Commonality Unleashed Across Functions and Industries

Solving the skills gap might be as simple as understanding that the basic tenets of technology and process are replicable across industries and functions. Here’s a look at how organizations can apply cross-pollination techniques to reduce the widening gulf between technical resource supply and demand.

Executive Summary

“We are different.” “We are unique.” “Our problems are unique, and have a huge impact on customers.” These statements are common across the IT discipline and reflect a fundamental challenge: the shortage of skilled resources. These problems aren’t unique to IT; talent constraints are being felt across many functional areas. However, what is novel is the similar level of challenge being experienced across industry segments, at all levels and types of work. Be it core engineering in an oil and gas segment, or low-end design work in the automobile industry, the gap between skill demand and supply is equivalent.

This white paper baselines this challenge and proposes a mindset of change and adaptability to resolve it worldwide. Before doing so, we ask business leaders to draw a parallel between the common items across industries and disciplines. We will focus on four key aspects for the sake of simplicity and readability; while there are likely more issues, we believe that these four constitute 80% of the challenge:

- Functional process and industry.
- Data processes and governance.
- Guidelines and compliance.
- Technology.

Defining Commonality

Figure 1 (next page) depicts a scenario of any organization — be it in the financial industry, healthcare or the engineering space. (There may be a few organizations in the world that do not fit into this structure, so we ask that you exclude focusing on them while reading this paper.)

Functional Process and Industry

Let’s take two examples across industry segments to explain this in detail:

- Opening a bank account: Bank officials request that prospects fill in the form with information covering personal details, financial details, assets and liabilities — all supported by valid proofs of identity.
- Signing up for a new policy: This can be in the healthcare space or buying insurance for your automobile. In either case, the consumer must furnish details such as personal, financial, assets and liabilities — all supported by valid proofs of identity.
This account opening (AO) process is a classic entry point for any new customer starting a relationship with a company across industries. For any AO process or any other equivalent business processes, the following subprocesses can be readily identified:

- Information collection.
- Verification and validation.
- Decision-making.

Each of those checks has its own limit thresholds, beyond or above which a process requires manual intervention to either reject a request or keep the process on hold. These threshold limits are governed by the industry benchmarks and organization policies and rules.

We have taken a simple AO example here, but one can imagine any such business process across industries, many of which vary only slightly across different segments. For instance, the lifecycle of any customer-organization relationship starts with the opening of a relationship; it then evolves to customer management; and it ends with termination, for a variety of voluntary and involuntary reasons. A subprocess linked to any aspect of the lifecycle will have an identical event flow across industry segments.

**Data Process and Governance**

Let’s continue with the same example to explain the importance of the data component.

The volume of information gathered for a business process will not vary much across segments, as the above example suggests. Medical records may be a key differentiator when it comes to AO in the healthcare industry, but almost all other information sought will be identical or common between segments.

Data such as first name, last name, gender and date of birth do not deviate across industries. The only difference is semantics: For example, a bank may tag the customer under a unique “account number,” while in the healthcare it may be called a “policy number.” We can broadly classify all kinds of data into three types, as shown in Figure 2 (next page).

These fields are omnipresent from one industry to another. The title or caption of each field may differ across industries, but they essentially have the same purpose. For example, it may be called “buying power” in the brokerage industry, which is the same as “credit exposure” in the retail/consumer banking sector, which is the same as “limit to buy” in the world of credit cards. There are numerous synonyms across segments, but once a domain is mastered it is a somewhat simple matter to adapt that knowledge to a similar function in a different industry. Evaluating such common-intention fields reveals that 60% to 80% across industries have the same business intention, though they are titled differently.

**Guidelines and Compliance**

The Office of Foreign Assets Control (OFAC), HIPAA, Sarbanes-Oxley Act (SOX), PCI standards,
BASEL standards, cross-border regulations, WTO guidelines, etc. represent key examples of the checks and balances applied in each industry and geography to maintain the sanity of the business. Clearly, such regulatory instruments are so common and prevalent across industry segments to maintain consistency and to build a common platform for all market participants to conduct business uniformly. The process and the data (as explained above) can be fed into each of these rules to understand how each organization works in each industry.

**Technology**

In today’s age of standardization, skilled technologists can easily move from one area to another, be it a programming language crossover or a technology crossover. It just requires reading and understanding the new syntax on the newer terrain.

Can this type of transition be made in other areas of core engineering work? Let’s take an example of a gas welder. Can the gas welder move from the oil and gas industry to, say, automobile engineering or to a heavy industry area? Or in financial services: Can a financial analyst specializing in the banking sector, for example, move to retail industry and continue to perform the same financial analyst role?

The answer is a strong yes in all such similar instances. Though the duration to achieve a stable state may vary in such scenarios, a crossover is easily accomplished. The nuances and the rules of the game in the new segment must be well read and understood to ease and accelerate the transition. The primary gating factor is whether industry leaders are willing to test and try skilled individuals outside of traditional industry boundaries and whether such people are willing to take the risk of moving to an unknown territory.

**Connecting the Dots**

- As noted, industry processes across segments can be abstracted from common functionalities, work flows and processes across industries.
- The data can then be consumed, processed, massaged, consolidated and aggregated.
- Underlying guidelines and regulatory compliance are relatively common across industries.
- Ongoing technological change can and should be embraced as tools evolve and business requirements dictate.

By our account, these four attributes constitute nearly 80% of the requirement in any role, in IT or otherwise, across industries, be it insurance or banking and financial services. Using these attributes can provide organizations with a robust approach that can address most IT development needs.

Taking the AO process, an organization requires strict policies and guidelines to achieve the privilege of attracting only genuine customers to its portfolio. Of course, each organization wants to build and generate assets more than liabilities. Therefore, leveraging a similar technology-enabled process from another industry should be faster and more effective, as long as it complies with regulations within the industry and geography in which it operates. Resolving customer requests using technology and processes proven in other industries, while adhering to standards and policies set by regulatory bodies, will help organizations to more effectively retain customers and increase their market share.

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**Entity Classification Schema**

<table>
<thead>
<tr>
<th>Master Data</th>
<th>Transactional Data</th>
<th>Miscellaneous Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal data.</td>
<td>Day-to-day transactions.</td>
<td>External or internal data for one-time or exceptional consumption.</td>
</tr>
<tr>
<td>Financial data.</td>
<td>Daily touch-point data (such as calling the help desk to reset password or change address, etc.).</td>
<td>Temporary data for pre-migration and post-migration steps.</td>
</tr>
<tr>
<td>Demography data.</td>
<td>Aggregation and consolidation data (intermediate to final).</td>
<td>Data for archival purposes.</td>
</tr>
<tr>
<td>Sales &amp; revenue data.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Looking Forward

This paper examined business processes across all industries together and demonstrated the similarities among them. Perhaps 80% of all business processes are similar, with exceptions ranging in the 20% ballpark. This is interesting given the ongoing labor shortage for domain specialists and other technically qualified personnel, worldwide.

IT organizations across industries are continuously looking for great subject matter experts (SMEs) or technology experts to work on and deliver projects. Can they wait to get such qualified staff? Obviously not, as the business presses them to deliver on time, if not ahead of time.

This white paper has debunked the irrational perception that each industry is unique, and each problem is unique, to prove that in fact there is a good deal of commonality across segments relative to IT processes. The ability to map an unknown process or technology by using existing domain knowledge and an understanding of business can help most individuals contribute effectively in any new space. Embracing this approach to cultivating and recruiting new talent will be critical as the scarcity of technical resources in most developed countries is not expected to abate anytime soon.

On a personal level, one solution would be to become a master of a domain or a technology, and cultivate the art of cross-pollinating from known to unknown territory. It is expected that such a transition should happen faster and quicker without a blip on the screen, since time is of the essence as markets grow more competitive.

For instance, a Certified Public Account (CPA) can work in any industry, from financial services to heavy industry. However, organizations must explore if and how such talent options can be applied to resolve skill-set shortages at their companies. At an atomic level, banks should seek an account opening specialist rather than a bank account opening expert. In the case of the IT world, organizations should seek developers rather than Java/Python developers.

Getting there is tricky; it is not a simple transformation. It requires solid mindset change both from human resources professionals and also from the industries themselves to evaluate talent needs and find optimal ways to fulfill them using completely different frames of reference. By not having such restrictions, organizations can more easily and definitively resolve skill-set-based shortages by applying cross-pollination techniques.

About the Author

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