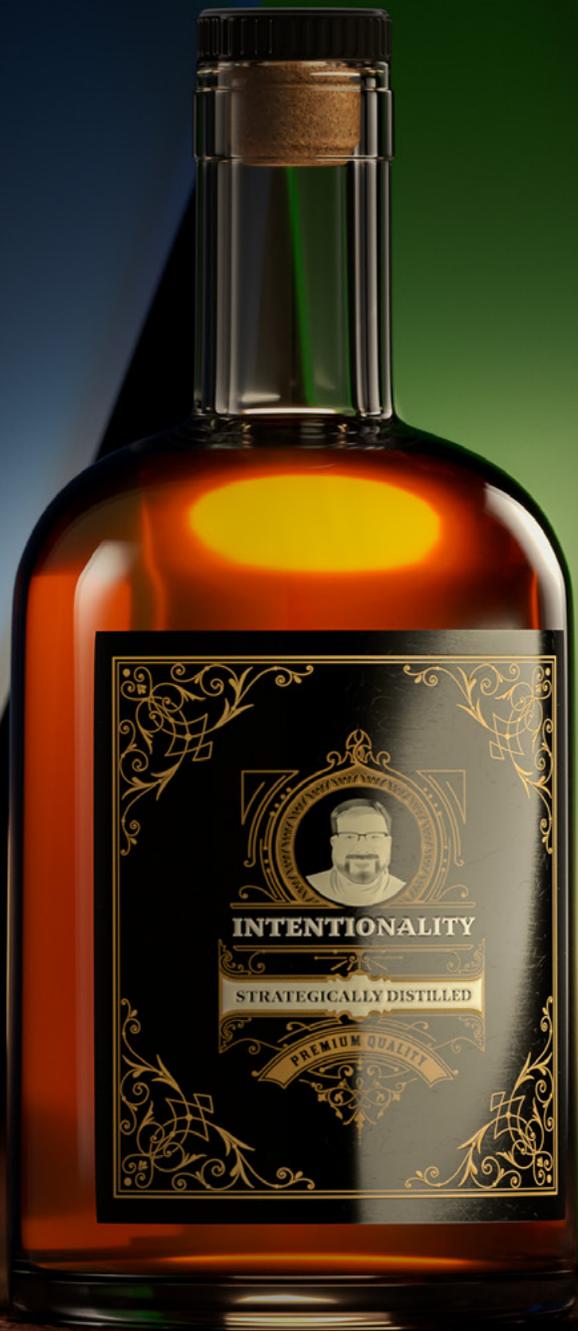


What the  
**MANUFACTURING**  
of **BOURBON** can  
teach us about  
Information  
**TECHNOLOGY**



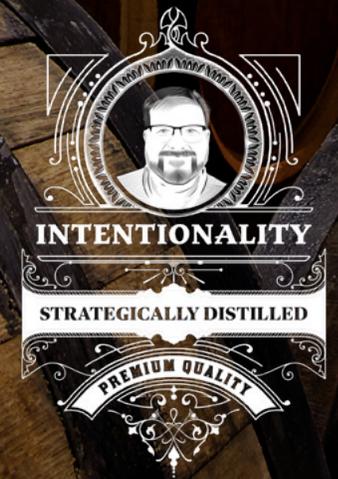
# ABSTRACT

During the pandemic I was searching for new hobbies to occupy my time. While others looked to elusive sourdough starters my interests became focused on whiskey. I work as an IT professional and a strategic consultant so the relationship between IT and whiskey, while not causal, is more closely related than you might think. I started seeing similarities between the art and business of whiskey and the technology strategies I help clients with every day - rather than helping assess companies on the 'Digital Enterprise Maturity Model' it became more of a 'Distillery Enterprise Maturity Model'.

## For example:

- Startup distilleries are forced to rely on other companies for product as their own whiskey is made and ages in barrels for years. This reliance on other companies - in fact their own competition if they are successful - is very similar to smaller companies leveraging a Public Cloud to build and iterate their early products.
- Mid-market distilleries are faced with the challenge of moving from their sourced whiskey to depending on their own pipeline to continue to grow the business. The movement away from ad hoc processes to standards across both technology and organization design is a common challenge I see in many technology departments struggling to scale.
- Older established brands are faced with supporting their legacy brands - the ones that have made them broadly successful - as they struggle to innovate and bring new products to market. IT faces this challenge all the time with legacy platforms like mainframes or older applications running on out-of-date operating systems and needing to help the Enterprise along a Digital Transformation effort.

While this analogy is intended to be light and share some of the things I have learned about both distilling and technology, I do think there is merit in these comparisons. Both bourbon manufacturers and IT departments seek to provide products and solutions that service their customers well. Depending on the size and complexity of the need, the approach to service delivery may well change.



# INTRODUCTION

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During the initial days of the COVID Pandemic while we were all at home trying to understand what this new mode of life meant, I relied on time with my family, my work, and my hobby of woodworking. I also became fascinated with the art and business of bourbon manufacturing here in the United States.

The method of making bourbon is nothing short of magic. Take some grains in a particular mix, distill them into a strong medicinal alcohol, and put them into a wood barrel and wait...sometimes a really long time. Out the other end comes a seemingly endless variety of tastes and aromas that have nothing to do with the manufacturing process. Fruit? Vanilla? Caramel? Do you smell pepper or figs? Yeah - those all came from the wood.

All that glorious color? Wood.....

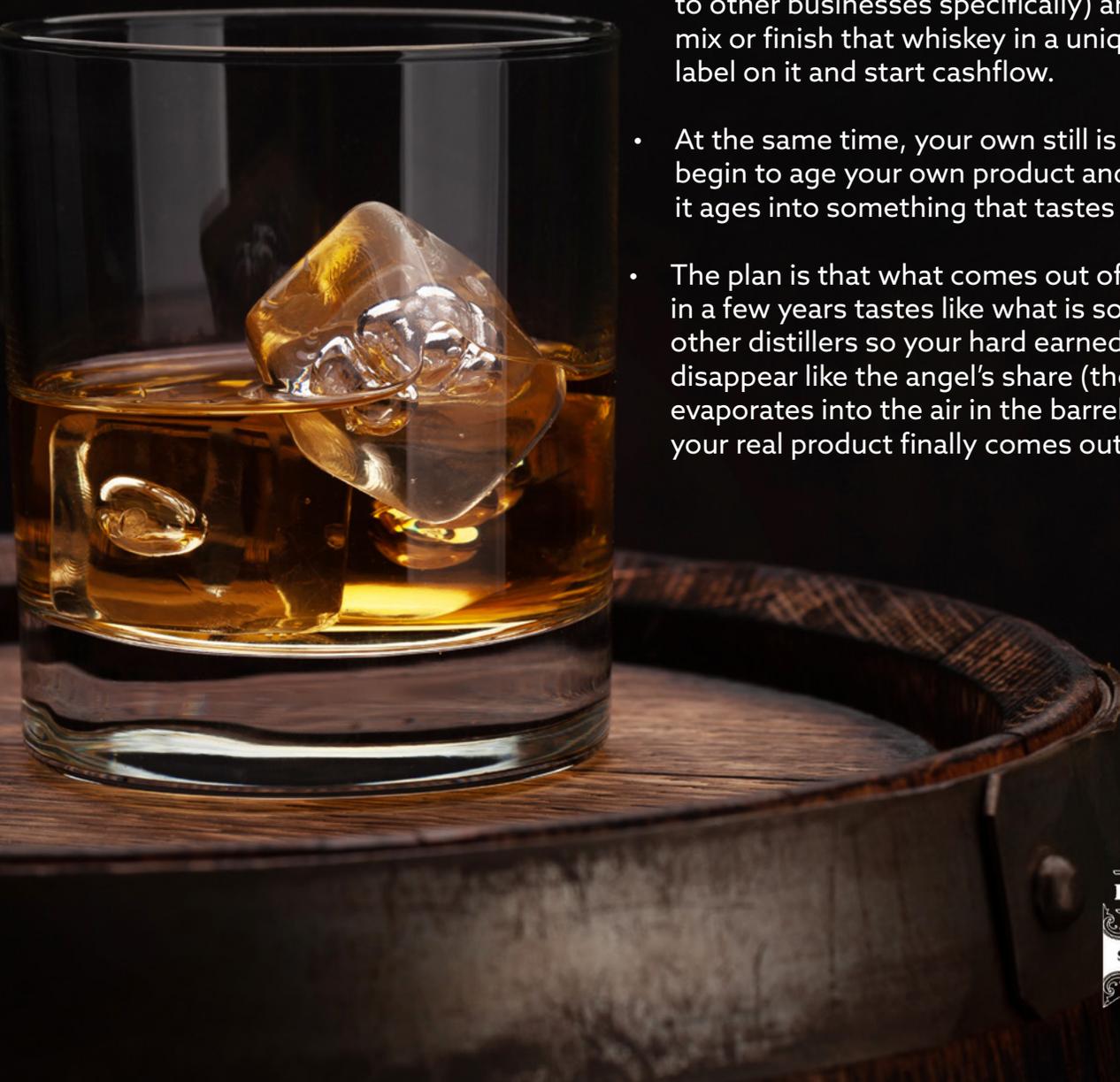
**Alcohol + wood + time = wildly different results**



Those results are even further complicated and left to chance by where in the warehouse they put it! Add to that the weather and climate it is aged in changes everything. Two bourbons – same mash bill (ingredients) and same barrels aged in Kentucky and Texas will be at best distant cousins. Could you imagine if other businesses operated like this – especially in technology? Say you are doing some work in Amazon Web Services one day and decide to spin up a VM in US East region and deploy a SQL server – but do the same action in their West US region and you get Oracle? Similar server but very different end result.... It's like tossing an API call through a randomizer and praying what comes out the other side is usable.....

Leaving aside the alchemy that the distillers regularly conjure, the business model that bourbon manufacturing runs is one that makes me question the validity of my MBA. I don't recall a Harvard Business Case that discussed a business anywhere approaching this level of complexity and uncertainty.

- This business requires you to start by sourcing a generic product made by other people – your competition! You need their product (excess or sold to other businesses specifically) and distillers then mix or finish that whiskey in a unique way, slap a label on it and start cashflow.
- At the same time, your own still is fired up and you begin to age your own product and hope / pray that it ages into something that tastes good.
- The plan is that what comes out of your own barrels in a few years tastes like what is sourced from other distillers so your hard earned market doesn't disappear like the angel's share (the whiskey that evaporates into the air in the barrel as it ages) when your real product finally comes out.





Risk doesn't even begin to describe that approach to business....and let's not get into the crazy system of distribution and retail sales. Just ask a whiskey fanatic how hard it can be to search for an allocated bottle or two.

The business strategy for distilleries was fascinating. I started thinking about what the requirements the different distillers have. Some of them are the same – but the nuance and needs the different businesses have drive the manufacturing process in many different directions. It's not too different than the conversation I have with my clients when we learn about their business and how those specific needs drive technology. The more I thought about this – often over a dram or two – the better the analogy became.



# THE RULES OF BOURBON

The rules of bourbon – the laws that dictate what a bourbon is – are simple in comparison to the business end of things:

1. Bourbon must be made of a grain mixture that is at least 51% corn.
2. Bourbon must be distilled to no more than 160 (U.S.) proof (80% alcohol by volume).
3. Bourbon must be aged in new, charred oak barrels.
4. Bourbon may not be introduced to the barrel at higher than 125 proof (62.5% alcohol by volume).
5. Bourbon aged for a period less than four years must be labeled with the duration of its aging.
6. If an age is stated on the label, it must be the age of the youngest whiskey in the bottle.
7. Only whiskey produced in the United States can be called bourbon.

All the distilleries in the country who are making bourbon must adhere to these 7 rules. These requirements would be common across all of them. As an Enterprise Architect, I would list them as Requirements 1 – 7 and all recommendations made need to align with these.



# DIFFERENT DISTILLERIES, DIFFERENT CHALLENGES

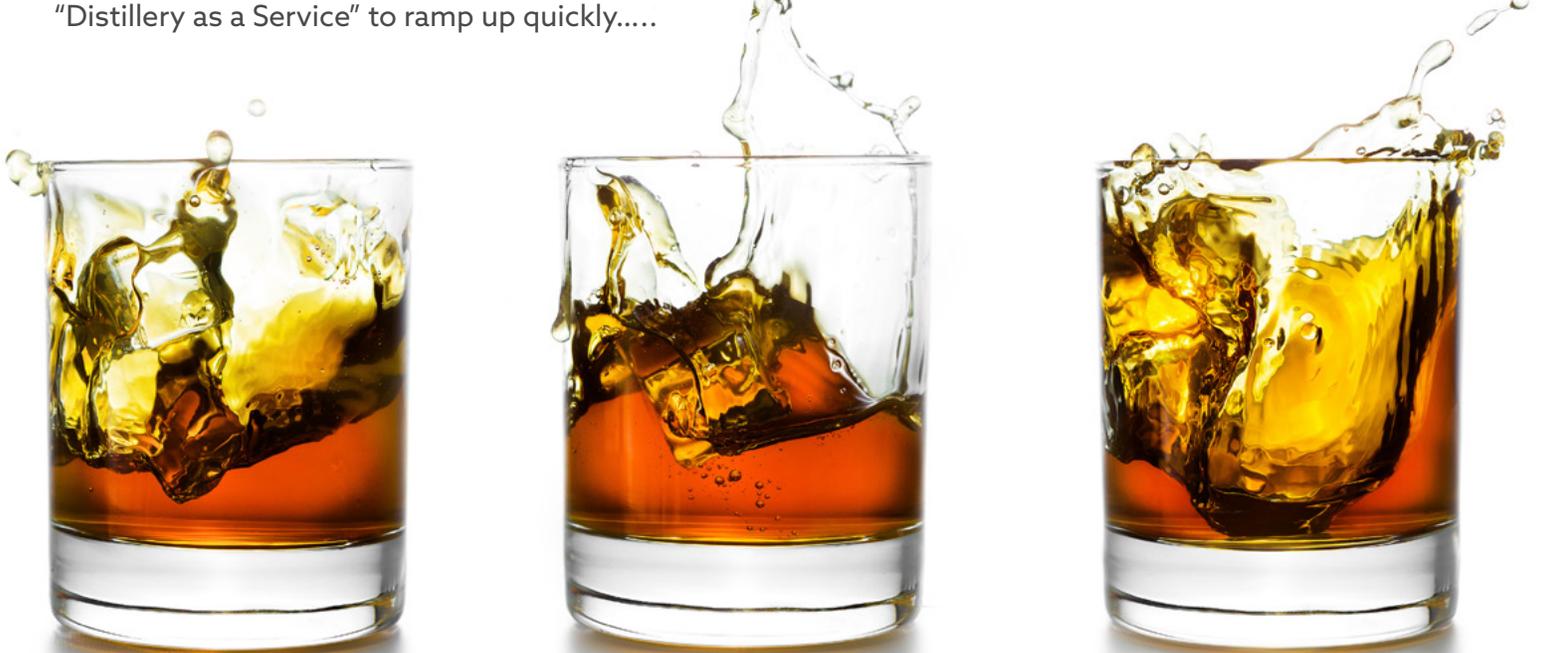
Now things get interesting.

Depending on the age and market position of the company, the challenges are very different.

Distillery Type	Broad Business Requirements Overview	Unique Challenges
Startup	<ul style="list-style-type: none"><li>• Must comply with the bourbon requirements</li><li>• Establish their brand identity and flavor profile (as best you can with other materials)</li><li>• Generate interest and cash flow</li></ul> Find distribution channels in local area <ul style="list-style-type: none"><li>• Procure space to age their own product</li><li>• Decide at what age they will start taking their own make out of barrel and take to market</li></ul>	Creating their own identity with other products while their own product ages

'Startup mode enterprises often build and design their own platforms on 'as a service' models'... sometimes with limited customization needed until market is solidified and true broad business requirements are set. Small distilleries will rely on sourced bourbon to start their brand out with.

One of the largest sources of bourbon, whiskey, and other spirits is MGP Distillery out of Indiana. In 2019 they sold over 1 million barrels to other distilleries and manufacturers. If you are starting out in the whiskey world today you are going to take advantage of the variety of their products and use them as a "Distillery as a Service" to ramp up quickly.....



## What does this have to do with Information Technology?

A lot! For example, being able to leverage a massive distilling operation that can let you immediately gather product and gain a broader appearance and scale is a huge advantage. From a technology perspective, it fills the same niche as a hyperscaler does. AWS, Azure, and GCP offer immediate access to tools and capabilities that startups could never replicate out of the gate.

Additionally, the advantage of being able to iterate and validate your market in an OpEx model early on is a huge advantage. No unnecessary asset procurement, agility based on the services you leverage come built in, and a reliable platform to build on top of is beyond the reach of most enterprises.

No company starting today is going to immediately go out and build a huge datacenter and procure a bunch of servers and storage. Modern startups are cloud native and the approach makes perfect sense.

The challenge that start-up organizations should look at is how they can effectively measure and allocate costs across a scaling infrastructure to individual customers or markets. That may not be an immediate need as they build out an infrastructure or establish individual lines of business - but for organizations that build larger shared service capabilities that allocation will become important to understand and assign granular cost controls. If everyone is leveraging a shared database or analytic capabilities it won't be as simple as a tag.....



# MID-MARKET

Distillery Type	Broad Business Requirements Overview	Unique Challenges
Mid-market	<ul style="list-style-type: none"><li>• Must comply with the bourbon requirements</li><li>• Larger production facilities, larger rick houses, greater need for controls on tasting / aging of product at scale</li><li>• Distribution and sales growth at significantly larger scale than before</li><li>• Need to maintain brand identity but identify additional markets that distillery can expand into</li></ul>	Creating their own identity with other products while their own product ages

The challenge with mid-market distilleries is one of scalability and learning how to transition over from reliance on sourced supplies to ones that are generated internally. Here you are relying on your master distiller and blender to recreate the flavor profile you developed with the sourced supplies and have it be similar when you switch over to your own product that is sufficiently aged.

The distillers are also making a switch over to larger production facilities and working to secure broader distribution avenues.



The IT challenges in this same space are similar – making a switch from ad hoc approaches that have served the company well toward mature operations across technology. Depending on past investments there might be multiple similar tools and technologies that have worked well when the company was small but represent significant support challenges at scale. In a small environment the number of IT staff involved in development and operations is minimal – but tribal knowledge fails when operations need to scale to keep up with rapid business growth.

As an organization scales change control becomes critical. For a distiller you need to have a solid understanding of the elements that went into a successful product – what was my mash bill and where did I age the whiskey in the rickhouse are critical. A good control baseline lets you always revert back if something unexpected occurs. In IT this would be enabled by having a good data protection or disaster recovery program and making sure that the code that runs your mission critical applications is properly checked into a repository and that you could roll back deployments when something bad happens.

The key here is to approach technology governance in a purposeful manner. By no means does this mean a heavy-handed approach is useful or wanted – the goal is to enable a standard approach to delivering IT in a consistent manner so it can be supported and relied on by the business. Multiple solutions that serve the same purpose should be rationalized as much as possible to prevent the growth of technical debt. Teams should not be siloed, but rather empowered and consulted as these processes and standards are established. A partnership between the business, technology, and security should be fostered so governance does not become onerous, but made easy to comply with. Purposeful organizational change management from the outset can help avoid problems in the future.



# OLDER ESTABLISHED BRANDS

Distillery Type	Broad Business Requirements Overview	Unique Challenges
Older established brands	<ul style="list-style-type: none"><li>• <b>Must comply with the bourbon requirements</b></li><li>• Cannot change the flavor profile of established brands</li><li>• Production at scale needs to be repeatable at expanded scale to critical cash flow that supports the business</li><li>• Supply chain management significant capability to maintain</li><li>• Threatened by new brands coming into marketplace</li><li>• Secondary market is a reputational threat - scarcity drives up cost for resale but distillery does not directly benefit (and is blamed for lack of availability)</li></ul>	Innovation, growth and change while maintaining their identity

Older established distilleries are facing competition from an exploding market. How do you innovate and bring new products to market without sacrificing or changing those brands that have a strong following?

One approach is to spin up a new line of business that lets the company bring new products on-line without sacrificing or changing the old favorites. While not bourbon, Irish Distillers (makers of Jameson Irish whiskey - the #3 most popular whiskey in the world in terms of sales as of 2020) started a micro-distillery to do just this. Their new line of business has sent out some really interesting whiskeys - most notably their 'Method and Madness' lines which really should be tried. This lets the company both protect and leverage their cash cow products and innovate in a safe place.

From a technology perspective having to create architectures that include legacy platforms like mainframes and other older technologies that the business relies on for operations is a very common challenge. These systems have been around for decades, are integral to multiple operations, and often support mission-critical revenue streams. There is no budget to build a new platform from the ground up, and the complexity of the integrations it has with other apps in the environment can be incredibly complex.



So how do you tackle something like that? Much like what Jameson did – starting something new – can work. IT can develop an abstraction layer between the mainframe and the other applications which can offer more modern API access to data and begin to build some separation between the legacy platform and the rest of the environment. Additionally, services are starting to come online within Public Clouds that can take these types of workloads and run them as a service. As the abstraction layer matures and the legacy platform is moved to the Cloud, the opportunity to remove the reliance on the legacy systems in bite size chunks becomes available. Now modern approaches to automation, decoupled services that can scale, and agile methodologies can be applied across the infrastructure and the workloads it supports.

# THE BUILDING BLOCKS OF STRATEGY

The goal for any successful IT strategy is one where the capabilities it provides back to the business are directly in line with what they need, and IT is seen as an enabler of new capabilities. There is enough bi-directional understanding of the business within IT that they can suggest new technologies that can dramatically change how business can be done.

Likewise, business sees IT as a partner – colleagues who are invested in success and can help make things faster and keep everyone more competitive. Information Technology should not be viewed as an aging rickhouse – a bunch of grey bearded technology professionals kept in the basement who may or may not align with the current tastes of the business. It should be a stable of engaged professionals each seeking ways to make the next sip sweeter than the last.

Regardless of where your current organization may sit on the 'Distillery Enterprise Maturity Model' (patent pending) the entire Accscient portfolio of companies stands ready to assist. Whether you are a startup seeking ways to expand and solidify your technology base, a mid-market Enterprise struggling with standardization and process optimization, or a juggernaut looking for ways to compete in the agile world Accscient can assist with technology, staff, security, and strategic consultants who can help take your brand to the top shelf.



# ABOUT THE AUTHOR



Chuck Hoppenrath is the Partner, Modern Applications and Cloud with ACCSCIENT Digital. He has over 20 years of technology experience working in Media, Public Sector, and Service verticals, as well as operating his own IT Consultancy in the metro-Atlanta area. Chuck has served as a Cloud & Infrastructure Architect, Enterprise Architect, System Engineer, and Network Engineer for a wide variety of companies across Public Sector, Media, and consulting organizations.

## ACCSCIENT DIGITAL

With over a decade of expertise and insight into a dynamic business landscape, Accscient Digital was created to help clients navigate the complexities of the digital business journey. By combining deep vertical experience with competencies in the evolving digital value chain, our solutions are specifically crafted to provide innovative and scalable solutions for any industry.

Accscient Digital prides itself on finding flexible and creative alignment with client needs by leveraging the solutions, methodologies, and technologies required to ensure long-term success.

From initial use case development to project execution and comprehensive managed service offerings, our solutions exist to carefully address the cross-functional demands facing modern business managers.

Accscient Digital is more than an advisor, and more than a service provider. At Accscient Digital, our purpose is to serve the role of true digital leadership, providing clients with long-term guidance towards effective digital transformation.

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