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Risk management in new product development process for fashion industry: Case study in hijab industry

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Abstract

The fashion industry is part of textile industry where innovation and creativity becomes essential factors to success. To satisfy customers, the fashion industry should always follows the fashion trend which makes the business very dynamic in nature. Because of this, fashion product usually have a short product life cycle which increase the challenges of new product development (NPD) process. Lots of NPD projects have been conducted by companies, but the success rate of NPD's project is still considered very low. This may due to the increased time and cost, difficulty in scheduling, and short product life cycle. All these factors could increase risks to the project, which call for a risk management practice to deal with this issue. Until now, there is still limited attention on risk management in NPD which cover the whole NPD process in fashion industry especially for hijab fashion. Hijab fashion is a growing industry in Indonesia but not all companies in this industry are aware on their risks and how to mitigate them. Therefore, the purpose of this study was to apply risk management to fashion industry especially in hijab fashion by identifying and analyzing risk factors and developing risk mitigation strategies. The present research involves three different hijab fashion enterprises. The method used in this research is Failure Mode Effect and Critically Analysis (FMECA) and House Of Risk (HOR). The data was collected through interview process by using a questionnaire. The research found critical risk events, critical risks agents and risk mitigation strategies. The contribution of this research is to provide framework that can be used to assist managers in implementing risk management and making effective mitigation strategies to be success in NPD for hijab industry.

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1. Introduction

Textile industry is one of Indonesian prominent industry which has high contribution to Indonesian economic.

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According to the Ministry of Trade, in 2008 textile industry, especially for fashion sector, contribute 44 % to Indonesian Gross Domestic Product (GDP)[1]. The growth of textile industry is also good. In 2011, for example, the increasing of Indonesian textiles and textile products industry (TPT) has reached 7,5 %. In addition, textile industry provide a lot of jobs for people ,for instance, In 2012 it provide job for 3,8 millions of people. Fashion industry is part of textile industry which is not simply about clothing, but it is also dealing with culture and lifestyle. Fashion industry needs to be developed as its contribution to the development of Indonesian economy. The development of fashion industry is in line with Indonesian industrial development and economic improvement program [1]. The rapid growth of fashion industry has tighten the competition among the fashion companies creating more challenges for those industries to survive in the market. Some challenges faced by fashion companies are including the uncertain market demand, short product life cycle, rapid change of customer needs [2], a wide variety products, as well as, complex and length supply chain [3]. It is believed that to survive in market competition fashion company should establish an excelent new product development (NPD) process. However, according to Monsef [4], the succes of NPD project in several cases is very low, which the failure rate before the project finish could approaching 80%. This could be caused by some risks occur in different stages of NPD. In such circumtances, risk management is required to deal with these issues.

Most of Indonesian is Muslim. For Muslim women, it is compulsory to wear hijab, the reason why it is very common to see Indonesian women wearing hijab in their daily life. Hijab is the veil that wear to cover the head and chest. Unlike previous generation, nowadays, Indonesian women are wearing hijab in a more fashionable way. The trend of wearing fashionable hijab in Indonesia is growing, it makes the market big which becomes a good business opportunity for the fashion company to design and produce fashionable hijab for the Muslim customer.. The hijab product is produced throught a NPD process which like other NPD project will not free from risks and therefore need to be managed and mitigated. While risks is almost certain in NPD project, research on risk management for NPD is not many, even so, it is usually focused on one stage of the NPD process. Risk management in NPD is commonly focused on risk identification in design or project planning stages [5] [6] and less on risk in mitigation process. Research on risk mitigation strategies is still limited published in certain research area, for instance,in supply chain management research area, such as, the research carried out by [7], [8], [9], [10], [11], [12]. It is very rare to find one in NPD project on fashion industry especially for hijab industry. What risks are faced by hijab industry and how should the company manage their risks are become an interesting questions. Case studies are needed that explain the process of risk management in hijab industry.

The main purpose of this research, therefore, is to identify and analyze critical risks factors at all stages of the NPD project in the fashion industry particularly in hijab industry and to determine appropriate risk mitigation strategies. The research has applied the integration between Failure Mode and Effect Analysis (FMECA) and House of Risk (HOR), which create a systematic and comprehensive framework that can help the manager identify risks and make more effective plan on mitigation strategies. The FMECA and HOR1 will be adopted to identify and analyze critical risk factors of NPD process. The result will become the input for HOR2 which is used to establish appropriate mitigation strategies. The process of risk identification and the development of mitigation strategies result in lots of data. These data need to be organized in such a way so it is easy to present the information for the decision making process. For this purpose, Dashboard application with PHP programming language will be used. Dashboard could help the researchers to visually display all critical data and information, to monitor project risk management within the company and to assist in critical risk mitigation agent decision making.

2. Risks in New Product Development (NPD)

Risk can be defined as uncertainty that could create opportunities or threats for businesses [13]. According to [14], the NPD has two types of risks, namely internal risks (e.g.operational, technology and organization risks) and external risks (e.g. market risk and suppliers risk). Risk management is needed to effectively manage all of those risks, to avoid company from failure and hence to enhance the possibility of company success in NPD project. Risk management can help the decision maker to evaluate and to decide whether a project is feasible to execute considering the company capability including organizational structure, level of technology, the ability of human resources, financial condition, production level and marketing level [14]. Risk management on NPD could improve decisions, solve problems and assist in stabilizing the NPD program [15]. There have been many research focused in risk management,but, according to Park [14], most of that these research were still limited in conceptual framework, hence requires more research that discuss risk management applications in other stages of NPD.

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