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CASE

CASE 2.1 TO INVEST OR NOT TO INVEST? THAT IS THE QUESTION

Dean Pallotta was president and CEO of a medium-sized firm that manufactured highly customized tiny homes (Mini) in Toledo, Ohio. The firm had expanded from a local Midwest market to a national one, including Southern California and New England. As markets had expanded, so too had sources of supply for the company, with major suppliers of key building components located in Southern California, the Pacific Northwest, and Michigan. Additionally, smaller suppliers of building components were located around the globe. The decision to manufacture the Mini in Ohio had been made for two reasons: Dean’s former associates in the auto industry were close by in Detroit, and the largest single component of the Mini—the truck or van chassis on which the rest of the home is built—was purchased from one of the U.S. light-truck makers with a plant in Michigan.

Like others in the field, Dean’s company actually manufactured very few of the building components it used to manufacture the Mini. Virtually the entire home was assembled from components sourced from outside vendors. There was, however, a well-defined order in which the building components could most efficiently be assembled. Recently, it had become clear to Dean that warehouse and inventory costs associated with all of the required building components were a relatively large portion of his expenses and that they might be ripe for a substantial reduction. In

particular, he had been considering a decision to invest in a warehouse management system (WMS) to increase his visibility of the large amount of inventory in his warehouse which was located next to his production plant. Transportation costs were an emerging secondary concern, as it had become increasingly difficult to plan shipments as they expanded into new markets and sourced from a larger number of suppliers. Thus, he was also intrigued about the potential benefits of implementing a transportation management system (TMS).

In response to these challenges, Dean had assembled a cross-functional team to look at some potential technology-based solutions. The team was made up of himself, Jason Shea (VP of Logistics), Stephanie Zinger (Director of Purchasing), Ethan Mathews (Plant Manager), Jason Paul (Inventory Planner), and Augie Augustson (Warehouse Manager). Some of the potential benefits the team had identified for implementing a WMS included:

1. Enhanced productivity for warehouse labor management
2. Increased visibility and traceability of inventory
3. Fewer picking errors
4. Improved responsiveness to the production plant
5. Less paperwork

In terms of the TMS, potential benefits were considered to be:

1. Increased service to customers, particularly on the West Coast
2. Potential to pool inbound shipments to reduce costs
3. Potential inventory reductions from more reliable deliveries
4. Cash flow improvements from enhanced freight payment
5. Improved warehouse efficiency on inbound shipments

In addition, several members of the team were advocating the idea of implementing both technologies together so as to increase the potential to optimize both areas jointly. The argument was that these technologies tended to be implemented in silos and that the real value would be obtained by aligning them in support of overall company goals.

As they discussed their options, the team also raised a number of concerns. Dean was very concerned about the possible issues that might arise as he had previously worked at a company that had gone through a difficult ERP implementation. In particular, he had experienced first-hand the challenges of implementation. So, while the potential benefits were exciting, the idea of embarking on a WMS and/or TMS implementation was daunting to the team. Not only was their apprehension about the significant capital investment required to purchase the software, but the potential difficulty in implementing the software was a major concern. In particular, they worried about the time it would take and how the employees would react to the changes.

With regard to their suppliers, Stephanie often had the opportunity, in the volatile mini-motor-home market, to buy out parts and component supplies from manufacturers that were going out of business. Those components could be obtained at a substantial savings, with the requirement that inventory in the particular parts be temporarily increased or that purchases from existing vendors be temporarily curtailed. She wondered how these opportunities would affect the potential benefits of the technology investments.

Ethan operated with the (generally tacit) assumption that there would be some defective components purchased and that there would likely be something wrong with his product when it first came off the assembly line. For this reason, the Minis were extensively tested (Their advertising said, “We hope you’ll never do what we do to your Mini.”), as were the building components prior to installation. To the extent that only a few of a particular type of component were on hand or that the lead time became less certain, the interruption in the production schedule would be that much greater. It might entail expensive rush orders for replacement components or equally expensive downtime for the entire plant.

Despite these concerns, Dean was painfully aware that ignoring the warehousing and transportation problems would be a mistake. Something had to be done. While they were currently feeling the strain in the warehouse, the transportation issues were beginning to be a bigger issue. As an aid to making the decision on whether to invest in a WMS and/or a TMS, Dean had worked with the team to draw up a table that summarized the anticipated impacts of implementing the technologies (see Exhibit 2.A). The figures are based on input from the potential technology providers, forecasts from his marketing department, cost projections from their IT department, and inputs from

	TMS Project	WMS Project	WMS/TMS Project
Net Benefits	\$573,000	\$245,000	\$775,000
NPV	\$409,938	\$172,902	\$505,243
ROI	85%	75%	76%
Payback Period (months)	9	11	19
Profitability Index	673%	590%	488%
Upfront Costs	\$100,000	\$50,000	\$200,000
Risk	Medium	Low	Very High

Exhibit 2.A Analysis of Potential Technology Projects

(continued)

the team members. As Dean reviewed the information in preparation for the next team meeting, he wondered what decision they should make.

QUESTIONS

1. Should the team take into account any other costs or benefits from implementing the WMS? If so, what are they?
2. Should the team take into account any other costs or benefits from implementing the TMS? If so, what are they?
3. What are the advantages and disadvantages of implementing both technologies simultaneously?
4. If both technologies are adopted, what changes, if any, should occur in the relationships between Pallotta's firm and his suppliers of components? His transportation providers? Discuss.
5. What would you recommend the team decide to do? Why?