2019

From Classroom to Business to Research: Seidman Supply Chain Management in Action

Daniel Pellathy
Grand Valley State University

John VanTuinen
Grand Valley State University

Follow this and additional works at: https://scholarworks.gvsu.edu/sbr

Recommended Citation
Available at: https://scholarworks.gvsu.edu/sbr/vol25/iss1/12
From Classroom to Business to Research: Seidman Supply Chain Management in Action

Daniel Pellathy, Ph.D., Department of Management
John (JR) VanTuinen, B.A., Finance with Management Emphasis (Expected 2019)
Seidman College of Business

Supply chain management is nothing if not practical. The discipline grew up in stockrooms, warehouses, and shop floors with the goal of improving the day-to-day operations that drive a business. The classroom is no different. Supply chain management education equips students with conceptual tools that they can take to work and apply right away. So when JR VanTuinen studied operations and supply chain management with me a few semesters ago, he was able to recognize how the concepts covered in the class might apply to his family’s business. That recognition led to a conversation and ultimately to a plan: we would work together on an independent study that applied supply chain management thinking to a concrete issue facing the business. JR could earn credits by applying his classroom learning while also adding value to his family’s company. And I could collect data for new teaching materials and research by observing a supply chain improvement process in real time. Win-win.

The Setting: Accurate Regrinding Service is a Grand Rapids-based family business with seven employees. JR’s grandfather acquired the company in 1984, and it is currently owned and operated by JR’s dad and uncle. The company uses state-of-the-art technology to regrind drill bits and other cutting tools that have become worn or damaged through use in manufacturing. Regrinding can return cutting tools to their original performance capabilities, saving customers money without sacrificing quality. Accurate Regrinding has succeeded over the years by delivering exceptional quality on their finished products while also developing close working relationships with suppliers and customers.

The Problem: As in many businesses, a working assumption at Accurate Regrinding was that customers cost about the same to serve, and, therefore, ranking customers according to revenue was sufficient for identifying top earners. Yes – there was always a “gut-feeling” that some customers required more work than others and were probably less profitable, but when it came to running the numbers, revenue served as a rough approximation of customer profitability. At the start of the project, Accurate Regrinding was considering an across-the-board price increase coupled with discounts to what they thought were their A customers, slightly smaller discounts to B customers, and no discounts to C customers. The idea was to increase total revenue while trimming the “long tail” of customers with low sales volume. But the team wasn’t confident in the new pricing plan and continued to argue back and forth over the decision.

The Process: JR’s project centered on a core idea in supply chain management: the cost to serve. The cost to serve represents all those costs associated with customer revenue stream that would disappear if that customer disappeared (Guerreiro et al., 2008). Cost to serve models provide companies with a view of profitability at the customer level, giving them the data they need to start designing their supply chain to deliver optimal value to different customer segments (Stank et al. 2012). In the case of Accurate Regrinding, developing a cost to serve model meant (at a minimum) understanding all the costs associated with taking in tools from customers, sorting tools into optimal batches for regrinding, regrinding tools in batches while also managing the complexities associated with unique jobs, resorting tools according to customers, and finally delivering tools back to customers.

JR’s cost to serve model started with gathering data on the length of time associated with regrinding all the different types of tools the company received, in other words the cycle time for each tool. Data collection was easier said than done. As JR noted, “We had never actually calculated the cycle time associated with different tools due to the fact that each tool was considered unique due to its wear.” Gathering this data required machine operators to write down cycle times for hundreds of specific tools over the course of several weeks. Once the data were collected, cycle times were then translated into a per tool cost by calculating associated labor costs, machine costs, facility costs, electricity cost, and supplies/utilities costs. Finally, an initial cost to serve was calculated for each customer based on the assortment of tools that the customer had sent in for regrinding. Although the complexity of recording cycle times resulted in a narrower cost-to-serve model than originally planned, the project tackled the primary costs associated with the most popular tools.

The Project: JR decided he could help: “The current team didn’t have the time or resources to conduct a study on customer profitability, but I did. I had learned about time studies and product costing models and felt those concepts could be applied to make a data-driven decision on customer pricing.” In particular, JR felt the company needed to do a better job distinguishing between customers that truly drove profits versus customers that drove sales volume or revenue. As JR noted, “Oftentimes additional sales volume comes with additional process complexity, which adds to the costs of completing an order.” Accurate Regrinding had no system in place for identifying profitable customers, and as the company grew, “gut-feeling” alone just wasn’t enough to support strategic decisions. Identifying profitable customers required data collection and analysis. That’s where JR decided to focus for his independent study project.
Outcomes: JR’s analysis provided his dad and uncle with data they needed to make an informed decision on pricing and customer service moving forward. JR’s analysis, represented in Figure 1, allowed the company to offer additional services to their most profitable customers while adjusting pricing for other customers to ensure the company maintained its margins on high volume, high complexity orders. As JR explained, “Being able to see customer revenue versus customer profit was critical. Every spike in the upper line represented a customer that was adding sales volume – and potential complexity – without adding revenue. Before this project, we would have misidentified many of those customers as better earners than what their true profitability actually was.” The overall benefits have been significant. Since the project, Accurate Regrinding has been able to reduce the number of tools it grinds by 4.8 percent while increasing revenues by .4 percent. The company has also updated its software to continually monitor cycle times in an effort to improve their understanding of the costs associated with processing different tools. More generally, the company become more data-driven in its decision-making rather than relying on “gut-feeling.”

JR’s reflections on the project best summarize the value of applying supply chain management concepts to his family’s businesses: “Dan and I applied concepts from his operations and supply chain management class to develop a model that has impacted Accurate Regrinding’s products, pricing, and customers. Decisions can now be made based on data, instead of “gut-feeling”. Although “gut-feeling” may come somewhat naturally to first or even second generation owners, those “gut-feeling” may not be so natural for the third generation. That could be why most family-run businesses fail in the third generation. I thought a lot about this as I was trying to link my education at Seidman to my family’s business. This project, and my education at Seidman more generally, has dramatically improved my value to the company. I now feel much more confident in my role at Accurate Regrinding, and so do my dad and uncle.”

Not only does JR’s project represent an innovative model of supply chain management education at Seidman, it has also helped generate a new research stream in collaboration with the Seidman Family Owned Business Institute focused on the professionalization of operations and supply chain management practices in family owned businesses. An initial theoretical outline of the research presented at the Council of Supply Chain Management Professionals (CSCMP) was well received, winning a prize for advancing theory in the discipline. Similar projects are now underway with other students.

References