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# **BLUERPINT: FLEXIBLE ROLLER CONVEYER**



## **TECHNOLOGY ENTREPRENEURSHIP (ENT600)**

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#### **EXECUTIVE SUMMARY**

A flexible roller conveyor is one of the accommodations used to move goods from one place to another. The working scope of transporting goods from one place to another is a must for those whom work in a retailer store. However, most of the small company are having limitation of space. Therefore, they created a storage at an upper space of the store. Due to the limitation of the storage space, the employees are having health issues such as back pain, neck strains, wrist sprain and etc. Therefore, most of the employees did not working with this company for a long time as the working environment is uncomfortable for them. Our objective is to ease the work of the employees as well as to save energy and time of employees. We interviewed a few of retailer store owner and discussing on producing a new product which to help them ease the work of their employees. We also conducted a market survey to know our target market opinion on this product. We discussing and brainstorming the ideas in order to enhance our product to achieve our customer's expectation. Therefore, we come out with the idea of producing a flexible roller conveyor which can be used to transport the goods from one place to a higher place. An additional feature was added as it can be used to move goods to a higher place where the height of the conveyor can be adjusted.

### **1.0 PRODUCT SERVICE DESCRIPTION**

The product service description involves New Product Development process (NPD) which is Research and Development (R&D), Idea Generation, Idea Screening and Market Survey. The NPD process is very important in order to develop a strategy to sustain the company and to make sure the growth of company. For the R&D, it is a process to gain knowledge to develop new product or to improvise the existing product so that it can help to overcome the problem involves in production product of the company. So, the idea of flexible roller conveyor is developed due to the health impact to the workers such as back pain, wrist strain, upper back strain and etc due to higher working load. The flexible roller conveyor is a product that make the movement of the load from one point to another are much easier and faster. Besides that, it also helps in reducing manpower in handling the load.

The main characteristics of this conveyor is, the material uses to produce the product is carbon steel. The carbon steel as iron-carbon alloy that contain higher percentage of carbon compare to the other material. The contain of carbon in carbon steel determine the material strength and ductility. This is because, the higher carbon content, the higher steel strength. However, it will lower the ductility. Furthermore, the steel become harder and stronger during heating process due to changing in mechanical properties of steel such as ductility, impact of resistance and its yield strength. By doing this treatment, the flexible roller conveyor produced will be much stronger and able to carry heavy load.

As the idea generation, the existing flexible roller conveyor is improvising by adding feature such as adjustable height. The idea of the feature came due to the arrangement of the product and tools inside the company. The arrangement makes the normal flexible roller conveyor unsuitable to be implement inside the company. The length of the conveyor is up to 7 meter and came with multiple width which is 1 meter, 2 meter and 3 meters. The flexible roller conveyor also can be adjusted up to 1 meter from its original height.



Figure 1.0.1: Full view of Flexible Roller Conveyor



Figure 1.0.2: Side view of Flexible Roller Conveyor