcomings. They also bring forth, several important research issues that should be studied to better understand the applicability and restrictions of ET and to develop new ways to better manage ET to lessen its shortcomings.

The methodology followed two paths, which were determined by the research inquiries posed. The initial inquiry concerned the understanding of exploratory testing as described in the existing literature. To answer this, a review of relevant literature was conducted. The second question focused on how and why companies use exploratory testing, as well as the outcomes achieved. To address this, a descriptive case study was made. Three companies were interviewed in order to collect subjective evaluations of the benefits and shortcomings of ET. The interviews conducted with individuals involved in exploratory testing at the case companies were semi-structured and focused on particular themes. Each interview lasted between 40 and 70 minutes. The questions asked were open-ended and impartial, with the aim of capturing genuine opinions and experiences without influencing the interviewee's responses. Two researchers were present at each interview, with one asking the questions and the other taking notes. Additionally, the interviews were recorded. The notes taken during the interviews were utilized as a foundation for the subsequent analysis.

The reasons the three companies use ET were recorded and summarized as follows: all companies agreed that writing test cases for everything is difficult, it serves as a way of testing the software from a user's viewpoint, it emphasizes utilizing the testers' experience and creativity to find defects and it helps provide quick feedback on new features from testers to developers. Neptune and Vulcan companies also added that they use ET to be able to write test cases for all possible combinations of complex tasks and they find it a way of learning about the system and the results. At Mercury, the interviewee stated that it could have taken up to a week to write a list of test cases and still some important test cases might have been overlooked or forgotten. Mercury and Neptun consider that it adapts well to situations, where the requirements and the tested features change often, and the specifications are vague or incomplete. Some other statistics were done by collecting quantitative defect and effort data from the defect and other tracking systems of the case companies. It seems that Neptune discovered a total of 169 defects using ET, Mercury 34 and Vulcan discovered 103 functional defects and 31 smoke defects. As for the effort hours, Neptune pun in 26 hours, Mercury only 4, and Vulcan 160 per each release.

The purpose of the paper was to obtain knowledge of exploratory testing, how it is used, and when. The results of the study support many of the claimed benefits of existing literature and reveal some new findings. Clearly, the limitation of the study is the small number of companies involved in the case study. As such, the generalization of the results is quite difficult to be made. All three companies also have in common the fact that they are all in the product business domain, which may be different from the results of software companies. They also say that they focused more on the use of ET in companies instead of the whole testing approach and the role ET plays in it. As such, the findings are considered more suggestive than conclusive. The interviewees considered using ET more time-consuming to explore complicated functionality carefully. The study did not reveal any intentional test techniques or strategies used for exploring. They consider this to be due to the lack of testing training. On the other hand, a new finding of the study was the use of ET for learning the system for other purposes than better testing and finding defects more effectively. In two of the three case companies, one of the reasons for using ET was learning the features and behavior of the system. Still, one of the biggest concerns is coverage. As a conclusion, it seems that exploratory testing is an accepted approach to testing in the industry.