In recent years, location-based services (LBS) have increased, especially in the vehicle navigation system or portable navigation device. Although navigation systems have been expected to increase rapidly, consumer behavior is of central interest in the navigation system adoption, but it is an area that is under-researched in Taiwan. The main objective of this research is to investigate the critical factors that affect the consumer behavior of portable navigation systems. This research adopts Grounded Theory, figures out consumer behavior of vehicle or portable navigation systems, and establishes a consumer behavior model. Through the analysis and coding process of the interview data collected from nine interviewers in a theoretical sampling process, this research generalizes 536 concepts and 85 categories in open coding and 24 sub-categories in axial coding. In the selective coding process, this research explored five central categories of consumer behavior on navigation systems and established a model of consumer behavior. Based on this research to provide appropriate management meaning for navigation system industry managers.

Keywords: Vehicle navigation system, User behavior, Global positioning system, Portable navigation device.