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NORDAM: Part Tracking and Data Collectors

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Abstract: The NORDAM Group Inc.'s Wichita facility produces business jet interiors and they expect eighty percent growth in demand over the next two years. NORDAM uses tracking cards to track individual parts and collect data throughout their finishing process. However, currently this data is underutilized and inaccurate, thus NORDAM is not sure they can accommodate their expected growth. The objective of this project was to evaluate alternatives for data collection and at the part level in NORDAM's finishing process. A few methods were used to achieve these objectives including modeling and cost analysis. By using these methods we created a process map for the current state, identified important system design criteria with a capabilities matrix, and performed a cost analysis including a sensitivity analysis. We assessed four alternatives: Do Nothing, Hire One Indirect Head, Bar Code with Database, and Radio Frequency Identification (RFID) with Database. The cost analysis showed that the Bar Code with Database alternative provided the highest uniform equivalent annual value (UEAV) of \$583,196. The sensitivity analysis showed that this alternative remained the superior choice, six percent better than Do Nothing and three percent better than RFID, with no regard for changes in number of units or build hours per units. Based on the capabilities matrix and the minimal difference between the Do Nothing, Bar Code with Database, and RFID with Database alternatives, we recommend that NORDAM implement the RFID with Database alternative. RFID with Database is the only alternative that provides every capability that NORDAM had indicated they need and it provides enough tangible benefits to help offset its higher initial cost.

- *URCAF 2009 second place winner of oral presentations in the Natural Science/Engineering section.*