MV. Voyager is a type of ferry services in the register number 10 088 based on the class Indonesian Bureau of Classification used as research ship (research vessel). Indonesian waters the vessel is in operation namely Benoa (Bali). The main size of the vessels Loa = 35.38 m, Lpp = 30.50 m, Hmld = 3.50 m, 9.50 m Bmld =, T = 2.40 m. The vessels used for research needs that has decreased with the performance of the vessel. Yet the vessel is still eligible to sail due to the condition of the vessel is still good with active status according to the standard classification of Indonesian ships are BKI.

Given the above problems are the increasing number of shipping companies in Indonesia that one of them engaged in the research needs of the service, therefore it is the owner of this ship has a plan to modify the vessel is by adding a bulbous bow on the bow of the ship stem. With these additions are expected to ship capable of sailing at speeds greater than ever. Even so with the addition of bulbous bow is also about the stability of the vessel is expected to remain intact, both speeds generated by assumption of greater power from the main engines of ships still use the old machine.

Writing this final project to provide a picture of the ship owners about the effect of adding Linggi bulbous bow on the
bow of the ship. Among others affected: ship resistance, strength of ships, speed boats, ships and stability. The study was conducted with a variety of calculations to calculate the modification of planning bulbous bow, calculate ship resistance, calculate the stability of the ship. In the calculation of ship resistance used three-dimensional modeling on Maxsurf Pro software after it is simulated in software Fine Marine (NUMECA). From the results of those calculations can be known to the ship capable of moving at the speed of how much power the main engine himself. For calculation of ship stability in three dimensions are used in software modeling Hydromax. From the calculation results can be known Hydromax stability of the ship. This study also provides the best alternative if it appeared after the addition of bulbous bow boat's performance can not compete with the ship's size.

**Keywords:** Adding a bulbous bow, the ship resistance, ship speed, ship stability, Maxsurf Pro, Fine Marine, Hydromax.