Addressing complex challenges in digital transformation of food retailing

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The client is a rapidly growing retail food business with international and local restaurant brands in the Middle East. Their B2C (Business-to-consumer) model, proven over 40+ years, faced challenges as they started their journey of digital transformation, including upgrading their ERP (Enterprise Resource Planning), checking POS (Point-of-Sale) system readiness, and setting up a data lake for big data consolidation. The primary challenge involved driving cultural changes in people to adopt processes when working with data and technology. Effective governance mechanisms and an operating model were needed to enable digital transformation and become AI-ready.

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Our approach

Our honeycomb approach addressed seven critical elements within the client's organization: (i) vision, (ii) strategy, (iii) metrics, (iv) governance, (v) operating model, (vi) people and culture, and (vii) processes, including technology and data. These elements are essential for analyzing the fundamentals of a company and achieving the objectives of organizational change management and organizational behavior.

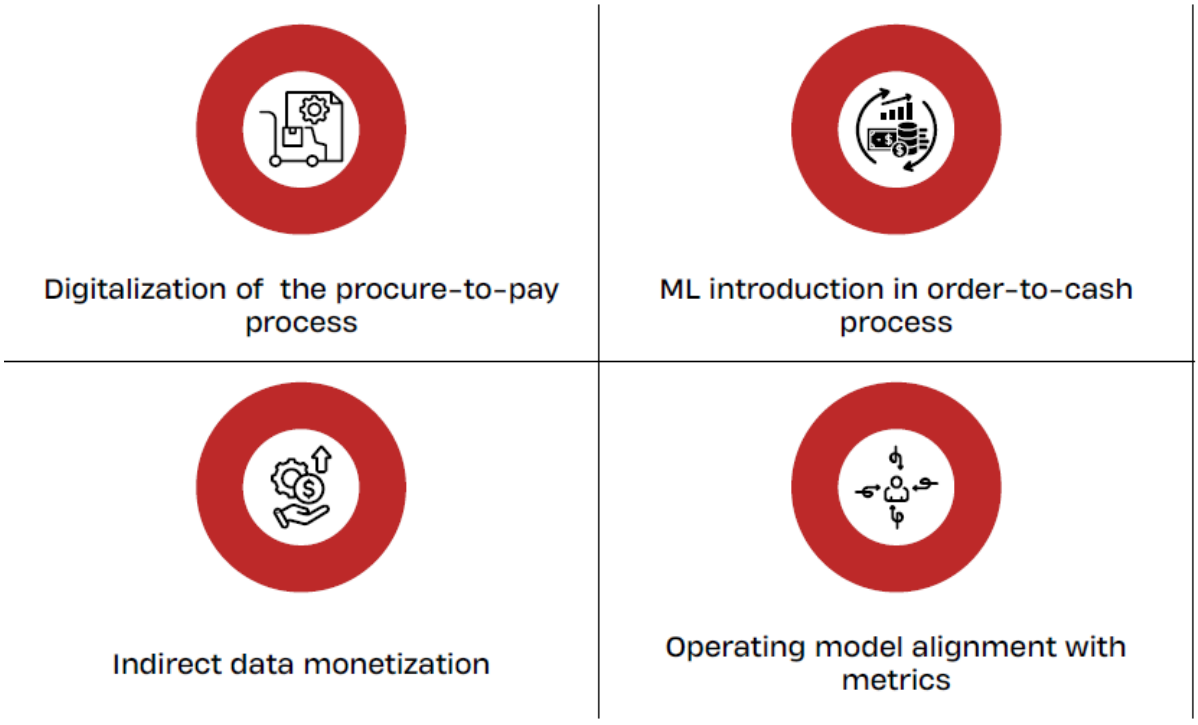
Furthermore, this organization exhibited the capability to expedite their digital transformation journey through strategic investments in personnel and technology aimed at enhancing data quality.

Vision	Enabling people to use data and technology to speed up digital transformation and prepare for AI.
Strategy	Analyzing their dynamic capabilities[1] and resources within the B2C business model to optimize their order-to-cash processes
Metrics	Augmenting organization business performance metrics because of further digitalization of business processes. Mapping digital inputs and building a pipeline for ML (Machine Learning) to enhance the business performance metrics
Governance	Defining target state for people at strategic, tactical and operational levels to adopt processes related to digital transformation and data quality improvement
Operating Model	Defining roles and responsibilities of people at strategic, tactical and operational levels. Embedding these roles within the organization structure.

People & Culture	Defining the framework for the organization to become a "learning organization". Designing incentivized training and learning programs for people to visualize during trainings and act for business performance
Processes (Data & Technology)	Designing data pipeline processes around operationalizing the data lake

Outcome

During the two-year association with this organization, the following were accomplished:



1. Digitalization of the procure-to-pay process: A comprehensive clean-up of supplier-specific master data was conducted before supplier onboarding through ARIBA. Product categories were defined across the entire inventory of SKUs (stock keeping units) within the organization. Product specification data was meticulously cleaned and

enhanced by establishing nomenclature for over 5,000 active products. A workflow for product specification data approval was instituted to ensure data quality and facilitate the integration of clean data into the ERP's material management module, product planning module and enterprise warehouse management module. This workflow was implemented using a master data governance tool.

2. ML introduction in order-to-cash process: Clustering analysis was conducted to identify which POS products sell better together. Different bundles of appetizers, main course and dessert with different sets of POS products were analyzed to check impact on campaigns and corresponding return on investment. As proof-of-concept (PoC) sentiment analysis was conducted to augment cross-sell and up-sell opportunities to customers.

3. Indirect data monetization2: Enhancing the order-to-cash process through master data governance resulted in indirect data monetization. The improved data quality of POS products led to more accurate pricing, better cost of goods sold (COGS) figures, and more precise budget calculations by the business intelligence team.

4. Operating model alignment with metrics: The new operating model provided clarity to the people on the business processes that got augmented, partially automated, fully automated because of ERP upgrade and data quality related initiatives. For existing people, roles and responsibilities were updated in alignment with organization structure and business performance metrics.

What Next?

Organizations like the one described above need a systematic approach to becoming AI-ready while transforming themselves through digital transformation. How does an organization become AI-ready?

We believe an organization becomes AI-ready when the people (employees, partners, customers) who interact with the organization feel the ethos of the organization embedded in its business processes, technology and operations.

From the business process perspective, digital transformation is usually enabled by a multitude of technologies that help business users complete their daily activities effectively. Completion of daily activities generates significant data which describes the operations of the company with internal and external stakeholders. Operations of the company are usually described as transaction data while pivoting elements of operations that do not change very frequently are described as master data. Business performance metrics of an organization are generally calculated using transaction data and master data as input. Business performance metrics may be defined at strategic, tactical and operational levels of business functions so that people in the business functions relate with the goals of the roles they play.

From the technology perspective, several companies have adopted ERPs, CRMs, POS, core banking software and other transaction systems that are on relational databases. The data created in relational databases need a method to become usable for machine learning and analytics with a business definition, lineage, data privacy, encryption at transit and rest. There are several products in the market that add an intelligent layer on organization data and help understand the organization's active metadata. Organizations today need a technology team and data team to work together with common goals to achieve organizational performance metrics. Additionally, technology leaders need to ring-fence an organization with cyber-security tools to thwart attacks. The choice of products for infrastructure and networks is imperative to protect organizational intellectual property.

An organization becomes AI-ready when it subscribes to becoming a "learning organization" with its people. Machine learning is about training a model with good quality data in regular intervals so that the model can predict or classify or create bundles on its own. Natural language processing

is about training industry best language models with organization specific data so that those language models understand the context and operations of that organization. Similarly, people in the organization need to be trained on how to use machine learning models and language models to enhance their productivity and not replace human knowledge while performing a task.

The approach to a "learning organization" is complemented when the organization transitions to knowledge management from data management. Knowledge management needs articulation of business definitions across functions, needs continual governance and maintenance of relationships amongst business entities. The data platforms that enable these transitions provide organizations with ontological flexibility to train their language models.

Interestingly enough, knowledge management can be effectively built when people in the organization are not afraid of sharing their knowledge to train a machine learning model or a language model. The complexity to understanding human knowledge is manifold. Ethical AI is about training a model with enough information so that humans can augment their productivity and not get replaced by machines or AI.

While the Googles and Microsoft's of the world spend billions of dollars to get their models fit to purpose, ethical, usable and explainable – the trick for every CXO is to get their company ethos communicated across the board and masses to generate goodwill in people. For CXOs, the vision is not just limited to generating revenue & profits, expanding to new geographies but also to creating transparency, improving knowledge quotient of its people and investing in sustainability.

References

1. Eisenhardt, Kathleen M., and Jeffrey and Jeffrey A. Martin. 2000. “Dynamic Capabilities: What Are They?” Strategic Management Journal 21 (10–11): 1105–21. https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E.

2. BBVA Group, Elena Alfaro, Marco Bressan, Satellogic, Fabien Girardin, Near Future Laboratory, Juan Murillo, et al. 2019. “BBVA’s Data Monetization Journey.” MIS Quarterly Executive, 117–28. https://doi.org/10.17705/2msqe.00011.