

EXPERT INSIGHT

The Economics of Data, Analytics, and Digital Transformation

The theorems, laws, and empowerments to guide your organization's digital transformation



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BIRMINGHAM - MUMBAI

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CREATING A CULTURE OF INNOVATION THROUGH EMPOWERMENT

Digital Transformation is the creation of a continuously learning and adapting business model (AI-driven and human-empowered) that seeks to identify, codify, and operationalize actionable customer, product, and operational insights (propensities) in order to optimize (reinvent) operational efficiency, enhance customer value creation, mitigate operational and compliance risk, and create new revenue opportunities.

Okay, now that we've covered all the economics, data, and analytics mumble jumble, let's focus on the real secret sauce to any digital transformation journey—empowering your people.

This will be the most difficult chapter in the book because it forces the reader to embrace a very uncomfortable and even troubling concept—ambiguity. Ambiguity—the quality of being open to more than one interpretation—is the key to human, societal, and organizational evolution. If everyone has the same perspectives and same opinions—if our thinking is just a clone of everyone else's thinking—then evolution is over, and humankind and society are doomed.

This chapter will be uncomfortable because everyone desires to work with people just like themselves. It's easier and more comfortable when everyone you work with has the same perspectives. But that's a formula for stagnation and at worst, groupthink.

So, this chapter, first and foremost, is about creating a culture that encourages diversity of perspectives but also seeks to empower teams to embrace and exploit this diversity of perspectives to drive the innovation necessary to achieve digital transformation.

But first, a history lesson.

Team Empowerment History Lesson

In the 1805 Battle of Trafalgar, British Admiral Lord Nelson faced the superior forces of the combined French and Spanish naval Armada. The French and Spanish naval Armada was determined to clear a path for Napoleon to invade England, and only Lord Nelson stood in their way. Lord Nelson was badly outnumbered and outgunned, so he needed to *reframe* his battle strategy to overcome these debilitating disadvantages.

In 1805, the standard method of naval warfare involved ships lining up parallel to each other to maximize the effectiveness of their cannons. Naval battle in the "Age of Sail" was a simple game of math—firing cannonballs more quickly than your opponent was the best way to ensure victory. Yes, the **Key Performance Indicator (KPI)** for naval battle success could have been "shots per minute" based on the number of cannons and the crew's ability for rapid reloading.

Given his predicament, Lord Nelson decided on a different naval engagement strategy. Instead of the traditional parallel arrangement, he arranged his ships perpendicularly into two columns and drove them directly into the opponent's line. This approach, captured in *Figure 9.1*, would minimize the enemy's firepower advantage (less exposed surface area for Lord Nelson's fleet in which to endure more cannon damage) while driving a wedge between the enemy's command line. Once the enemy's line was broken, Lord Nelson's ships could fire point blank into the Armada, causing absolute chaos in the process.

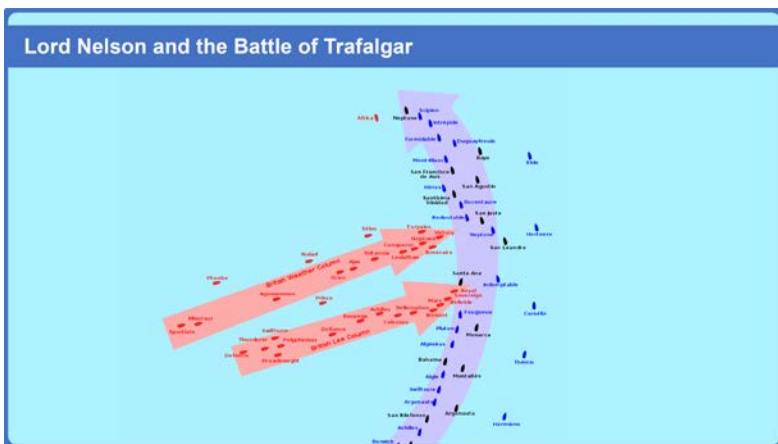


Figure 9.1: Lord Nelson and the Battle of Trafalgar Battle Strategy

While much credit for Lord Nelson's overwhelming success in the naval battle was given to his innovative battle strategy, an important key to his success was how he empowered each of his ship captains to operate independently and "think on their own during the heat of battle," turning them into "entrepreneurs of battle."

On the opposite side of the battle, the French and Spanish Armada were commanded by Vice Admiral Pierre-Charles de Villeneuve and Admiral Don Federico Gravina. They used the traditional, centralized command-and-control structure to send battle instructions (using flags) to the Armada ship captains with instructions on how to proceed during the battle.

Lord Nelson exploited his decentralized, empowered team approach to pierce the Armada's line of attack, thereby defeating the centralized command-and-control structure of the French and Spanish Armada. In fact, Lord Nelson's captains were successful in winning the battle even though he was killed during the battle.

So, what can your organization learn from Lord Nelson and the Battle of Trafalgar?

If you want to win the Digital Transformation game, spend the time and management effort to empower your teams so that your organization can defeat entrenched competitors and lead your organization's digital transformation charge (and hopefully your CEO doesn't get killed during the battle).

Empowering your teams at the front lines of customer engagement and operational execution will likely have more impact on the organization's digital transformation success than the strategizing and pontificating of senior management. So, here are some tips on how to empower those teams.

Empowerment #1: Internalize the Organization's Mission

Gaining buy-in to the organization's Mission Statement requires that everyone be able to internalize what that mission statement means to them, their jobs, and their personal principles.

Make sure that everyone in the organization—and I mean E-V-E-R-Y-O-N-E—understands the organization's **Mission Statement** (and it will help to have a simple-to-understand one). A **Mission Statement** should not be long (it should pass the 30-second elevator test) and not contain non-descript, non-committal weasel words. A Mission Statement should clearly articulate why an organization exists.

Here are some of my favorites:

- **TED:** Spread ideas.
- **JetBlue:** To inspire humanity—both in the air and on the ground.
- **American Heart Association:** To be a relentless force for a world of longer, healthier lives.
- **Patagonia:** Build the best product, cause no unnecessary harm, use business to inspire and implement solutions to the environmental crisis.
- **Nordstrom:** To give customers the most compelling shopping experience possible.
- **LinkedIn:** Create economic opportunity for every member of the global workforce.
- **Starbucks:** To inspire and nurture the human spirit—one person, one cup and one neighborhood at a time.

I suspect Lord Nelson's mission statement was probably simple and to the point: "Don't let those suckers break through the line otherwise we're going to be eating baguettes instead of fish and chips." Okay, a bit long but I bet it was something like that.

Everybody in the organization should not only be able to articulate the organization's mission statement but be able to express how the mission statement impacts their day-to-day jobs, as well as what that mission statement means to them personally.

Empowerment #2: Speak the Language of the Customer

Speaking the Language of the Customer ensures that everyone not only has the same customer-centricity focus but speak the same language that the customer uses (that is, avoids internal acronyms and buzzwords).

Establish a common language so that everyone uses the same words to describe the same goals, assets, and actions. To institutionalize the "*language of the customer*" in your organization, I recommend embracing the empowering and innovative discipline of **Design Thinking**.

Design Thinking is a customer-centric discipline that necessitates an open and collaborative mindset that leverages facilitated ideation techniques and tools to discover and validate unmet customer needs within the context and constraints of a specific customer problem or opportunity.

Design Thinking is a highly iterative yet scalable process that starts by:

- **Empathizing** with the targeted customer's challenge.
- **Defining** or framing the customer's challenge.
- **Ideating** potential solutions (where all ideas are worthy of consideration).
- **Prototyping** different solution options (to validate *with* the customers in order to learn *from* the customers).
- **Testing, learning, and refining** until you find a workable solution (see *Figure 9.2*).

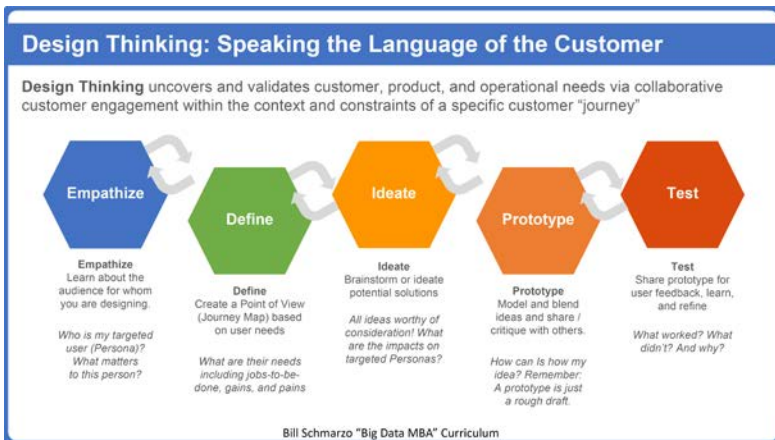


Figure 9.2: Design Thinking: Speaking the Language of Your Customers

Persona profiles (to personalize the customer's challenge), customer journey maps (to understand the customer's journey towards a solution), and stakeholder maps (with personal win conditions for each stakeholder) are just a few the Design Thinking tools and techniques that you can use to understand your customers, their jobs, the value propositions, and their associated gains (benefits) and pains (impediments).

Empowerment #3: Empowering Teams Through Organizational Improvisation

Organizational Improvisation yields flexible and malleable teams that can maintain operational integrity while morphing the team's structure and execution in response to the changing needs of the situation.

Like a great soccer team (think of the United States Women's World Cup championship soccer team...like watching ballet on the soccer field) or an enthralling jazz ensemble (like Miles Davis or Freddie Hubbard...since I did play jazz trumpet in college), successful organizations embrace **Organizational Improvisation** or improv. They exhibit the ability to morph the team's structure and operating plans in real-time in response to changing customer and/or operational conditions while maintaining operational integrity.

Teams win games and change the world, not individuals. Yes, there are individuals (Thomas Edison, Alexander Graham Bell, Steve Jobs, Bill Gates, Elon Musk) who can evangelize an aspirational vision, but in the end, **Empowered Teams** win the game. To master empowering teams, we must empower organizational improv.

So how do we cultivate empowered teams that can morph in the heat of battle while driving the organization's digital transformation forward within a constantly changing environment? Learn to play video games!

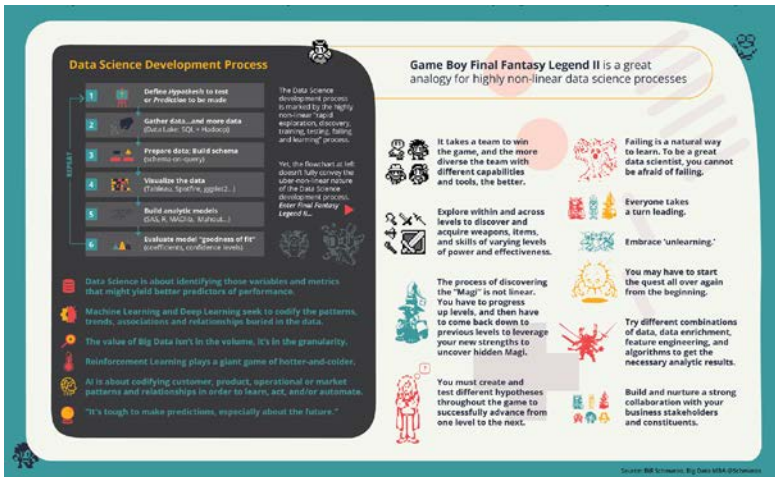


Figure 9.3: Why Data Science Team Development is like playing Final Fantasy Legend II!

The Game Boy® Final Fantasy Legend II™ game (which I have defeated several times) is a surprisingly fabulous management tool that yields several valuable lessons in creating empowered teams, including:

- **It takes a team to win the game.** The more diverse the team, with different perspectives, capabilities, and tools, the better. Build your team based upon potential capabilities rather than on current capabilities. Invest in the future. For example, while the robot is powerful in the earlier levels of the game and will single-handedly win lots of early battles, it eventually tops out and becomes ineffective at the later, more challenging levels.

- **Discovery is a highly non-linear process.** The path to discovery is not a straight line. There will be times where you will need to double back to previous levels to gather important items (and insights) that you were not capable of gathering or learning before.
- **You must test different hypotheses throughout the game to find the ones that win.** You can't measure success by the number of hours played. Just playing the game more doesn't help you win the game. Progress and success are achieved by successfully defining, testing, proving, and advancing hypothesis by hypothesis, where the learnings from the successful completion of one hypothesis guides the development of the next hypothesis.
- **Failing is a natural way to learn.** You will learn and get stronger with each interaction, but you will also fail at times along your journey. But failures provide a learning opportunity to better understand the deficiencies that you and your team need to address. *If you aren't failing enough, then you're not learning enough.*
- **Everyone takes a turn leading.** There are certain situations where the wizard must lead, and other situations where an imp might have to lead, and others where the human must lead. Everyone on the team must be prepared to lead depending on the situation. Be sure that everyone on your team has been trained and coached so that they are prepared to lead successfully when their time comes.
- **Embrace "unlearning."** Just when you think you have developed the necessary skills and capabilities, then you battle a boss monster and realize that all your planning to win that battle was inadequate (as Mike Tyson once said "everyone has a plan until they get punched in the face"). The capabilities that help to overcome one obstacle may be totally irrelevant to the next obstacle. Be prepared to let go of outdated approaches to learn new ones.

- **Be prepared to start all over.** You may find in the later levels of your journey that the team you have assembled and the capabilities that you have gained are insufficient for winning the final level. Sometimes your current strategy just tops out, and you need to morph the team to include different perspectives, capabilities, and experiences. *Hint: that's the importance and power of nurturing organizational improvisation.*
- **Embrace diversity of perspectives.** Be prepared to blend, bend, and break apart different perspectives to overcome certain challenges. And surprise, sometimes it's the combinations that you least expected that yield the most valuable and actionable insights.
- **Nurture strong collaboration across the ecosystem.** Finally, there will be many annoying and some very evil creatures along that path who are trying to hinder, slow down, or kill your journey (just normal life in the corporate world). Build and nurture a strong collaboration across all of your constituents who can guide you and can even help you to win battles at critical points on the journey.

So, dust off that old Game Boy and learn how to empower your teams!



DEAN OF BIG DATA TIP:

There is a big difference between **Opinions** and **Perspectives**. Opinions are statements about something, but not necessarily based on fact or knowledge. Asking for one's **Opinion** on a topic is unproductive.

However, asking for one's **Perspective** on a topic can yield the rationale behind one's opinion, and in that rationale, you might find some nuggets around which to collaborate.

Empowerment #4: Embrace an "AND" Mentality

"AND" Mentality embraces differing perspectives to blend, bend, and break apart the different ideas to create something more powerful and more empowering than what was there before.

Another history lesson (I always loved history in middle school): If you had challenged car manufacturers in 1979 to increase horsepower while also improving mileage per car, the automobile executives would have looked at you like you had lobsters crawling out of your ears. However, that is exactly what happened.

The car manufacturers in the 1970s operated with an "OR" mentality—customers could have cars with good "fuel mileage OR horsepower" but not both. However, the automobile industry was forced to reframe this mindset when the U.S. government mandated higher vehicle fuel mileage in 1975 and then again in 2007. And instead of going out of business, car manufacturers (or at least some of them—I'm looking at you, Hummer) embraced the dilemma and ended up both improving fuel mileage AND increasing horsepower through a number of product design, development, and manufacturing innovations (see *Figure 9.4*).

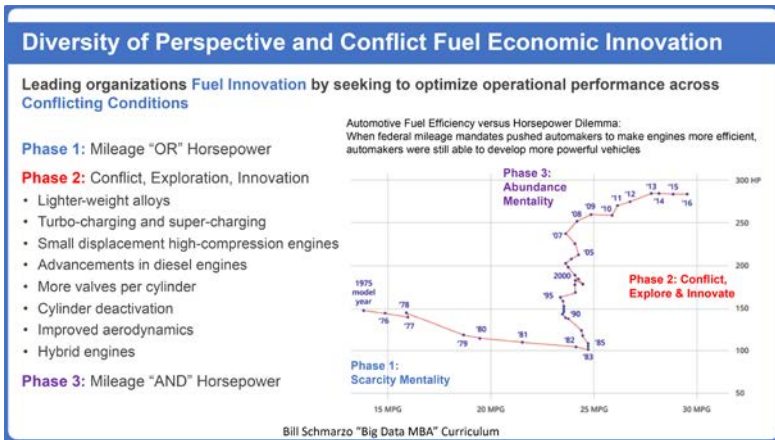


Figure 9.4: Economic Transformation of the Automobile Industry

As we discussed in *Chapter 3, A Review of Basic Economic Concepts*, when we talked about transforming the organization's **Economic Value Curve**, sometimes a crisis can create the necessary impetus for organizations to move beyond an "OR" mentality and embrace an "AND" mentality to survive.

Organizations that are seeking to drive their digital transformation must replace their "OR" mentality with an "AND" mentality. This is difficult but necessary because getting organizational alignment on the best path forward on critical product, market, or organizational decisions is overly challenging. Typically, product-centric organizations engage in "wear them down" decision-making techniques that end up defaulting to the Least "Worst Option" that offends the fewest stakeholders. Stakeholders just get worn out by the continuous debate and finally folks just start giving in to the endless debate ("Nobody is right when everyone is wrong"). This "lowest common denominator" approach leads to sub-optimal decisions from the perspective of both the organization as well as the customers.

To overcome this dilemma, organizations must embrace an "AND" mentality that merges the product-centric AND the customer-centric perspectives to synergize a better solution. Be prepared to blend, bend, and break apart the different perspectives to discover the essence of each perspective: **blend** two or more loosely coupled perspectives into a new perspective, **bend** an original perspective from a multitude of different dimensions to see what new perspectives it yields, and finally **break apart** a perspective into its subcomponents to rearrange, eliminate, or re-engineer the perspective subcomponents into something greater than before.

When internal stakeholders with diverse perspectives can identify, understand, and empathize with their customers while at the same time frame those customer needs from the perspective of products, organizations can transform their operational decision making from the **Least "Worst Option"** to the **Best "Best Option"** (see *Figure 9.5*).

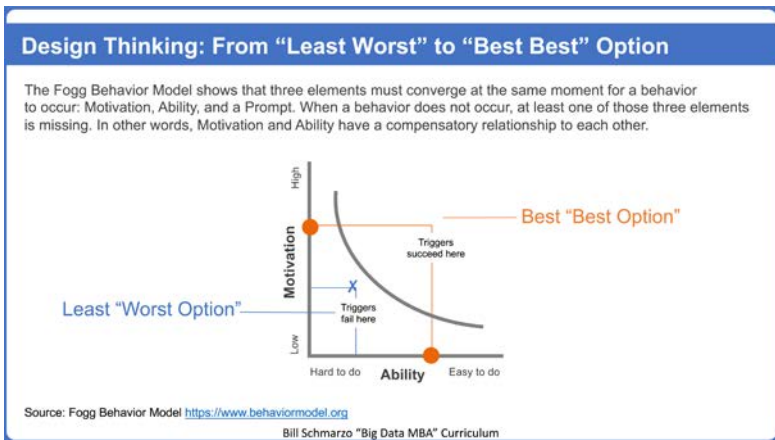


Figure 9.5: Source: Fogg Behavior Model: <https://www.behaviormodel.org>

Organizations can transition from **Least "Worst Options"** towards **Best "Best Options"** by decomposing everyone's perspectives into the **assets** that make up those perspectives. These assets may include product capabilities, market insights, customer relationships, or personal skills. After you have decomposed everyone's perspectives into these assets, then blend and bend different combinations of assets to create the **Best "Best Option"** to which everyone can contribute and support.

You'll be surprised how enlightening and fun this process can be when you empower teams to transform everyone's different perspectives into the assets that can be combined in new, more innovative solutions.

Empowerment #5: Embrace Critical Thinking

Critical Thinking is the judicious and objective analysis, exploration, and evaluation of an issue or a subject to form a viable and justifiable judgment.

Teaching my university students to embrace critical thinking is crucial for creating our future business and civic leaders. Likewise, it is also crucial for achieving digital transformation. Here is what I expect of my students with respect to mastering critical thinking:

1. **Never accept the initial answer as the right answer.** It's too easy to take the initial result and think that it's good enough. But good enough is usually *not good enough*, and one needs to invest the time and effort to explore if there is a better "good enough" answer.

2. **Be skeptical.** Never accept someone's "statement of opinion" as "fact." Learn to question what you read or hear. It's very easy to accept at face value whatever someone tells you, but that's a sign of a lazy mind. And learn to discern facts from opinions. You know what they say about opinions...
3. **Consider the source.** When you are gathering requirements, consider the credibility, experience, and maybe most importantly, the agenda of the source. Not all sources are of equal value, and the credibility of the source is highly dependent upon the context of the situation.
4. **Don't get happy ears.** Don't listen for the answer that you want to hear. Instead, listen with the intent to learn. *Tomorrow's leaders won't seek out information to confirm; they'll seek out information to learn.*
5. **Embrace struggling.** The easy answer isn't always the right answer. In fact, the easy answer is seldom the right answer, especially when it comes to complex situations that we face in society and the business world.
6. **Stay curious; have an insatiable appetite to learn.** This is especially true in a world where technologies are changing so rapidly. Curiosity may have killed the cat, but I wouldn't want a cat making decisions for me anyway (otherwise we'd have a steady diet of dead mice).
7. **Apply the reasonableness test.** Is what you are reading making sense from what you have seen or read elsewhere (sorry, the Pope didn't vote in the US election)? While technologies are changing so rapidly, societal norms and ethics aren't. Do you understand the difference between "Do no harm" versus "Do good"? If not, then reread the Parable of the Good Samaritan.
8. **Pause to think.** Find a quiet place where you can sequester yourself to really think about everything that you've pulled together. Take a deep breath and the time to contemplate before rushing to the answer.

9. **Conflict is good...and necessary.** Life is full of tradeoffs that requires striking a delicate balance between numerous competing factors (increase one factor while reducing another). As we discussed earlier, these types of conflicts are the fuel for innovation.

Critical thinking...geez, wish more people were practicing that art.

Summary

Lord Nelson empowered ship captains who were "entrepreneurs of battle" by creating agile, malleable teams that could collaborate, share, and learn, based upon a common mission, shared language, and a culture of trust, openness, and fearlessness. Organizations that are seeking to achieve their digital transformation must also empower "entrepreneurs of innovation" by creating agile, malleable teams that can collaborate, share, and learn, based upon a common mission, a shared language of the customer, and a culture of team empowerment.

My final point in the book is this: You have all the tools and skills necessary to be successful, but ultimately your success is on you. The minute you start to blame others for your problems, you abdicate control of your life. Don't do it. Own your mistakes, and you will own your future.

I have failed several times in my life, and each failure has not only tested my faith and resolve but has provided valuable lessons that I could carry forward to the next chapter of my life. I hope your failures can also fuel your future successes (see *Figure 9.6*).



Figure 9.6: My Personal Trials and Tribulations

Again, own your mistakes, and you will own your future. That's the key to anyone's empowered, innovative, and transformational journey.

Further Reading

1. *GroupThink*: <https://en.wikipedia.org/wiki/Groupthink>
2. *Age of Sail*: https://en.wikipedia.org/wiki/Age_of_Sail
3. *Battle of Trafalgar*: https://en.wikipedia.org/wiki/Order_of_battle_at_the_Battle_of_Trafalgar
4. *Kyle Stock and David Ingold, America's Cars Are Suddenly Getting Faster and More Efficient*, 17 May 2017: <https://www.bloomberg.com/news/features/2017-05-17/america-s-cars-are-all-fast-and-furious-these-days>

Homework

1. How well do you understand and speak the language of your customers?

Not clear who our "Customer" is	Created Personas and Customer Journey Maps	Have prototyped solutions with Customers	Co-created and deployed solutions with Customers
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1	2	3	4	5	6	7	8	9	10
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Score: _____ Assessment: _____

2. How are you removing impediments and empowering organizational improvements?

Rigid command and control structure	Cross-functional teams for special projects only	Collaborative culture within functional cost centers	Teams empowered to morph as needed
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1	2	3	4	5	6	7	8	9	10
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Score: _____ Assessment: _____

3. How are you building an "AND" culture around personal accountability?

Senior Execs makes all the decisions	Settle for Least "Worst Options"	Selective team empowerment	Empowered to drive towards Best "Best Option"
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1	2	3	4	5	6	7	8	9	10
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Score: _____ Assessment: _____
