Procurement Issues in Indonesian Maintenance, Repair, and Overhaul (MRO)

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ABSTRACT

Aviation Industry has grown tremendously in Indonesia over the last two-decade. Deregulation in early 2000 resulted in spectacular growth in the number of aircraft and passengers (Fahriza & Willey, 2018). This phenomenon caused Indonesia to become the most prominent airline market in Southeast Asia. Figure 1.1 shows in 2018, there are 1559 aircraft were registered in Indonesia, and the number slightly changed during the pandemic to 1497 aircraft remain registered. This industry has just recovered, and Indonesian Airlines will continue receiving orders for new aircraft, increasing the numerous aircraft in Indonesia. This fact is supported by the statement of the Lion Air General Director, Edward Sirait, that Lion Air, Indonesia's largest The aforesaid papers mainly address the problem either from an inventory point of view based on the past spare parts usage to forecast the future demand or from a maintenance point of view to find an optimal order quantity and PM interval considering the correlation between flying hours and failures. To the author's best knowledge, limited research handles failure-based procurement inventory management which is very common in practice. On the one hand, when demand is triggered by failures, the demand forecast result based on past consumption may not be accurate. For example, past low demand in many periods may indicate significant aircraft parts aging and therefore high impending demands, but the traditional replenishment system will scale back replenishment which is counter to the actual requirement. On the other hand, PM inventory management is different from failure-based inventory management. As the spare parts demand is uncertain, and some- times the part delivery time may be very long, it could lead to significant loss if a critical part fails but there is no spare to replace it. (Gu et al., 2015)

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