

Nairobi Stock Exchange facilitates the mobilization of capital for development and provides savers in Kenya with an alternative saving tool. The introduction of the Central Depository System (CDS) in 2004, the Automated Trading System (ATS) in (2006) and the implementation of Wide Area Net work (WAN) in 2007, was the onset for Automation to revolutionize security trading in Kenya. In 2009, the Nairobi Stock Exchange's secondary bond market came live with the automation of trade in government paper. As a follow-up, this study seeks to establish ways in which the automated trading system has affected the trading of shares at the Nairobi Stock Exchange. Specifically, the study seeks to determine the following: the impact of automated trading system on efficiency of operations amongst the members of the NSE; the impact of automated trading system on transactions cost management by members of the NSE; the impact of automated trading system on the level of disclosure and transparency amongst the members of the NSE; and the impact of automated trading system on growth of clientele base among the members of the NSE. A descriptive research design was applied in conducting a field survey in all the stockbrokerage firms (and investment banks) licensed at the Nairobi Stock Exchange. The target population of this study was all stock brokerage and investment banking firms licensed at the Nairobi Stock Exchange. They are a total of 18 brokerage firms in Kenya. A census was performed on all the stock brokerage and investment banking firms. A Questionnaire was used as data collection instrument. The questionnaire was designed with open-ended and closed ended questions that would help the research to capture all the relevant information needed for the study. Questionnaires were administered during the official working hours. A research assistant was hired to administer these questionnaires to the dealers in the brokerage firms and licensed investment banks. The data was analyzed through the use of descriptive statistics. Descriptive statistics include frequency tallies and percentages. The findings are presented using pie charts, bar graphs, and frequency tables. The study findings indicated that there was a positive correlation between automated trading system and efficiency of operations, automated trading system has reduced transaction cost of operation in share trading and level of disclosure and transparency among the members of Nairobi stock exchange has increased. Finally, the study revealed that automated trading system has increased the clientele base among the members of Nairobi stock exchange.