Assignment 2: Value Stream Assessment and Load Balance Diagrams

**Value Stream Map (VSM) for Basin-Deals.com’s order fulfillment operation.**

Diagram, engineering drawing

Description automatically generated

**Value Added Time Conclusion**

*Based on the VSM diagram the VAT is* ***21.7%****. This was calculated by taking (165 min / 761 min) \* 100. The VAT percentage suggests that there is 78.3% left of time that is doing tasks outside of the customers’ needs or non-value add time.*

**Load Balance Diagram (LBD) for Basin-Deals.com’s order fulfillment operation based upon a single 8-hour shift.**

Chart, bar chart

Description automatically generated

*As shown in the LBD diagram it is clear that the load is unbalanced. For example, the takt time is significantly greater in 3 step categories but it is significantly less then 2 of the steps. So not only are many employees waiting around for there work to happen but they could also create WIP if they are good employees. Then we have the order picking and packaging which can’t keep up with there demand and most likely will have to work overtime.*

*The main problem above is order intake, credit check, and logistics are partial positions that only happen when there’s load. When there is no load for them, they should work in the order picking and packaging steps. This could help the full time picking and packaging people with there excessive load.*

**Possible wastes in the operation.**

*Transportation: Order Picking has to transport the order back to the packaging station after initial find in the stock area.*

*Resource/Intellect: The Intake, Credit Check, and Logistics staff have a lot of downtime.*

*Inventory: \*Unknown, lack of information\**

*Motion: Credit Check employees are having to view multiple system for single order/intake.*

*Waiting: Order packaging has a 5 min wait per order. Intake, credit check, logistics have wait time between intake orders places. Order packaging and logistics have to wait for correct paperwork if not given.*

*Over-processing: Credit Check, Order intake, and logistics have to enter and view data from the paper order form as well as the BDO system.*

*Overproduction: Intake, Credit check over processing of paper order forms and BDO system information can cause excessive order output.*

*Defects/Rework: Logistics has an average of 3 order that have issues or need special arrangements.*

**Possible spaghetti diagram solution for wasted motion.**

*As shown in the diagrams above the picking step has a lot of waste time or increased time in their position to finish a task. In order to view this problem better I would recommend using a spaghetti diagram which can help eliminate the wasted motion that these employees clearly could have.*

*The diagram could show areas that are traveled more, less, etc. and then could help move stocked items to more convenient and fast locations. This could likely help with the cycle time and also the amount of motion that is in the picking step.*