ABSTRAK

Industri furnitur di Indonesia saat ini berkembang pesat yang mengarah pada perkembangan teknologi. Tetapi penggunaan teknologi dalam industri menciptakan risiko bagi keselamatan pekerja sehingga manajemen risiko dalam proses produksi furnitur menjadi suatu hal yang penting untuk dianalisis khususnya di PT Paradise Island Furniture. Saat ini, belum ada penelitian yang memetakan serta mendata keseluruhan risiko yang ada pada proses produksi furnitur di PT Paradise Island Furniture. Penelitian ini akan bertujuan untuk memetakan potensi risiko sesuai dengan tahapan yang ada dalam *risk management framework* yang ada pada ISO 31000 tahun 2009 serta memitigasi risiko yang telah melalui tahap pemrioritasan sebelumnya.

Tahap-tahap yang ada dalam proses manajemen risiko antara lain *establishing the context*, *risk identification*, *risk analysis, risk evaluation*, serta *risk treatment* yang ditampilkan dalam bentuk *risk register*. *Output* dari proses *establishing the context* adalah *risk criteria* yang akan digunakan sebagai panduan dalam proses manajemen risiko. Dalam proses identifikasi risiko, risiko didapatkan melalui proses observasi, *literature review*, serta *interview* dengan beberapa pihak terkait. Selanjutnya dalam proses *risk analysis*, risiko dianalisis untuk mengetahui *likelihood of occurrence* serta *severity of consequences* dari setiap risiko yang nantinya keduanya dikalikan untuk mendapatkan skor risiko dan ditampilkan dalam *risk matrix*. Dalam *risk evaluation*, risiko tersebut diprioritaskan untuk mengetahui risiko mana saja yang akan dirumuskan proses mitigasinya dalam tahapan *risk treatment*. Risiko yang yang terpilih akan diidentifikasi akar penyebab dan probabilitasnya menggunakan *fault tree analysis* sebagai dasar penentuan *risk treatment* yang akan diterapkan. Dalam tahapan *risk treatment*, skor risiko setelah dimitigasi akan dianalisis dalam bentuk *risk residual*. Hasil analisis pada semua tahap divalidasi melalui tahapan triangulasi.

Berdasarkan proses *risk management* yang telah dilakukan, didapatkan 36 risiko dalam proses produksi furnitur di PT Paradise Island Furniture yang terdiri dari 16 risiko yang tergolong *low risk*, 17 risiko yang tergolong *medium risk*, serta 3 risiko yang tergolong *high risk*. Risiko yang tergolong *high risk* antara lain risiko mata pisau pada mesin *band saw* berada diluar mesin dan berinteraksi langsung dengan tangan operator sehingga sangat berisiko melukai tangan (*risk number* 23), mal yang digunakan pada mesin *spindle* rusak ketika digunakan (*risk number* 24), dan kayu dapat terlempar bila salah dalam memegang kayu dan jari juga dapat terkena pisau karena terlepas dari pegangan pada mesin *spindle* (*risk number* 25). Risiko yang *tergolong high risk* tersebut dianalisis lebih lanjut untuk diberikan *treatment* agar skor risiko bisa turun. Hasilnya adalah risiko tersebut berhasil diturunkan skor risikonya, yaitu sebesar 50% pada *risk number* 23, 62,5% pada *risk number* 24, dan 70% pada *risk number* 25. Ketiga skor risiko yang awalnya tergolong *high risk* turun menjadi *medium risk*.

Kata kunci : *risk management framework, risk assessment*, Industri furnitur, *fault tree analysis, risk register*

ABSTRACT

The furniture industry in Indonesia is currently developing rapidly which leads to technological developments. But the use of technology in the industry creates risks for worker safety so that risk management in the furniture production process becomes an important thing to analyze, especially at PT Paradise Island Furniture. At present, there is no research that maps and records the overall risk involved in the furniture production process at PT Paradise Island Furniture. This study will aim to map the potential risks in accordance with the stages in the risk management framework that existed at ISO 31000 in 2009 and mitigate risks that have gone through the prioritizing stage.

Procedures in the risk management process consists of establishing the context, risk identification, risk analysis, risk evaluation, and risk treatment that shown in the form of risk register. The output of the establishing the context process is the risk criteria that will be used as guidance in the risk management process. In the process of risk identification, risk is gained through the process of observation, literature review, and interviews with several stakeholders.. Furthermore, in the risk analysis process, the risk is analyzed to determine the likelihood of occurrence and the severity of consequences of each risks. Then, both of that parameters will be multiplied to get the risk score based on risk matrix. In the risk evaluation process, the risk is prioritized to get the risks that will be planned the mitigation processes in the risk treatment procedure. The selected risk will be identified as the root cause and its probability using a fault tree analysis as the basis for determining the risk treatment to be applied. In risk treatment, risk scores after mitigation will be analyzed in the form of risk residual. The results of all processes are validated through the triangulation procedure.

Based on the risk management processes that have been done, there are 36 risks in production process at PT Paradise Island Furniture consisting of 16 risks classified as low risk, 17 risks classified as medium risk, and 3 risks classified as high risk. Risks that are classified as high risk such as the risk of a blade on a band saw machine outside the machine and interacting directly with the operator's hand so it is very risky to injure the hand (risk number 23), the mold used on the spindle machine is damaged when used (risk number 24), and wood can be thrown if it is wrong in holding the wood and fingers can also be hit by a knife because it is separated from the handle on the spindle machine (risk number 25). Risks classified as high risk are further analyzed to be given treatment so that the risk score can go down. The result is that the risk score has been successfully reduced 50% for risk number 23, 62,5% for risk number 24, and 70% for risk number 25. The risk score which was originally classified as high risk down to medium risk.

Keywords : risk management framework, risk assessment, furniture industry, fault tree analysis, risk register