ABSTRACT

System engineering of product requires tools and technique for system decomposition and integraton to simplify the complex interactions. This paper describes effective method for supporting inexperience designer to analyze the the problem of product architecture using elementary design model "Contact & Channel Model" C&CM developed at the Institute of Product Development at the University Karlshruhe. Bandung Techno Park, Telkom University developed custom design of incinerator named SOLAIR as an alternative technologies to solve domestic waste problem. From the interview and observation, the authors found some weaknesses that occurred.The first point of view is based on interactions between components that can affected disfunctionallity cause some of them placed adjacent to burner so higher risk for failure. And the second point of view is based on the technical system such as difficulties way to repair some components because the design is integral and the challenge is how ease that interface of water reservoir can diasassembly easily when leakage occurred based on poduct architecture analysis. This paper lead to conclusions regarding problem analysis of SOLAIR incinerator using Faiure Mode Effect Analysis (FMEA) that resulted RPN value for suggestion in future research, coducting with Integration analysis of product decomposition that provide analysis about clustering based on individual interactions types as reference for designing the product architecture improvement in future research. To know the optimal modular architecture,the future research will use Modularization with C&CM model approach that focus on the redesign of existing products in which a matrix representation is often used as a tool for an integration analysis. This paper just present the introductions of modularization using and C&CM approach that useful to solve the problem that related with technical system.

Keyword: Product Architecture, Modularization, Integration Analysis, Incinerator