



Using the World Wide Web to Manage the Value Chain: Its Effect on Total Quality

Introduction

The WWW is touted by many as the catalyst for creating multi-organizational value chains. B2B and Industry-based portals, and public and private exchanges are being created across many different industries. Increases in quality, efficiency, and organizational flexibility combined with decreased production time and costs are just some of the benefits of the use of the WWW in managing the supply chain.

However, as we all know, automating a flawed process simply results in our making errors faster. So how do we ensure that the WWW's introduction into the management of the value chain gives us the desired results?

Virtual Value Chain

There has been plenty of discussion about the concept of a virtual value chain - one in which products or services are produced instantaneously and customized in response to customer demand (Davidow and Malone, The Virtual Corporation). To achieve this state, organizations must seamlessly integrate computers or automated machines with needed human resources across various organizations.

Real versus Virtual Activities

We often use the terms “real” and “virtual” to describe functions that are either performed by humans (real) or by machines (virtual). So how do we know if an activity is real or virtual? The first and easiest way is to determine if it is observable by a human in real time.

Example: if I were to give you a sheet of 1,000 numbers and ask you to sum the numbers by hand, it would take a while. Anyone could observe you performing the activity. However, if I were to put 1,000 numbers in a spreadsheet and put the formula “SUM(A1..A1000)” in the last row and ask you to sum the numbers, you would simply hit the return key and the number would appear. The machine is doing the same activity as the human, yet the calculations are not observable by the humans watching the computer.

Distinguishing Between the Two

In any value chain, we have processes that are made up of both real and virtual activities. Unfortunately, we rarely take the time to distinguish between the two. Failure to perform this activity usually manifests itself in reengineering efforts that are nothing more than downsizing or right-sizing exercises.



These exercises, while reducing head count, are usually futile in their attempt to significantly affect the quality, productivity or competitiveness of the value chain. Since we don't know which activities require people and which can be automated, we often end up eliminating the people we really need, while holding on to those who are simply occupying what could become a virtual activity. This leaves the organization with workers who have no control over the level of quality of the activity in which they are engaged, hence reducing morale and the competitive nature of the value chain.

Framework for Beginning the Transformation

- Step 1: Identify and map the key processes in the value chain.
- Step 2: Identify the individual activities that make up these processes.
- Step 3: Determine if the activity adds value to the process. If it doesn't, why is it included in the process?
- Step 4: Examine value-adding activities for the ability to go virtual. Look for repetitiveness, consistency, key inputs, key outputs, data transfer, and data transformation actions occurring within each activity.
- Step 5: Assign either an "R" for real or a "V" for virtual to each activity in the process.
- Step 6: Examine the interfaces between activities to ensure that handoffs can be made in a timely, efficient manner with no fumbling.
- Step 7: Rank the virtual activities based on their ability to go virtual and the criticality of the activity to the process.
- Step 8: Begin transitioning targeted activities from real to virtual.

Summary

The WWW gives us a tremendous opportunity to enhance the value chain of our products and services. However, the WWW requires that we correctly and completely identify the value chain and that we understand the processes and activities involved. Finally, the WWW in supply chain management will only be effective if used with good management techniques.

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