Media Supply Chain Optimization

How Cumulative Optimization Compounds Value and Creates a Competitive Advantage

Geoff Stedman, SDVI CMO
October 2022

TABLE OF CONTENTS

LIST OF FIGURES

The Essence of Supply Chain Optimization

In today's ultra-competitive market, media companies are faced with the dual challenge of producing and delivering great content while making it easy and frictionless for consumers to find and consume that content. Content is, and always will be, king. But now there's a queen of marketplace success, and it is quality of experience: ensuring that customers have a great experience from content discovery all the way through content consumption. So how do media companies find the resources to invest in creating experiences that will delight customers? One place to look is at their media supply chain.

The Media Supply Chain

Ensuring that content reaches the widest possible audience requires the preparation and delivery of that content to reach consumers on any device, at anytime, anywhere around the world. Like any product business, media companies receive raw materials (in this case, content) and move them through a series of preparation processes that include:

- Verify accuracy (QC)
- Log and add critical metadata
- Modify language (audio and captions) as necessary for different markets
- Modify the content to meet compliance requirements
- Transcode and package the program into a multitude of formats for all delivery platforms

This is the media supply chain, and the more efficient and productive it can be, the more content a media company can prepare for viewers.

Optimizing the Media Supply Chain

The processes associated with the media supply chain are generally implemented on fixed infrastructure that lacks the ability to adapt quickly to changes in the market. Most media processing is done in a datacenter using on-premises servers, storage, networking, and licensed applications. It's reliable and it works, until it can't meet demand. Or until it can't fulfill a new content agreement. Adding new infrastructure to a datacenter and getting it ready for the work required takes time, investment, and resources — all of which can be in short supply when that media company is also trying to compete for viewers.

Media supply chain optimization seeks to identify every step from ingest to distribution and the optimal set of resources to apply to each step to complete the work required at any given point in time. Full optimization is an enterprise approach that delivers compounding value as more steps across the supply chain are virtualized, automated, and instrumented.

The Cloud Changes Everything

One key to optimization is resource utilization. Much of the media supply chain can be automated, using media processing and analysis applications to perform the bulk of the work. This work can be unpredictable, which makes deploying on-premises infrastructure inherently inefficient as there will undoubtedly be periods of under-utilization — and missed deadlines when capacity is maxed out.

Here is where the cloud changes the game. Migrating media supply chains to the cloud enables media companies to:

- Use the infrastructure provided to them by the cloud provider on an as-needed, per-use basis.
- Use cloud-based software applications to automate bulk media processing along with web-based tools to manage exceptions or perform work that requires human decisions.
- Easily provision more resources to handle the unpredictable spikes in load and spin down those resources when demand eases.
- Change applications or use multiple applications, matching the tool to the type or value of the work required.
- Use infrastructure without requiring upfront capital investment or management overhead.
- Orchestrate the work required and deploy the resources needed to simplify supply chain management.
- Access media processing when required and on a per-use consumption basis.
- Execute the supply chain requirements while freeing up internal resources to focus on higher-value work, such as perfecting the customer experience.

The Compounding Value of the Modern Media Supply Chain

In addition to freeing up resources, media supply chain optimization also delivers compounding operating value that enables media businesses to build other competitive advantages.

When you automate a process within your supply chain, cost reduction is often the most notable and desirable result. But when you analyze, orchestrate, and optimize each of the multiple processes across your supply chain and then link them together, you get a value result far beyond cumulative efficiencies and cost reductions. Much more than a sum of the parts, the compounding value you realize through end-to-end supply chain optimization has the power to drive business transformation.

As you move toward full supply chain optimization, as the Rally platform allows you to do, you gain a competitive edge by empowering your company to:

- Capitalize on new market opportunities with a more agile and adaptable infrastructure that enables you to quickly spin new services up or down.
- Maximize revenue by knowing exactly what it will cost to make content ready so that you can pursue only those opportunities that will make you more profitable.
- Strike new partnerships.

Building an Optimized Media Supply Chain

When your organization begins the optimization process and initiates its shift to cloud-based media supply chain management with a platform such as SDVI Rally, you will have the opportunity to reimagine the way your supply chain operates and to cast off the complexity and constraints of traditional on-prem operations. Built on *Efficiency*, *Intelligence*, and *Agility*, a modern media supply chain management infrastructure brings value to all aspects of your business.
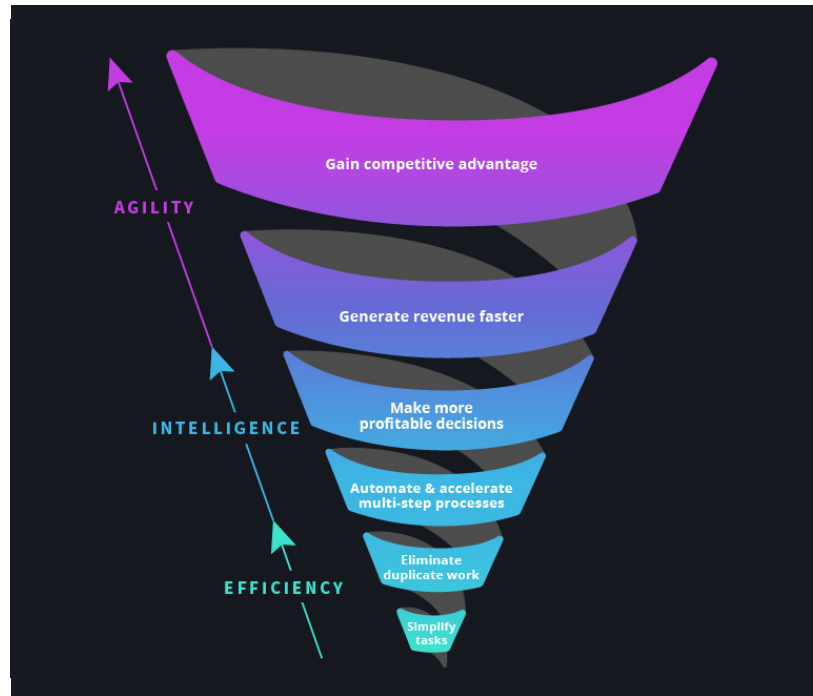
Figure 1) An optimized media supply chain is built on three pillars — *Efficiency*, *Intelligence*, and *Agility*.

Optimization Begins with Greater Efficiency and Productivity

Of the three pillars of media supply chain optimization, efficiency is the one that will become most evident, most quickly, as you begin this journey. It starts with two foundational phases — simplifying tasks and eliminating duplication, both of which are critical to finding efficiencies.

Task Simplification

As you re-assess and re-envision your media supply chain in the cloud, you can break that supply chain down into smaller component parts, identify the specific tasks that need to be performed, and apply just the right tool to each task. That's task simplification.

How does this approach improve on the "lift and shift" model? Well, consider the applications typically used today to perform essential media processing tasks. These applications can perform multiple functions on media files. For example, a transcoder can be used to re-encode media from one profile to another, but you also get functions such as audio processing, frame rate conversion, standards conversion, and so on. You pay for all this functionality but use only a small fraction of it.

Task simplification allows you to identify very distinct, discrete tasks and apply an application or microservice to tackle that single task. Rather than use the best tool that you have, you can apply the best tool for that job, and this translates to higher utilization and better cost alignment.

Going forward with this approach, you can use intelligence to automate the application of different tools to a specific task type. Your media supply chain platform can choose from tool A, B, or C, depending on content value, processing cost, and other factors related to time, quality, and cost.

A further benefit of task simplification is that it becomes much easier to observe the performance of your supply chain. In a conventional scenario in which a tool performs seven functions, it can be difficult to track down the source of an alert or error. But if you have a tool that performs one very specific action, you immediately know what failed and where you need to fix your supply chain to keep it running smoothly.

Elimination of Duplicate Work

As you take on task simplification, you'll naturally start to find areas of duplication. And not just duplicate work. You'll likely see duplicate copies of media, duplicate systems, and duplicate vendors providing similar services. Duplication that has simply built up over time.

You'll uncover duplication within different departments of your organization. For example, your media organization has a broadcast department and a digital department and perhaps also a VOD department. When you step back and start to think of these departments as part of a single supply chain, rather than multiple individual components, it becomes clear that tasks such as QC, compliance, transcoding, and delivery are often repeated unnecessarily across the organization.
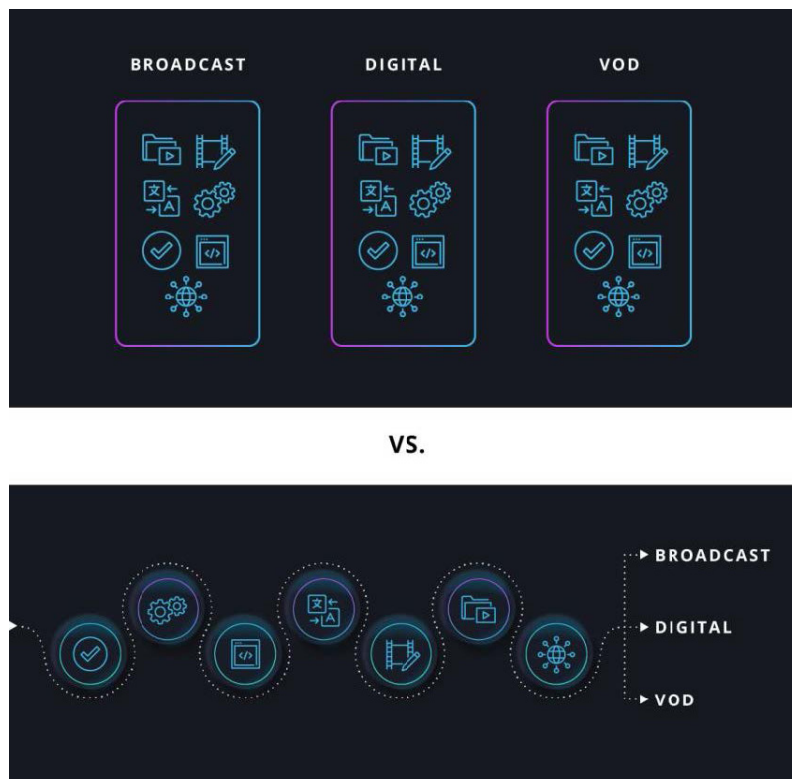

Figure 2) When you transform operations into a single production line with branches serving different departments, your organization can eliminate duplicate work, recapture both time and money, and focus those resources elsewhere.

If you're a Rally user, you can take advantage of SDVI's expertise and advice, as well as the inherent capabilities of the Rally supply chain platform to identify duplication. Rally is designed to collect data around your tasks and processes, and the platform allows you to analyze that data and highlight areas where duplicate work might be eliminated. Visualization tools tell you how much time (and money) is being spent on different steps of the supply chain. From there you can identify those duplicate elements that are the costliest or the most onerous and move forward in collapsing them into one.

Taking a fresh start

Eliminating duplication is part of the iterative improvement process essential to building and optimizing supply chains. Even if you already have a massive on-prem infrastructure, supply chain optimization allows you to take a fresh look at how you work. You can start without existing constraints and explore new options as you migrate to the cloud.

Most organizations take on this challenge use case by use case. Sometimes it's the use case that most obviously needs work, and at other times it's the use case that makes for the easiest starting point. Move from one use case to the next, and you're doing the important work of redesigning and re-architecting your supply chain to realize much greater efficiency, productivity, and opportunity.

Task simplification and elimination of duplicate work may seem elemental, but they are two vital phases of the continuous improvement cycle that comes with building and optimizing supply chains. If you move forward into the cloud without doing this work, you will miss a critical chance to take productivity and efficiency to the next level.

Accelerate Optimization Using Supply Chain Intelligence

Every organization wants to do more with the resources it has, especially with resources that are already completely maxed out. Applying *Intelligence* enables you to be smarter about how you use those resources. Using *Intelligence*, you can start building automated multi-step processes where each step of the supply chain builds on the work done before. For example, having an upstream process provide intelligence that guides downstream processes or helps you make smarter, faster business decisions.

Automating and Accelerating Multi-Step Processes

In any supply chain, there will be a mix of machine-based tasks that can be automated and manual tasks that cannot. Automated tools are great for the heavy lifting, making those processing tasks much faster and more efficient, provided they have been deployed on properly architected, scalable infrastructure. These automated processes can also generate information (metadata) to guide the manual tasks, making human operators more efficient and productive. The net effect is a reduction in the mundane tasks that need human processing. It's all about leveraging the logic of the supply chain to free people up to do more.

The word "accelerating" is important here because time-based metadata generated from automated processes doesn't just refocus people on those tasks requiring human attention; it guides people straight to the points of interest they need to address, facilitating faster-than-real-time completion of those manual tasks. Human intervention becomes a matter of involvement by exception rather than the default of touching every piece of content. Automated processes can:

- Handle the vast majority of the work needed, with additional automated tasks inspecting the results to flag anything that might need attention.
- Improve productivity and increase the content throughput flowing through the supply chain.
- Provide data that people need to make better, faster decisions that keep the larger supply chain humming and drive the workflow forward.

In some cases, automated decision-making can be used to deal with problems that repeatedly and unnecessarily require human attention. For example, Rally can recognize that content from a particular supplier forces a transcoding job to fail repeatedly. Rather than have staff spend time to sort out the problem continually, you can create a rule that automatically ensures any content from that supplier is sent to a different tool.

Another benefit of moving to machine-based media processing is the opportunity to parallelize your processes. By refocusing or removing human involvement in standard repetitive processes, you can take advantage of automated decision-making to elastically scale the processing infrastructure to meet the job demands. When you've reached this point, you can turn a series of very linear steps into processes that occur in parallel.

With a conventional on-prem model, you are fundamentally limited by the amount of infrastructure underpinning your operations. But with the abstraction of infrastructure, provisioned in the cloud as and when you need it, those limitations no longer apply. And here is where the advantages of the cloud really come into play, allowing you to:

- Automate, accelerate, and parallelize, scaling up your productivity.
- Burst by spinning up resources — services running on virtualized infrastructure — to take on a big deal or high-volume job.

Driving Profitability with Cost Visibility

In the past, taking on large projects or high-volumes jobs would require scaling up physical infrastructure and hiring and training a team of people. You'd spend a lot of time and money — and you'd never be quite sure exactly where you spent it.

Intelligence from across a cloud-based media supply chain can yield unique visibility into the cost of your supply chains, down to the unit level. You know exactly what it's going to cost to scale up your media factory and how much time it's going to take to handle any new job. You can predict the impact of a burst on cost and make a better decision about whether to take on a job or pursue a new deal. If, for example, you're considering licensing a new library of content to add to your portfolio, you'll know in advance what it will cost you to get that content ready.

Eliminating guesswork

Because many media organizations lack visibility, their best estimate of the cost to run a channel might be total capex divided by the number of channels being run. Both the business model and physical infrastructure make it difficult to pin down unit costs for every single function involved in content preparation and delivery. But the cloud-based media supply chain, with its unique consumption-based pricing model, allows you to capture this kind of cost data across the entire workflow.

In today's competitive and quickly evolving media landscape, this knowledge is a game-changer — and often a key reason that organizations adopt the SDVI Rally platform. With this data, you have the metrics to determine the cost of preparing content or running a particular channel. You have access to predictive data that you can apply to future business decisions. Rather than guess as to whether a particular decision will make your company money, you know in advance.

Figure 3) Rally brings predictability (and profitability) to the media business, telling you what your costs will be before you move forward with a new product or service.

It's not just about picking the right deals and knowing how they will affect your bottom line. You also have the means to modulate infrastructure and processing costs based on expected revenue or the required deadline. When you can add up and see the bill of materials for the creation of a certain product, you can look at specific areas, such as QC or transcoding, to see if those costs make sense, or if you could do better using a different tool.

In fact, you might choose to apply different tools based on the value of the content. For a high-value piece of content that will be played out in prime time, you likely will apply a high-end transcoder to put that content into the right format. For an infomercial running at 2 a.m., you might choose a lower-cost transcoding tool. For the first time, you can make unit profitability decisions.

While this visibility is vital to decision making when it comes to new business opportunities, it can also foster greater accountability within a media organization and across various departments. For the first time, unit cost visibility also means that the cost and time of every step in a supply chain is understood, improving department-level budgeting and cost accounting.

The Optimization Endgame: Agility That Gives You a Competitive Advantage

A media supply chain management platform that optimizes your content preparation and delivery processes makes the impossible possible. Using the platform to virtualize and orchestrate compute processes in the cloud, with its unlimited scalability, you can handle the burst associated with a time-sensitive, high-volume project. You can spin up the applications and compute resources needed to prepare content — and meet or beat your deadline for getting content to the distribution partner. You can do more, faster, which means your company can realize revenue more quickly.

In other words, you've realized *Agility*.

Accelerating Time to Revenue

When you know what resources you'll need to deploy, you need only decide how — not if — you should tackle a new opportunity. You can make choices such as spinning up new instances of an application or applying more powerful processors in the cloud that directly affect the outcome. You can take on new work without fear that it's going to disrupt the revenue side of your business. All of this comes from having an agile, responsive supply chain infrastructure.

But there is more at stake. Once you're positioned to make better decisions more quickly, you gain the freedom to experiment. When you're spinning up a cloud-based endeavor rather than a huge time-consuming, capital-intensive project, you can afford to test a new offering. Leveraging virtualized infrastructure to try out new services, you can find success quickly or fail fast without any upfront costs. And when you experiment and succeed, you produce new revenue well ahead of the competition.

Better data leads to faster decisions. Cloud virtualization allows for faster experimentation. The Rally platform enables faster execution. Together, these capabilities accelerate your time to revenue.

Gaining a Competitive Advantage

The speed at which you can accept, prepare, and monetize content gives your business a competitive advantage. If your organization supplies content to another platform for distribution, you can get your content in front of more eyeballs more quickly. If your business takes content directly to the consumer, you can more quickly evolve your service to address changing market demand and consumer expectations. It's all about *Agility*, and that's the # 1 benefit of deploying a cloud-based supply chain management platform. You gain business agility — the speed at which you can take on new work and deliver finished goods — that you simply can't achieve any other way.

While virtualization of processes in the cloud allows you to take advantage of countless resources, smart application of those resources is vital. You've got a massive factory at your disposal, with latent resources ready to help as needed, and you pay only for what you use. You want to manage when those resources are used and when they're not, and that's where a media supply chain management platform like Rally helps you do what you couldn't do before. With Rally, you can

automatically deploy the cloud infrastructure and applications needed to get the work done, enabling you to take on that next big challenge or opportunity.

When you modernize your supply chain and implement the technology to do that, you transform your infrastructure into a source of competitive advantage:

- You gain the agility to move faster than your competitors in responding to new challenges and opportunities.
- You enjoy better insights into supply chain operations and costs, and you leverage this intelligence to make better decisions than your competitors.
- You increase efficiency and productivity, thereby freeing up more resources to focus on what matters most: a differentiated customer experience.

Efficiency, elasticity, and cost savings are great, and a modern media supply chain delivers on all those fronts. But what's proving to be even more valuable is the way that this infrastructure empowers your business to capitalize on the dynamic nature of the media market. It is your secret weapon, if you will, in winning business and connecting with media consumers.

If you're a content owner, your competitive advantage lies in being able to say "yes" to content deals and deliver content to distribution partners faster than anyone else. (That's *Agility* and *Intelligence* working for you.) If you're a direct-to-consumer media business, your competitive advantage lies in being able to accept content, run it through your supply chain at high speed, and make it available to consumers in record time. (*Efficiency* and *Agility* make that possible.)

In either scenario, your supply chain infrastructure gives you the capacity and agility to offer customers more content, more quickly. You're able to get your content in front of more viewers — the ultimate aim of any media business.

Delivering a Differentiated Consumer Experience

The consumer experience is a vital consideration in today's highly competitive media marketplace, where consumers and providers operate in a direct one-to-one relationship, with content effectively supplied through an app. Quality of experience isn't just about the quality of a broadcast signal anymore. It's also about how consumers find and access content they want to watch.

By implementing a cloud-based platform to manage your media supply chain, you dramatically reduce the time you need to spend managing infrastructure, allocating resources, or activating software licenses. The platform can handle all those tasks for you on a job-by-job basis, scaling as necessary to meet any demand fluctuations. As a result, you can free up development resources to focus on higher-value projects and to enhance your customers' experience of discovering and consuming content.

Optimized supply chain infrastructure allows media companies to enhance this experience using existing resources. This work can't be a 100% additive if it's going to benefit the business; it must come from freeing up resources elsewhere in the technical organization.

The ability to reallocate resources this way is not just a pie-in-the-sky goal. It's a mandate for survival. Media organizations that fail to undertake supply chain modernization simply won't be able to provide the consumer experience essential to success.

Summary

Media supply chain modernization boils down to having three things: the *Agility* to pursue new business opportunities and respond to market dynamics, the *Intelligence* to make faster, more profitable decisions, and the *Efficiency* to free up resources for work that sets your business apart from the competition.

SDVI is continually innovating with its Rally media supply chain management platform to help companies realize these vital benefits and leverage them to build and reinforce their competitive advantage. If you have questions or want to learn more about what Rally can do for your supply chain, contact us using this form or send an email to info@sdvi.com.