

Podcasting in Supply Chain Education

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“Podcasting” has taken the technological and hobbyist worlds by storm, allowing for the creation of highly specialized audio (and now video) productions for delivery over the internet. This sort of capability has found its way into the classroom and into courseware, allowing professors to deliver a wide range of content to their students. (King, et al., 2006) This paper discusses the background of podcasting, the technology that enabled it, and how podcasting can be used to enhance supply chain courses with a “blended” or hybrid learning experience.

As with so many technological concepts arriving in the early 21st century, the definition of “Podcast” and the lineage of the concept is somewhat vague. Generally, a “podcast” is seen as audio (or video) files, created in a collection of episodes, and made available for subscription through an internet subscription protocol called “RSS.” The convergence of the portable media players (such as the Rio, the Zen, and of course, the iPod) with the near ubiquity of high speed internet access and affordable recording technologies has enabled anyone to become a “broadcaster” and satisfy the secret radio DJ in all of us.

Depending on where you read, the term “Podcast” is either a) a blending of the terms “iPod” and “Broadcast” (Graves, 2005) or b) an acronym for “Portable On Demand Broadcasting.” (Cochrane, 9 Oct 2006) Regardless of the origin of the word, the acronym accurately describes what has made podcasting so popular. One is able to select “broadcast shows” of interest to them, create a simple subscription that will automatically check for new episodes, and download them to their computer or personal MP3 player. This level of automation and portability enables the listener to take their shows with them and listen (or view) at a time and place that is convenient for them.

Podcasting has appealed to a wide ranging audience beyond the techie realm. At this writing, a quick scan of the “Top 10 Podcasts for March 2007” available for subscription through PodcastAlley.com (one of the many podcasting subscription services available) reveals podcast shows ranging from discussions about Harry Potter, to UFO’s, and finally, “Hardcore History” which seeks to discover:

What happens when talk radio tackles history? Politically independent history buff Dan Carlin takes history out of the classroom and discusses it the way most radio talk shows discuss politics. Was Alexander the Great as bad a person as Hitler? What if the British had won the Revolutionary War? What are the top-10 most important battles ever? Its a great show for those who love to discuss history around the water cooler. (PodcastAlley.com, 2007)

Given the rapid growth, podcasting has reached, and passed, “The Tipping Point” popularized by Malcolm Gladwell in the book by the same name. In that book he identifies three key ingredients to making a product or message tip: A select group of people, the stickiness of the message, and the context. With Podcasting, we see the connectors, mavens and salespeople converging to develop, provide, and popularize a

technology. In addition, the message itself seems to be “sticky” since people are attracted to the concept of getting their message out to others, perhaps scattered, that share in their interests. Finally, the context of the development of podcasting, concurrent with other “social networking” developments in internet technologies, seems to have perhaps sped the growth and interest in podcasting.

It is important to note here that there are two major groups, regardless of specialties, that have enabled the growth of podcasting after the technology was put in place. First, we have the content creators—the fledgling broadcasters aching to distribute their message to the masses. Second we have the masses that are interested enough to seek out those podcasts that match their interests, and become part of a community that subscribes, listens, and provides feedback to those producing the shows. It is with the growth of both of these communities that podcasting has been able to expand with what some have labeled “exponential growth.” In fact, the Forrester Research Group stated in a press release in 2005 that “20.1 million US households will listen to satellite radio, and 12.3 million US households will use their MP3 players to listen to audio podcasts by the end of the decade.” (Forrester, 2005) The Diffusion Group also predicted substantial growth stating that podcasting will grow from a collective audience of 840,000 in 2004 to 56 million listeners, again by the end of the decade. (Gilbert, 2005)

Podcasting has enabled the targeting of highly specialized radio productions to very specific audiences, at relatively low costs. Through this technology, highly specialized and dispersed people with common interests are able to share information in a highly portable and accessible manner. In fact, it is the highly targeted nature of podcasts that has enabled the “monetization” of podcasting to occur. Marketers are able to reach specific audiences with their message. (Colligan 2006, Levitan 2006)

As important as the ability to ‘cast to a narrow yet dispersed audience is that one can provide these podcast shows for a very low cost. If one were to invest in high quality equipment and pay for online storage and delivery services, it is possible to be “up and running” with only \$400 spent up front and a monthly fee of about \$10. In fact, the \$10 per month fee would perhaps be a net increase of zero dollars if your website host can support the download bandwidth. Compare that cost to creating, distributing and paying stations to air “traditional” audio (radio) shows, and you can see how accessible and affordable podcasting truly is. (Geoghegan and Klass, 2005)

Podcasting has demonstrated the ability in the general public to reach out, develop an audience, and educate that audience in a wide range of areas from business to science, to hobbies. It should not come as a surprise that educators at all levels, from grade school, through secondary and higher education, have seen the usefulness of podcasting. Educators using podcasting find that this new media allows for the delivery of content to students when they want it to be absorbed when and where the student finds it most comfortable.

According to a “white paper” on the University of North Florida Center for Instruction and Research Technology, “Conceptual learning requires multiple inputs, time between

inputs, guidance, reflection, facilitation and subsequent quality control of ideas.” (Hargis and Wilson). By allowing the student to select the time and the place to listen or view the content, podcasting enhances each of these aspects of conceptual learning. The student can listen, stop, reflect, listen again, and so forth. In personal interviews with students, this researcher has learned that one of the more useful aspects of the podcast is the ability to pause, rewind, and listen again to ensure they grasp a concept.

Podcasting can be used in Supply Chain education in a variety of ways. We can take the educational opportunities from a process of translation through transferring, and into true transformation. The most obvious application of podcasting is a simple translation—recording the lecture, and providing that lecture for the students to review at their leisure. While students have been recording lectures themselves on their own tape or digital recorders by providing our own lectures we ensure a higher quality recording, and maintain some editorial control over the content. Certainly a recording where you have worn the microphone has a higher audio quality than that picked up by an omnidirectional microphone—even one located at the front of the room.

Additionally, if you review materials before an exam, or go over answers to past exams, you might wish to exercise editorial control and remove that portion of the lecture. In fact, some professors do just that, deleting content to encourage continued attendance in the classroom. On the other hand, most professors who turn their lectures into podcasts have found that attendance remains at traditional levels. (Read, 2005).

In addition to translating lectures into digital on-demand delivery, we can transfer many of the mechanical tasks of delivering supply chain education, and make those available to the students as self-paced tutorials, to be viewed when they are ready for the material. I have taken more of the mundane aspects of administering the courses, and moved them to video podcasts, or “screen casts.” For instance, in conducting various supply chain analyses we expect our students to be able to use various software tools, the most common being Solver in Microsoft Excel. Using a software package called “Camtasia” published by TechSmith, I am able to record a tutorial on the installation of the software package, and even provide step by step guidance for setting up, and solving, problems with the various software packages we use. These tutorials are capturing in video and audio the activities I work through on the screen. Students are then able to view these screencasts when they are preparing to work through their own sets of problems, delivering the required knowledge to them when they need it, and are best able to work through that themselves.

Taking that approach the next step, I provide examples for how to work through problems similar to the homework assignments I have given in class. After the homework has been turned in, I also provide screencast tutorials with the solutions to the problems. This approach has been well received by the students. Rather than just provide a solution sheet for them to compare to their homework, I have provided a step by step explanation for (as an example) how the inventory levels are computed, what variables were important to the problem, and why the equations used to reach the solution were the appropriate ones.

I ask the students to review the screencasts, and if they have any questions after viewing those tutorials, to come see me in office hours. At a very practical level this allows the class time to be spent moving forward, rather than spending time going over the homework problems with the students in class. One might think that students are resistant to losing this contact time with the professor. Quite to the contrary, this has generally been well received since the students are able to review the materials when they are best able to absorb the answers, and they can spend as much or as little time going over the solutions as their own unique situation dictates.

So far, I have discussed simply the translation of lectures, and the transferring of tasks, to portable media. The promise of podcasting resides not just in the translation, and transferring, but in the transformation of the experience for the students. Given that our discipline is inherently practical and applied we have a wealth of opportunities extending beyond the classroom that can enhance the student's experience and education. These can include ways of addressing the mundane tasks of course management, but move beyond to providing on demand "guest speakers" and even providing the students with hands on opportunities to develop their own podcasts with Supply Chain relevant material.

Podcasting allows the faculty member the opportunity to deliver "guest lecturers" to the students in ways that were never before possible. The simplest approach entails recording actual guest lecturers when they are able to come and speak. By having these appearances available as podcasts, one can make that talk available to students even if the speaker's schedule will not permit an opportunity to come and speak another semester.

Another avenue for bringing practical experience to the students is to meet with leaders in supply chain management, and recording a conversation with them for later delivery as a podcast supplementing the course. I have had the opportunity to interview several Vice Presidents for Supply Chain, among other leaders, and am able to provide segments of those interviews as supplemental materials to the students when the course material is at the appropriate topic. Generally, this can function as a simple "radio show interview" similar to what we hear on National Public Radio.

The next stage in the transformation of the experience is taking the various interviews, and mining the interviews for common themes. The faculty member can then develop audio material that blends the various interview conversations into a topical audio "piece" that tells a compelling story to the students using the voices of many, rather than the voice of one.

Finally, in lieu of students being asked to write a final paper or project for a course, have them develop their own podcast discussing a supply chain for a particular product line, or perhaps outline the logistics or supply chain operations for a firm. In such an assignment students could be encouraged to get into a firm, recording interviews with the various decision makers, and use those interviews to tell their story. This approach encourages the students to be actively engaged with the material, and blend first-person experiences

with documents as they seek to piece together the story they are seeking to tell. (King, et al., 2006)

What have I heard/learned in my short time with podcasting in the classroom? I have learned much, but I must caveat any statement with pointing out that when we provide these sorts of opportunities to students to take ownership of their learning, we can expect to get a wide range of responses. Specifically, not every student will have the need to review lectures, or listen to additional tutorials to understand the material.

As part of the podcasting initiative here at the University, the office for educational technology surveyed the students in the 37 courses that used podcasting. While 74% of the students responding to the survey had never used podcasts before over 80% found the podcasts were easy to use. The general consensus among students was that podcasting enhanced their understanding of the material, and in fact they wished more faculty used podcasting in their classes. (ETS, 2006).

Podcasting is an innovative use of technology, and can provide new and exciting ways of enhancing the educational experience for supply chain students. This does not mean that every class and every faculty member should start recording and podcasting, setting up their own personal radio stations. While we are often excited to see new ways of using technologies we should temper our enthusiasm with a clarity of purpose: to provide education to our students. To that end, I have used three questions to drive my personal assessment of technology insertion in the classroom. Specifically, does it:

- a) improve the educational content
- b) Free up the educator's to focus on content rather than process, or
- c) enable students to grasp the information in a better/faster/cheaper way?

The answer to these questions will be unique to each faculty member and to each course. I encourage all to be willing to explore new ideas, and when appropriate, embrace the opportunity to improve, and challenge, our students.

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