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Continuous Innovation for Excellence

ABSTRACT

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DEWAN TUN ABU ZAHAR
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In Collaboration With

PERPUSTAKAAN NEGARA MALAYSIA

PUSTAKA SUMBER ILMU
PERSATUAN PUSTAKAWAN MALAYSIA

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Invention

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IRC Motorised Trolley

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Abstract

Trolley has been utilized by library staff to sort and place books back to their respected book shelves. The act of pushing this heavy trolley has created some health issues especially to those with back pain muscle problem or to pregnant staff or to physically weaker staff. Considerable effort is required to push and pull book trolleys, due to the weight of the large number of books, and the fact that libraries are usually carpeted. An obvious solution would be a power assist trolley i.e. the use of a motorized trolley. However, these trolleys, while available commercially, are costly, upwards of USD5000. Our innovation is to incorporate power assist to the existing trolley, by retrofitting it with an electric drive unit. Retrofitting an existing trolley, rather than buying a new bespoke motorized trolley, meant that the existing trolley could be used, as well as help keep the costs down significantly. The retrofit involved mounting an electric motor to the existing trolley, installing a handlebar with throttle for speed control, a two-way switch for forward and reverse motion and an emergency stop button. With the motorized trolley, the task of retrieving and returning the books has now become safer, more efficient, ease their physical burden and improve staff health well-being. Incorporating power assist in a regular book trolley by retrofitting it with an electrical drive unit. Retrofitting an existing trolley, rather than buying a new bespoke motorized trolley, meant that the existing trolley could be used, keeping costs down significantly.

Keyword: Motorised book trolley, Occupational health

Potential commercialization: Extremely high potential for commercialization, as the cost of incorporating power assist in a trolley (by retrofitting) is approximately RM 3000 per unit, a considerable savings from commercial ones which cost up to 10 times more.

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