ABSTRAK

RELAYOUT FASILITAS MENGGUNAKAN *COMPUTERIZED RELATIONSHIP LAYOUT PLANNING* (CORELAP) DAN *MICRO COMPUTERIZE RELATIVE ALLOCATION FATCILITIES TECHNIQUE* (MCRAFT) PADA MANUFAKTUR UPCYCLING MULTI-PLASTIK

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Tata letak fasilitas area produksi perlu dirancang dengan mempertimbangkan seluruh faktor penyusun dalam sistem produksinya. Namun, PT Pracetak Bangun Indonesia kurang mempertimbangkan faktor tersebut. Kondisi ini berakibat pada kurang efisiennya aliran material yang berlangsung dalam proses produksi dan berimbas pada besarnya penggunaan ongkos *material handling* yang dikeluarkan. Untuk meminimasi ongkos *material handling,* pendekatan yang dapat dilakukan dengan melakukan perancangan *layout* dengan *Sistematic Layout Planning* (SLP) serta metode *Computerized Relationship Layout Planning* (CORELAP) dan *Micro Computerized Relative Allocation Facilities Technique* (MCRAFT). Kerangka SLP digunakan guna mempermudah proses perancangan mulai dari perencanaan sampai dengan evaluasi. Selain itu metode CORELAP digunakan untuk mendapatkan tata letak dengan rating hubungan kedekatan yang dinyatakan dalam *Total Closeness Rating* (TCR) dan MCRAFT digunakan untuk mempertimbangkan hubungan aktivitas dengan melakukan pertukaran stasiun kerja. Rancangan *layout* usulan ini mampu mengurangi jarak perpindahan materil sebesar 13,5 m atau 20,09% dari jarak awal dan OMH sebesar 18.84% dari OMH sebelumnya.

Kata kunci: Perancangan ulang tata letak fasilitas, Minimasi OMH, SLP, CORELAP, MCRAFT.

ABSTRACT

FACILITY RELAYOUT USING COMPUTERIZED RELATIONSHIP LAYOUT PLANNING (CORELAP) AND MICRO COMPUTERIZE RELATIVE ALLOCATION FATCILITIES TECHNIQUE (MCRAFT) IN MULTI-PLASTIC UPCYCLING MANUFACTURE

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The layout of production area facilities needs to be designed by considering all the constituent factors in the production system. However, PT Prakerja Bangun Indonesia did not take this factor into consideration. This condition results in less efficient material flow in the production process and has an impact on the large material handling costs incurred. To minimize material handling costs, an approach that can be taken is to design the layout using Systematic Layout Planning (SLP) as well as the Computerized Relationship Layout Planning (CORELAP) and Micro Computerized Relative Allocation Facilities Technique (MCRAFT) methods. The SLP framework is used to simplify the design process from planning to evaluation. Apart from that, the CORELAP method is used to obtain a layout with a closeness relationship rating expressed in the Total Closeness Rating (TCR) and MCRAFT is used to consider activity relationships by exchanging work stations. This proposed layout design is able to reduce the material movement distance by 13,5 m or 20,09% from the initial distance and the OMH by 18,84% from the previous OMH.

***Keyword**: Relayout Design, OMH minimization, SLP, CORELAP, MCRAFT.*