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Case Study

Analytics-Driven Transformation at Majid Al Futtaim:

Building a Data-Led, Test-&-Learn Culture to Generate Customer Value in the Middle East

07/2020-6592

This case was written by David Dubois, Associate Professor of Marketing and the Cornelius Grupp Fellow in Digital Analytics for Consumer Behaviour at INSEAD, Joerg Niessing, Senior Affiliate Professor at INSEAD, and Katia Kachan, INSEAD MBA '16. It is intended to be used as a basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation. The case was supported by the Abu Dhabi Department of Education and Knowledge (ADEK).

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Introduction

March 2020. From his home office in Dubai, Alain Bejjani, CEO of Majid Al Futtaim (MAF), the largest lifestyle conglomerate in the Middle East, was reflecting on the group's future after an emergency video conference with the top executives of MAF Carrefour, the supermarket chain (see Exhibit 1) that was part of the holding. E-commerce activity had seen an unprecedented uptick: a threefold increase[1] of online orders as a result of the Covid-19 lockdown. Business units throughout the supply chain were demanding support in response to the crisis, yet the resilience of the retail branch was no cause for concern. Thanks to digital transformation and its investment in advanced analytics capabilities over the last four years, it had the operational tools to cope with the sudden move from bricks-and-mortar to online operations and deliver a high-quality omnichannel customer experience amid the pandemic. Bejjani reflected on the group's journey and thought about how he could best further accelerate the transformation.

Majid Al Futtaim (MAF)

MAF, the leading shopping mall, communities, retail and leisure pioneer across the Middle East, Africa and Asia, had over 560 million visitors annually in 16 countries. In 2019 it generated $9.6[2] billion in annual revenues, with EBITDA of $1.3 billion[3] (see Exhibit 2). Group founder Majid Al Futtaim liked to say that it was destined to "incubate happiness by creating great moments for everyone, every day."[4]

When Bejjani became CEO in 2015 (see Exhibit 3), it was comprised of three separate operating companies: properties (hotels, malls, residential communities), grocery retail (Carrefour), and lifestyle proposition ventures (VOX cinema, entertainment, fashion, home, F&B, consumer finance) (see Exhibit 4). His strategy was to bring the three lines of businesses together, identify synergies across the group, and define a unified lifestyle proposition to MAF's end customer. To achieve this ambition required a deep understanding of customer needs across the holding. For a conglomerate of 12 business units operating in 16 markets with 45,000 employees, this could not be achieved without leveraging big data.

The first step was to activate insights from data at scale to develop an outstanding customer experience throughout the organisation. To upgrade its omnichannel technology-enhanced value proposition based on data analytics, the group needed top-notch talent with the ability to execute a transformation that would infuse the customer and employee experience with data-driven decision making. Work started in 2016 with the aim of building a digital powerhouse equal to its physical scale, with data, technology and people the key enablers. The group built up vast datasets of 13 million customers[5] across thousands of touchpoints to optimize its operations, customer retention, and decision making.

1 https://www.cnbc.com/video/2020/03/31/the-uae-remains-resilient-amid-virus-crisis-majid-al-futtaim-ceo.html
2 https://www.majidalfuttaim.com/en/investor-relations#pressreleases
3 Source: MAF
4 Source: MAF
5 MAF: "How the Majid Al Futtaim Group uses data to improve offerings and operations"

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Data-driven Analytics: From Strategy to Execution

The aim was to deploy advanced analytics at scale, generate actionable insights and deliver a best-in-class end-to-end customer experience. From inception, the idea was to incorporate both top-down and bottom-up dynamics; 'ambassadors and enhancers' were placed across the entire organisation. To translate his vision into a group-wide plan, in 2016 Bejjani hired Joe Abi Akl, INSEAD MBA 2011 and ex-consultant, as head of strategy and business development (Exhibit 5). He had worked with MAF as an external consultant for almost a year, on the task of designing, prioritising and executing the analytics transformation of the entire group. This involved building data analytics solutions at the group level and integrating them into each of the three OpCos. Joe's team defined the architecture in three stages:

1. Building a Digital Mindset

For the past 25 years, growth had been physical – the group had doubled in size every five years (see Exhibit 6). It was the largest mall operator, cinema operator, and grocery player in the region. Joe explained the challenge ahead:

> *"We set up an ambitious goal to be as prominent on the digital front as we are physically. This meant that every business in our ecosystem had to add a digital layer. This also meant that many capabilities had to be developed in a harmonised way on a group level."*

The first step entailed raising awareness of the importance of an omnichannel customer experience, instilling a data-driven culture around the use of insights to improve decision making, and creating novel customer value. For the transformation to succeed across the group required a new mindset, so in 2017 MAF created an Advanced Analytics Centre of Excellence (AACOE) and hired Guillaume Thfoin, a data & analytics expert with more than 12 years' experience of international consumer insights and data product leadership, as Head of Data & Analytics (see Exhibit 7).

2. Building a Data Lake

Thfoin's team set up a structure enabling data collection across the group. Working with the Business Development team, the AACOE started to collect data from different online and brick-and-mortar touchpoints: loyalty programmes, Wi-Fi, POS, consumer finance data (see Exhibit 8). He explained:

> *"We started using analytics to optimize our existing processes: automate assortment in Carrefour, set up promotions with unified campaigns across the group. We also looked at databased ways to improve the talent mix. Data increasingly became a way to generate revenues with cross-selling and up-selling through AI-driven personalized offers. Data is becoming a stand-alone value creator, used to build new verticals, from advertising to monetization of insights."*

Ultimately this would maximize customer lifetime value, optimize customer experience via personalized omnichannel offers, and thus improve performance within each OpCo.

3. Building a Digital Skillset

Becoming a truly data-centric business meant upgrading existing skillsets and adding new technical abilities to sustain its competitive advantage. According to Thfoin, the success of transformation relied for a large part on the human factor:

> *"Starting a digital transformation requires data and a product or Machine Learning algorithm. Most importantly, you need well-prepared people and the right processes. Having a magic algorithm able to improve your supply chain or optimize product assortment is pointless if the operational teams cannot use it. The key to success is finding the right formula of how to reengineer processes based on the data."*

Letting the OpCos decide how to structure and train the required talent pool would be arduous, since they had neither a priority nor the expertise to disrupt the business model. Bringing the data and experts at the group level was an opportunity to harmonize the data analytics process. The double task fell to Guillaume. What, he wondered, were the best ways to identify and bring in new human capabilities? How to ensure seamless integration between operating companies and the group's Advanced Analytics Centre of Excellence (AACOE)?

AACOE – Putting Human Capital at the Centre of Transformation

In 2017 Thfoin and his team considered three options to scale up the transformation:

- A centralised model, with the CoE at the centre driving the AA transformation
- A federated model, where the CoE would guide the OpCos through the implementation of 'use cases'
- A decentralized model, with a separate CoE for each group subsidiary.

Following intense discussion (see Exhibit 9), the team opted to start with a centralised model while preparing for the federated model, with a core in charge of standardizing the transformation process, defining specific business challenges in the form of flagship, transferable use cases. The Opcos, in turn, would drive the use case implementation end to end (see Exhibit 10).

Scaling up the AACOE with a Diverse Talent Pool

The data analytics team was originally a tiny layer in the organisation. It started with a one-year transformation programme, deployed by a major consulting firm on a BOT ('build-operate-transfer) model, made up of a team of data engineers and data scientists, as well change management experts whose role was to push the idea of transformation. The focus was on reporting and business intelligence to build a narrative around data analytics to educate the board and key executives and running pilots for advanced analytics use cases.

Seven months after the inception of the CoE, the company began recruitment of full-time staff dedicated to the AACOE. Thfoin hired a pool of data analytics talent, so that within two years the AACOE could dispatch data analytics experts to the businesses. Guruprasad Shrinivasen (see Exhibit 11), an early member of the team who ultimately became Head of Analytics for Retail OpCo, described the four skillsets involved, adding an analogy:

- **Data engineers:** responsible for collecting, processing and cleaning the data (making data 'consumable')
- **Business intelligence:** adding information layers to the raw data through derived metrics to better describe and interpret the situation
- **Data analysts:** asking the 'why' questions, testing basic assumptions out of data and describe the business challenge through data visualization
- **Data scientists:** performing advanced investigation, prediction and recommendations

> *"Data is like the ocean. If you want to make drinkable water from it, you need pipes that help transport it, then clean that water and make it drinkable. Data engineering is about piping data to make it readable and consumable. Then comes business intelligence, which adds some information to make data relevant to the business. Information is the context over and above data that is raw content*
>
> *For example, data engineering for Carrefour provides client details (first name, last name, gender, email, mobile, etc.). Business intelligence gives contextual depth to the data. For instance, it reveals customers' gender (80% of customers were female) and nationality (customers spanned 180 nationalities). Once the data was contextualized, our team got curious: How did the gender and nationality ratios change over the last two years?*
>
> *Data scientists solve these why's, applying statistics on top of the data. They are able to give explanation why something happened or what is going to happen based on what happened. In a nutshell, business intelligence is predominantly descriptive, while data analytics is inquisitive and data science is predictive or prescriptive".*

Over 18 months, the AACOE grew to a team of 15 data experts, at which point Thfoin realized he needed experts to facilitate the exchange between the AACOE and the Opcos, people who would directly interact with the business. A new position was created – business partner – who worked directly with the subsidiaries on a daily basis to figure out problems in use cases. Shrinivasen took the position in the Retail Opco (see Exhibit 12).

By the mid 2019 the AACOE team comprised 25 people. MAF's data-driven capabilities were increasingly federated: the BPs (business partners) were moving to become head of analytics within each Opco and soon started to hire data analysts to scale up. The AACOE was repositioned as a strategy hub, responsible for change management. The last step of the transformation, in 2019, was the addition of product management activity, responsible for in-house prototyping and scaling of digital products for the group. A number of operations were outsourced to external partners in India and Ukraine.

By 2020, the AACOE had 33 people spread across data engineering, BI analytics, data science, change and product management (see Exhibit 13). In addition, 100+ people were trained as data and BI users within the Opcos. Outsourced entities counted 70 people. Thfoin explained the evolution:

> *On a very large scale the AACOE represents an ecosystem with a nucleus, external arms, and offshore battalions. It was critical to have resources in the business who are trained by us, and who pushed for change from the business side. We moved from a*

situation where we had to go and tell the businesses: 'Let us help you,' to one where they came to us asking 'Help me and give me more resources'. We changed the demand dynamic for data analytics.

Leveraging Use Cases to Grow Offerings and Optimize Group Operations

A Methodology to Structure the Advanced Analytics Transformation

From 2016, the AACOE was crucial role to understand, create, deliver, communicate, capture and monetize value across the OpCos. The team worked closely with the subsidiaries; every business problem was translated into a specific use case with clear KPIs and a roadmap. They originally tackled two challenges: How to deliver the first wave of impact from the ongoing use cases? How to capture the value created by data analytics not only from a revenue-generating but strategic long-term viewpoint?

The first use cases were specifically designed to tackle business problems that (once solved) would boost profitability. The objective was to show how to use analytics for competitive differentiation, and define clear digital KPIs, as Thfoin explained:

"From the corporate perspective we asked very specific questions. You want to increase your Carrefour web-site conversion rate from 0.5% to 1%. Going backwards from that, at which funnel stage do you see a drop? If you decrease the gap at that stage, let's say from 30% to 10%, your conversion will be increased from 0.5 to 0.8%. From business analysis we moved to the definition of precise KPIs. Internal surveys about our digital knowledge and capabilities had shown that 79% of MAF's senior managers could not articulate digital KPIs. To drive sustainable change, here must be an owner for each major KPI. How to start? First, you show the value of such metrics. Then you implement changes on the organisational level. All the use cases came from that. We used the KPIs to prioritize the use cases. We defined clear impact on business: you know that with a specific metrics increase of 1% you are going to increase your revenues by $1mn. Then we prioritise all things together, in a form of a matrix to be able to see what use cases have the most significant impact."

Use Case Implementation Process

To "go live", a use case required approval from three decision makers at the OpCo level: the CEO, who oversaw the plan to enhance customer experience with data analytics; the COO, who selected and prioritized use cases based on feasibility; the CTO, who had the hands-on task of building a team and scaling a use case

Once approved by OpCo senior management, the use case was given to a specific squad of experts with the skills required across each dimension of the lifecycle, comprised of a business owner (the sponsor of a particular use case), a data engineer, a data scientist, a product developer and a business partner from the AACOE who served as an intermediary between data analysts and the OpCo management. Said Shrinivasen:

> *"The one point of failure when it comes to analytics is that if I give 20 people in the room one problem, each person will solve it in their own way. But this does not serve the cause, because if you want to drive analytics as a culture you need to have a common language for problem solving that allows for the creativity of individuals but you need to have the structure. That's why we created all these life stages."*

Use Case: Assortment Optimization within Carrefour Supermarket Chain

The use case methodology was first tested in the Retail OpCo, the one that generated the most revenue in the MAF group. Assortment optimization within Carrefour was not only a core challenge to address but also a tangible one with a potential impact easy to quantify, as Shrinivasen explained:

> *"Retail business consists of our customers, a product, and an asset to sell these products at a particular price. In the end, it's all about trade. The core of that trade is to have the right products at the right place, time and price. If I don't have it, I will not have the right customers to come and buy."*

Carrefour's main challenge was to address Dubai's cultural diversity and cater to needs of the Emirati, Filipino, Russian, Egyptian, Moroccan, Jordanian, Lebanese, and other ethnic groups which presence and proportion drastically vary across neighbourhoods. Optimizing a product range that suits their tastes was thus critical. With the help of data analytics, the squad aimed to shift Carrefour's assortment from a 'product-centric' approach (*"I stock a set of products that I hope customers will buy"*) to a 'customer centric' approach (*"My merchandising success depends on catering to ethnic needs of the diverse population that shops in a particular area in a specific store"*).

Based on the principle "test fast – fail cheap", the time frame for each stage was limited: three months to end up with a proof of concept in a form of an Excel model, and around four months to bring the concept into the store, adjust the assortment and measure success or failure by metrics (what improved/did not improve due to the changes).

The Business Case: Defining the Initial Data Problem

To decode the business challenge, Shrinivasen's team interviewed Carrefour's management across different functions. This revealed that data was captured as a by-product of running the business rather than a tool to drive sales – and that the systems that captured data did not focus on data consistency and quality; there was no governance criteria for this.

The business case for assortment optimization had to be translated into the language of data: "*How do I automate data capture and get good quality data? How do I remove replicates? How do I treat the outliers in the dataset? Once the data is clean, what insights do I need and will the data I have help me to unlock them? How do I describe the current situation and prescribe the possible solutions?*

Proof of Concept (POC) Stage: A Data Mining Process

Once the problem was defined, the ACCOE team dug into the data. Proof-of-concept was an iterative process for the squad of experts. The business owner articulated the need and the desired result, while the data engineer identified whether the required data was available and whether the problem could be solved by 100% or 80%. The data scientist's role was to present different types of solutions. Finally, the business owner highlighted any constraints and implementation challenges. Each POC stage was thus allocated to a specific expert:

1. Data engineering:

The initial question was to identify the required data and for data engineers to map it (Exhibit 14). The original dataset comprised historical transactions: time periods during which particular products were put on/off promotion; the impact of promotions on sales; the best-selling products, and seasonal products. The second dataset was the customers who bought those products, time of purchase, price and place. The third was about stores: store size, location, shelf size, size of products compatible with the dimensions of a store. Once all data types were identified, data engineers mapped the data and allocated an owner to each data source with clear guidance on how the data was to be fed to the AACOE, at what frequency (daily, hourly level, etc.), and in what format.

2. Business Intelligence:

Here the objective was to interpret the historical trends of data compiled into Excel spreadsheets. From the assortment optimization perspective, they identified the products that were not selling, the customers who bought specific types of products, any sales seasonality or trend towards product performance as well as product switching behaviour within customers among other indicators to decide on which products to replace and what to replace them with to boost performance. They also identified any lack of product range (via market research and competition insights) and analysed external data to decide whether they needed to bring in those products into the range.

3. Data analytics:

Data analysts dug into the underlying reasons and hidden correlations to explain the performance of specific product categories. They addressed questions such as: "*Why did the number of transactions drop when the product X was introduced?*" "*Did we lose customers when we stopped selling a product or did they turn towards an alternative instead*?"

4. Data science:

This was the final layer that helped the squad find a solution for assortment optimization. Shrinivasen illustrated:

> *"If my business intelligence analyst tells me that baby clothes are not doing well, I will make an assumption to remove baby clothes. Then my data analyst will comment: "People who buy baby clothes also buy diapers and milk and organic vegetables because they care about the health of the baby. If baby clothes were removed, we might lose sales in organic vegetables." The question now is for the data scientist: "If*

baby clothes are removed, how much will the store lose from organic vegetables and milk?"

Loyalty data enabled customer tracking. Thanks to a detailed analysis of transactions, the team found correlations between assortment changes with sales of particular products and could link them to a quantified impact on a particular store. The data science gave merchandisers more confidence to remove/add particular items in specific stores.

Within the four months of the POC period, the squad ended up with an assortment optimization model that clearly explained what actions were to be taken to test the impact of introduction and removal of certain products on sales in Carrefour stores.

Pilot Stage: Measuring the Impact

The pilot stage was deployed in a few stores that were different in size, performance as well as customer footprint to test the solution across diverse scenarios. This stage entailed physical change in the product assortment: gradually removing products from the shelves and disposing of remaining stock via clearance (see Exhibit 15). At the end of this exercise, the store signed off that the products were no longer on the shelves and that a stock of new items was prepared. Sales data were tracked from one month after the changes were implemented since it would take some time for 'offline' consumers to recognise and react to the assortment change.

Results of the Carrefour Use Case

The outcome was measured by incremental revenue achieved by implementing assortment changes, with two focal metrics: product movement velocity and loyalty penetration (see Exhibit 16). The first metric assessed switching behaviour and customer spend pre-post assortment changes using data from the loyalty program for fast moving categories (given sufficient data through repeat purchase behaviour). The second metric considered differences in revenue losses from delisted SKUs versus revenue gains from those included for slow moving categories. The target KPI was an incremental increase in revenue of 1.5% to 2%.

Two in-store hurdles were encountered. First, it took more time than predicted to change the assortment in the stores: certain products were delisted but orders were not cancelled and stock was automatically replenished. Second, staff didn't follow product placement guidelines and placed items on the shelves incorrectly. An initial assessment shortly after implementation revealed a negative impact on sales. It was not until this initial impact was further analysed that these operational issues were resolved and the value initially predicted was captured.

Subsequent analysis revealed that assortment optimization at scale (piloted from early 2019) generated $9.5 million in incremental revenue from changes in household and consumer goods categories measured in H2-2019. The target (1-2%) increase in sales was thus successfully achieved. However, as Thfoin explained:

"A use case is not a one-off project, it is a life cycle, it's the way to optimize processes. We moved from an idea to a business case, where we put a high-level estimate: by doing assortment optimization we will increase incremental revenue by 2%. We then moved to a prototype phase before testing a pilot in a few categories. The uplift was in line with our prediction. We got incremental increase in sales of 1.8 - 2.2%. We then

decided to roll it out and scale the product before rebuilding a prototype and went to a new category, new country. We kept rolling and measuring until we knew we were going in the right direction.

From a use case, assortment optimization became a tool for merchandizers to fulfil their day-to-day job: it became a product with its own lifecycle that gets maintained and upgraded. That's how we moved from prototyping to scalable product development."

Consumer-centric Digital Transformation – Going beyond Data Analytics

Henceforth the OpCos started looking into data analytics as a common capability for the group. In addition to building use cases to optimize specific business processes, advanced analytics activities helped instil a data-driven culture across MAF to improve decision-making and the idea that value creation was a *process*. This entailed building and leveraging machine learning tools that helped people do their jobs, either with business intelligence in the form of automated data dashboards and reports; or where machines enhanced human decision-making by suggesting next-best actions; or ultimately via the automation of predictive actions leveraging AI.

In sum, MAF's transformation changed the way data was perceived across the organisation. It had become a common currency to achieve its business goals and a key driver of future growth.

What is Next?

Looking back, Bejjani could see how in 2015, when he began to take took Majid Al Futtaim in the direction of digital transformation, he could never have imagined there would come a time when data-optimized operational models would be the key to the survival of the its biggest revenue-generating business. Today, it was clear that the digital transformation had been vital to retaining its competitive advantage during the pandemic. Bejjani leaned back on his chair and thought about the next steps to strengthen the group's resilience and fully realize the growth potential from the analytics-driven transformation he had initiated. He had one week left to formalize his plan for the coming year and go to the board.

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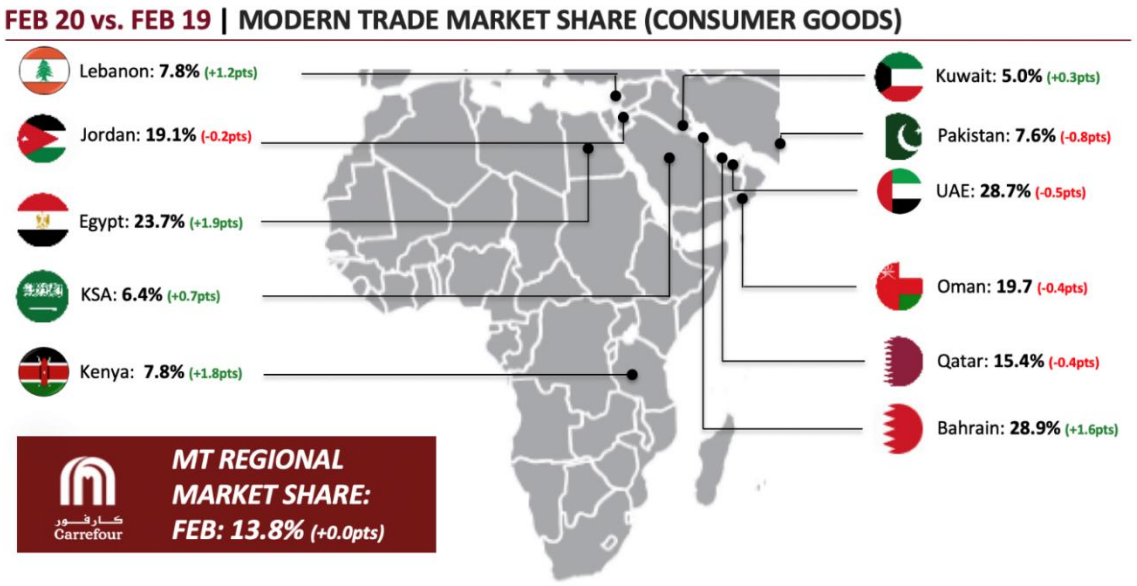
Exhibit 1

Retail in the Middle East – Market Share

Source: Euromonitor



Source: Majid Al Futtaim

Retail in the Middle East

The retail industry in the Middle East is extremely diverse but also extremely concentrated. It offers a huge choice to customers in terms of brands, with most luxury retailers having a presence in the region. At the same time, the industry is concentrated because there are just a handful of companies that are the principals of these brands. Most countries in the region have a small pool of companies, mostly family-owned, that hold the franchisees to the majority of all international brands.

While international brands rule the roost in luxury segments, as we come lower down the value chain, local retailers have greater market shares. In this list, we look to highlight a few of the biggest retail chains in the region. Some have been around for many years—the Alshaya Group was first established in 1890 and employs over 60,000 people. Only conglomerates for which retail is a significant part of their businesses were included.

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Name	Rank	Image	Country	Founded	Countries	Employees
Al Shaya Group	1		Saudi Arabia	1989	17	60,000
Al Futtaim Retail	2		UAE	1930	29	42,000
Majid Al Futtaim	3		UAE	1992	38	48,000
Savola Group	4		Saudi Arabia	1979	30	19,500
Alghanim Industries	5		Kuwait	1932	0	14,000
LuLu Group International	6		UAE	2000	22	50,000
The Chalhoub Group	7		UAE	1955	14	12,000
AlHokair Fashion Retail	8		Saudi Arabia	1990	13	10,000
AZADEA Group	9		Lebanon	1978	13	12,000
Al Tayer Group	10		UAE	1979	6	10,000

Source: https://www.forbesmiddleeast.com/list/the-largest-retail-chains-in-the-middle-east

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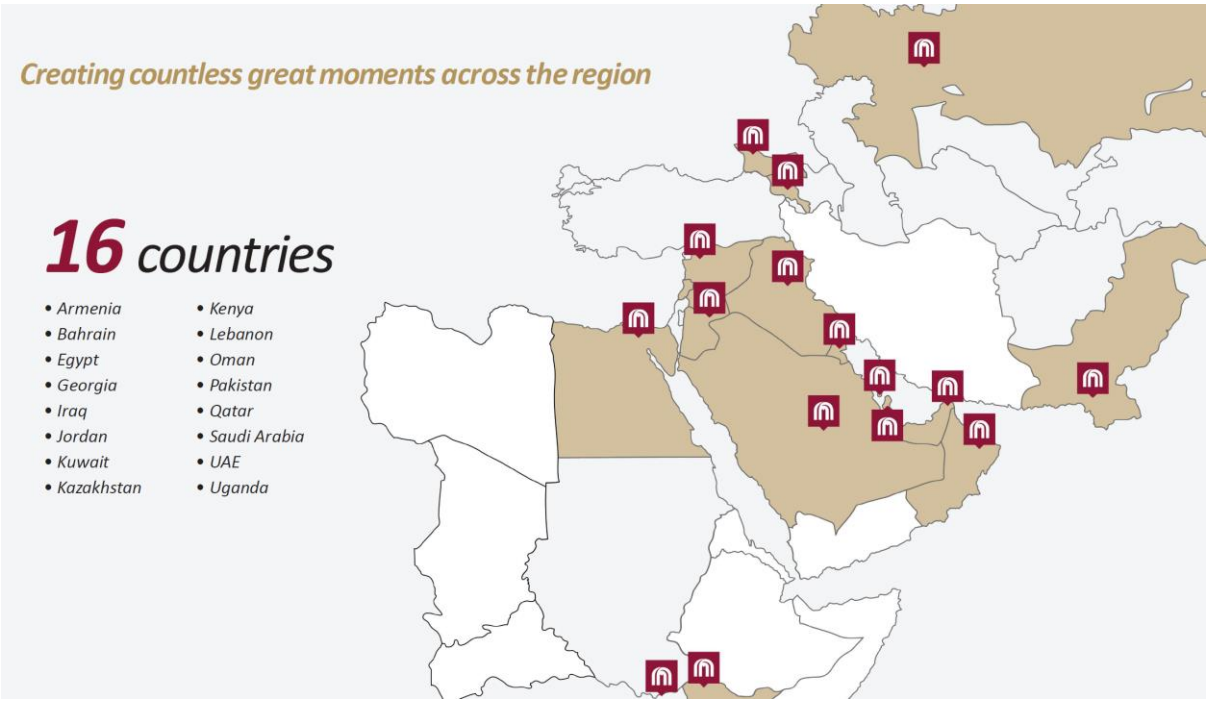
Exhibit 2

MAF Group Structure and Geographical Reach



Advancing the quality of life in the region

FINANCIAL HIGHLIGHTS

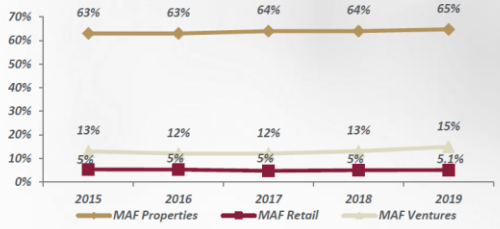
Majid Al Futtaim has a proven track record of delivering strong financial results on the back of an effective growth strategy

MAJID AL FUTTAIM HOLDING LLC CONSOLIDATED FINANCIALS (USDMN)

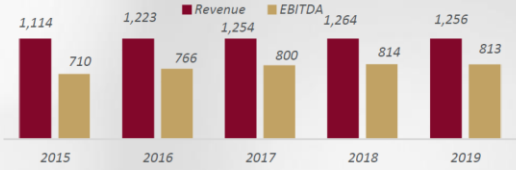
Item	2015	2016	2017	2018	2019
Assets	13,853	14,375	16,081	16,436	17,178
Revenue	7,445	8,128	8,788	9,436	9,573
EBITDA	1,044	1,145	1,152	1,253	1,261

*The Group's ability to combine **capital intensive high margin business (shopping malls)** with **capital light, high volume business (hypermarkets)** allows it to effectively manage its growth.*

EBITDA MARGIN BY ENTITY (%)

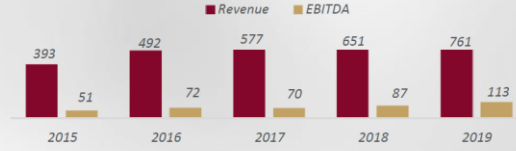


MAJID AL FUTTAIM PROPERTIES (USDmn)



MAJID AL FUTTAIM RETAIL (USDmn)

MAJID AL FUTTAIM VENTURES (USDmn)



Source: Majid Al Futtaim

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Exhibit 3
Alain Bejjani

Alain Bejjani

Chief Executive Officer

Alain Bejjani joined Majid Al Futtaim in 2006 and in his decade at the organization has held a number of critical roles. His career in the Group culminated with his appointment to the CEO position in February 2015.

He has been instrumental in driving a significant transformation of the organizational archetype and operating model of the Group and in setting a common business vision and sense of purpose.

He was also the main 'architect' behind Majid Al Futtaim's corporate rebranding. Mr. Bejjani serves on the Board of Directors for several of Majid Al Futtaim's joint ventures.

Before joining Majid Al Futtaim, Mr. Bejjani was Executive Vice-Chairman of the Investment and Development Authority of Lebanon (IDAL) and a founding partner of legal advisory firm, Bejjani – Melkane – Rached in Lebanon.

Mr. Bejjani holds a Bachelor's Degree in Civil Law and a Master's Degree in Civil and Corporate Law from Paris-Est Créteil.

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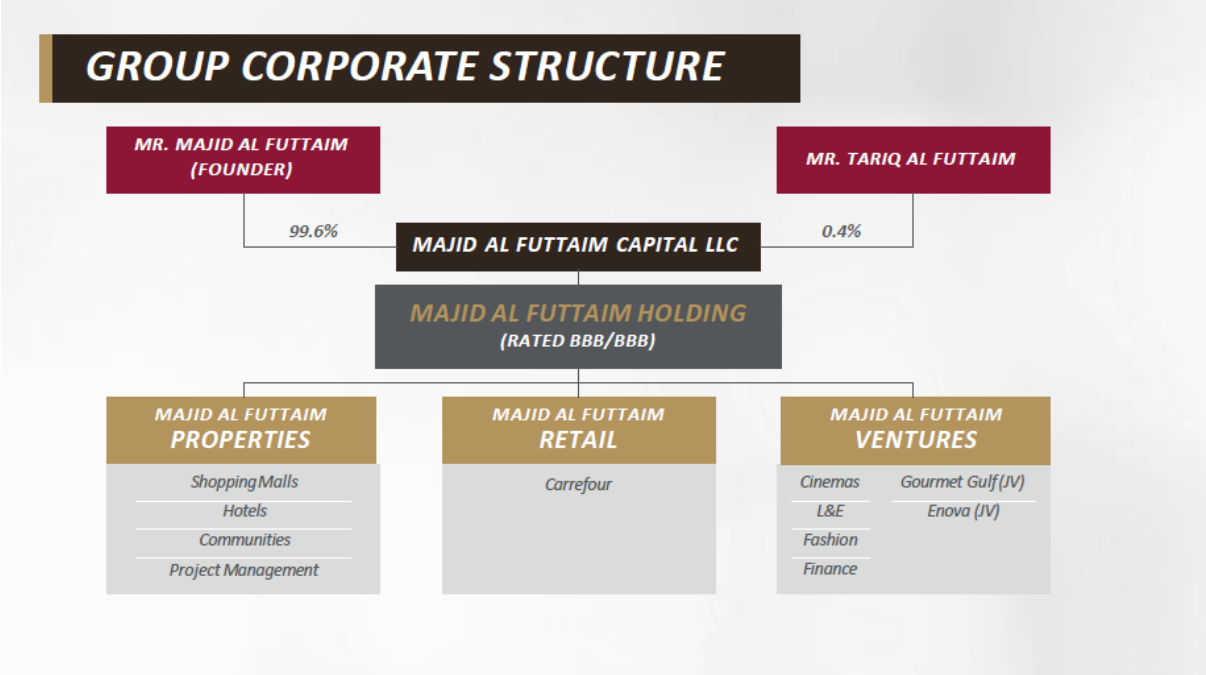
Exhibit 4
Structure of MAF



Source: Majid Al Futtaim

Exhibit 5
Joe Abi Akl

Joe is the Chief Corporate Development Officer at Majid Al Futtaim, the leading shopping mall, retail and leisure pioneer across the Middle East, Africa and Asia. He is responsible for driving corporate and growth strategy, business development, M&A, startup investments, and strategic partnerships, and is a board member of several leading startups. He also oversees advanced analytics, digital and technology for the Group.

Joe holds a multi-disciplinary engineering degree from Telecom Paris Tech and an MBA degree from INSEAD. He brings over 14 years of management consulting and corporate development experience in consumer and technology industries and real estate across the Middle East, S.E. Asia, Europe, and Africa. Former experience with Booz Allen Hamilton, OSN, Nokia Siemens, and Gemalto.

Source: Majid Al Futtaim

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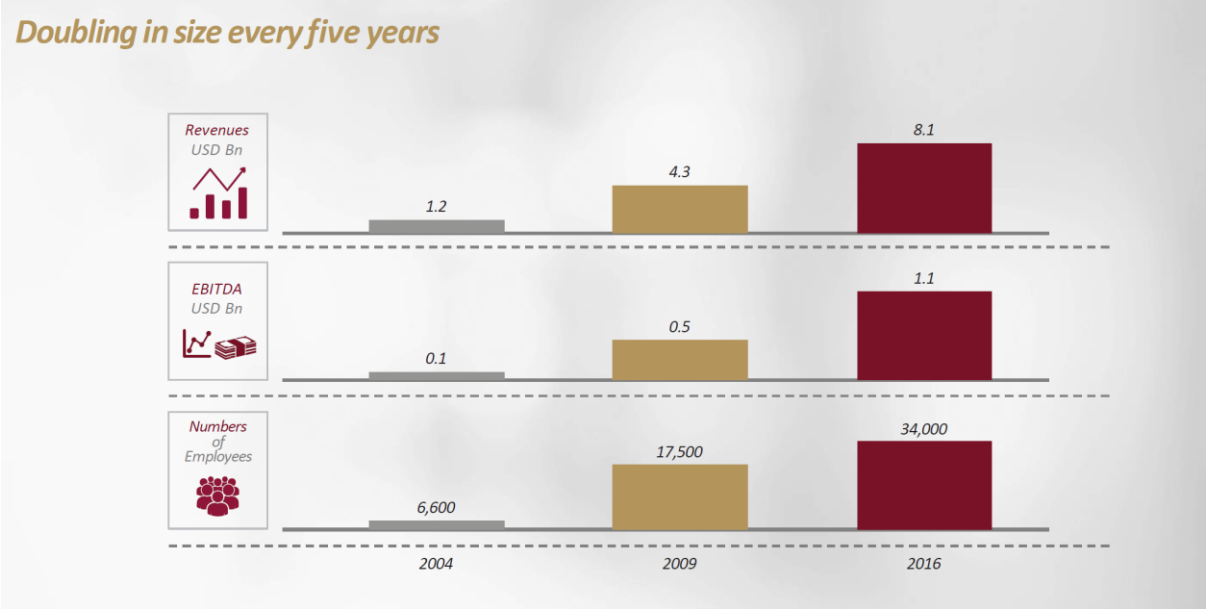
Exhibit 6
MAF Growth



Source: Majid Al Futtaim

Exhibit 7
Guillaume Thfoin

Guillaume Thfoin is Head of Business Analytics at Majid Al Futtaim, the leading shopping mall, communities, retail and leisure pioneer across the Middle East, Africa and Asia. In his role, Guillaume is responsible for driving the company's digital and analytics transformation, leading a team of more than 60 people.

Prior to joining Majid Al Futtaim, Guillaume held multiple roles in major Consumer Packaged Goods companies such as SC Johnson and Kraft Foods, analytics company Nielsen, as well as in pure tech company Yahoo. Prior to joining Majid Al Futtaim, he led product and strategy at Teralytics, a Telecom Big Data Monetization start-up based in Zurich and New York, where he raised USD 25 million from the largest VCs in Europe.

Guillaume is a member of the Dubai Artificial Intelligence Ethics Advisory Board as well as the Master of Analytics and Computer Science Industry Advisory Board for Heriot-Watt University Dubai. He holds Bachelor and Master degrees in Telecoms and Management from the Institut Mines-Telecom Business School, France and has completed an MBA at Université Laval, Canada.

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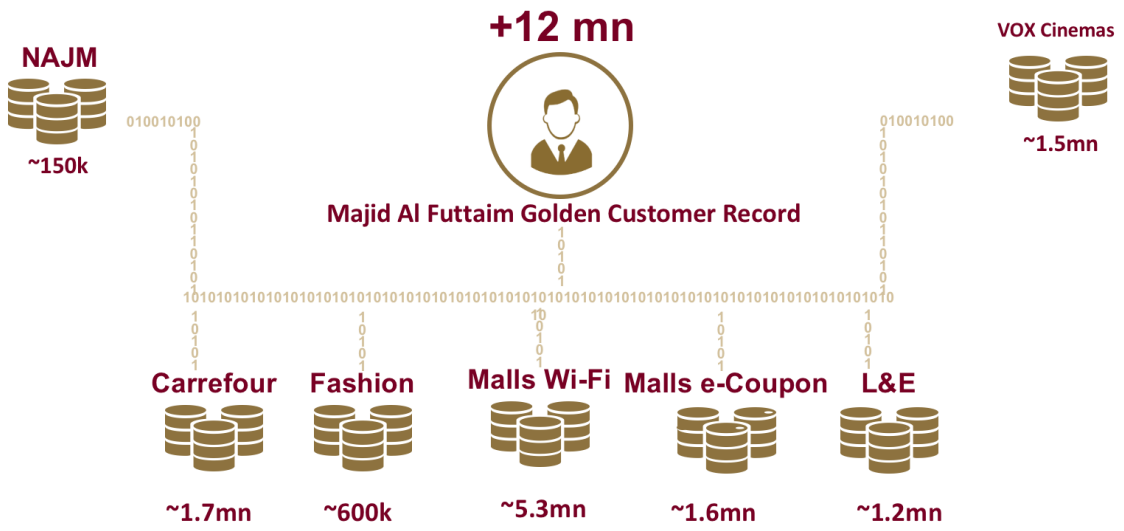
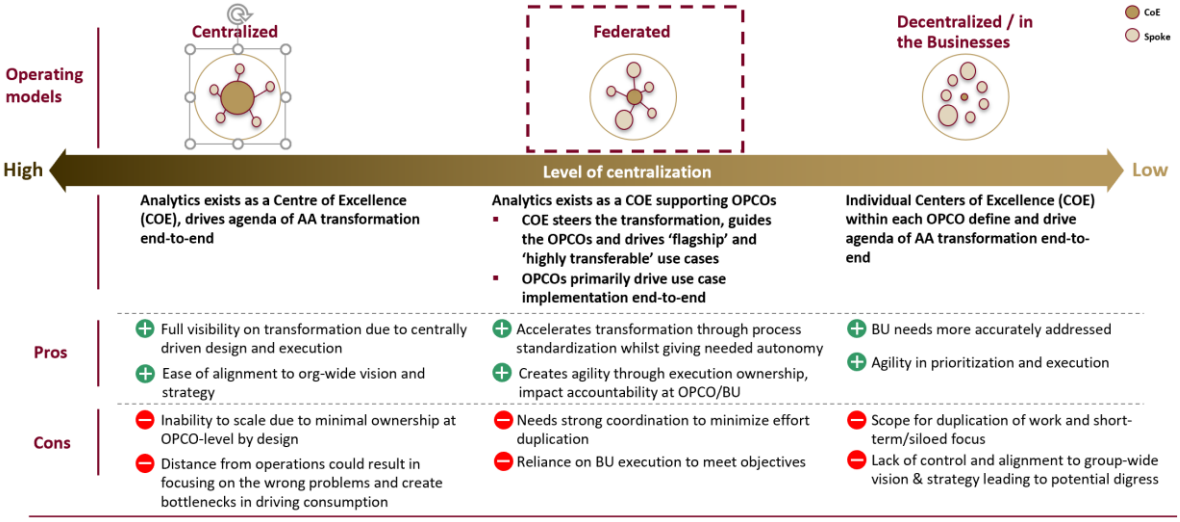
Exhibit 8
Data Collection Touchpoints



Source: Majid Al Futtaim

Exhibit 9
Models of AACOE



Source: Majid Al Futtaim

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Exhibit 10
Division of Responsibilities AACOE/OpCos

COE responsibilities

- Establish **strategic direction**, define **ways-of-working**, **monitor**, and **stimulate** the **OPCO / BUs** with **minimal operational involvement**
- **Selectively support the development of 'flagship' or 'highly transferable' use cases** based on clearly identified qualifying criteria[1], with ownership of implementation held by the OPCO / BU that prioritized the use case on their analytics roadmap
- **Develop the data strategy framework** (including data-governance and data-tech) to enable OPCO / BU analytical needs
- Leverage the School of Analytics & Technology to **build analytical capabilities** throughout the Group

OPCO / BU responsibilities

- Establish **strategic direction for their OPCO / BU**, in-line with the group-wide direction, to drive impact from analytics
- **Own and drive all use case activities** from within the OPCO / BU
- **Define & Implement the data strategy** for their OPCO/BUto enhance the data available group-wide

1 Use cases classified as 'flagship' or 'highly transferable' must qualify one of the following criteria:
- Expected to drive >30% of analytics impact from that OPCO / BU, or
- Expected to be codified and implemented in at least 1 or 2 other OPCOs

Source: Majid Al Futtaim

Exhibit 11
Guruprasad Shrinivasen

Guruprasad Shrinivasen,
Head of Analytics,
Retail Corporate Development, MAF

Guru is currently the acting head of analytics at Retail corporate in charge of driving the overall analytics transformation agenda across multiple decision support pillars – data, business intelligence, analyses and use cases. He brings over 10 years' experience in Data Analytics and Decision Sciences space with previous roles that include: Business Partner lead at Holding Advanced Analytics Center of Excellence to orchestrate the ideation-creation-consumption lifecycles for analytics initiatives across all OPCOs and before MAF, a cross-industry Analytics Consultant to global Fortune 500s playing roles across problem solving, client services, training and business development. Source: Majid Al Futtaim

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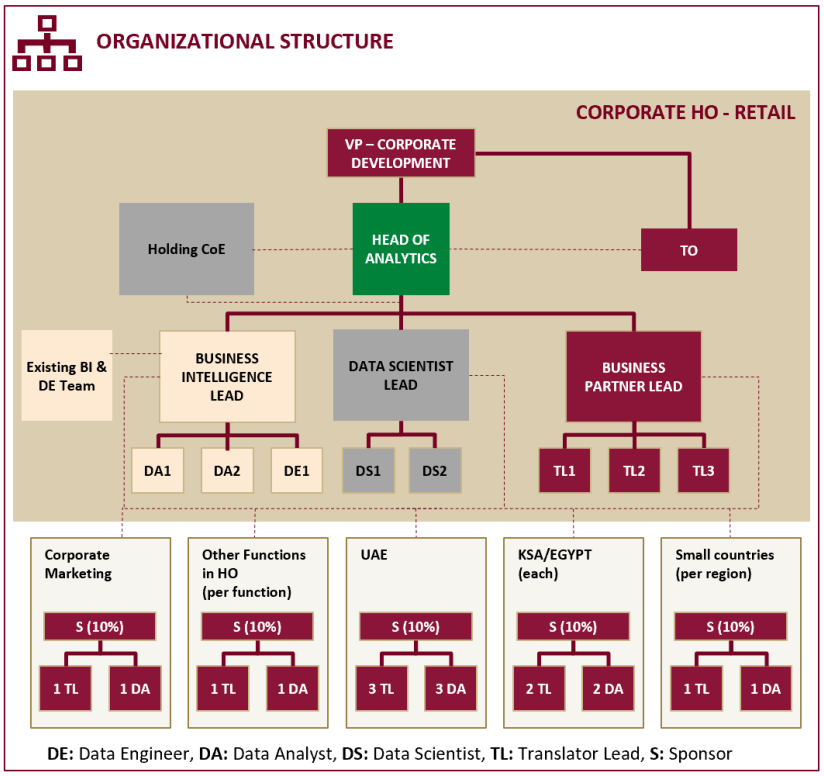
Exhibit 12

Analytics Operating Model for Retail



Source: Majid Al Futtaim

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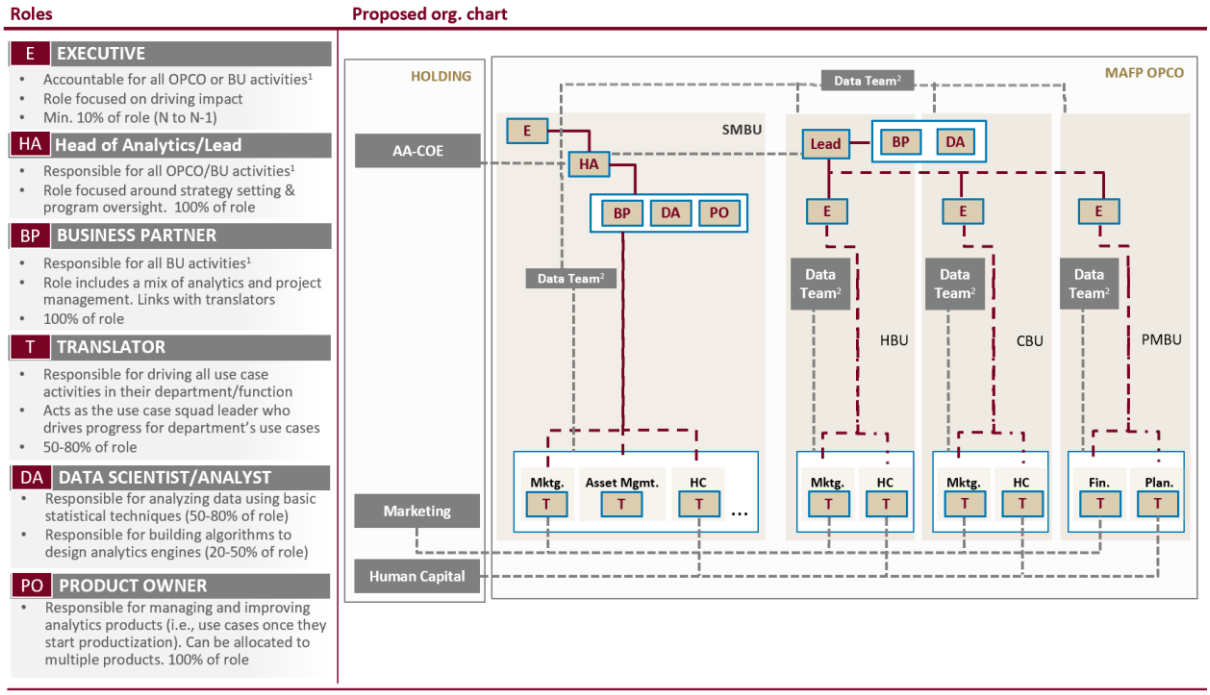
Exhibit 13

Organisational Chart – AACOE/ OpCo Cooperation



Source: Majid Al Futtaim

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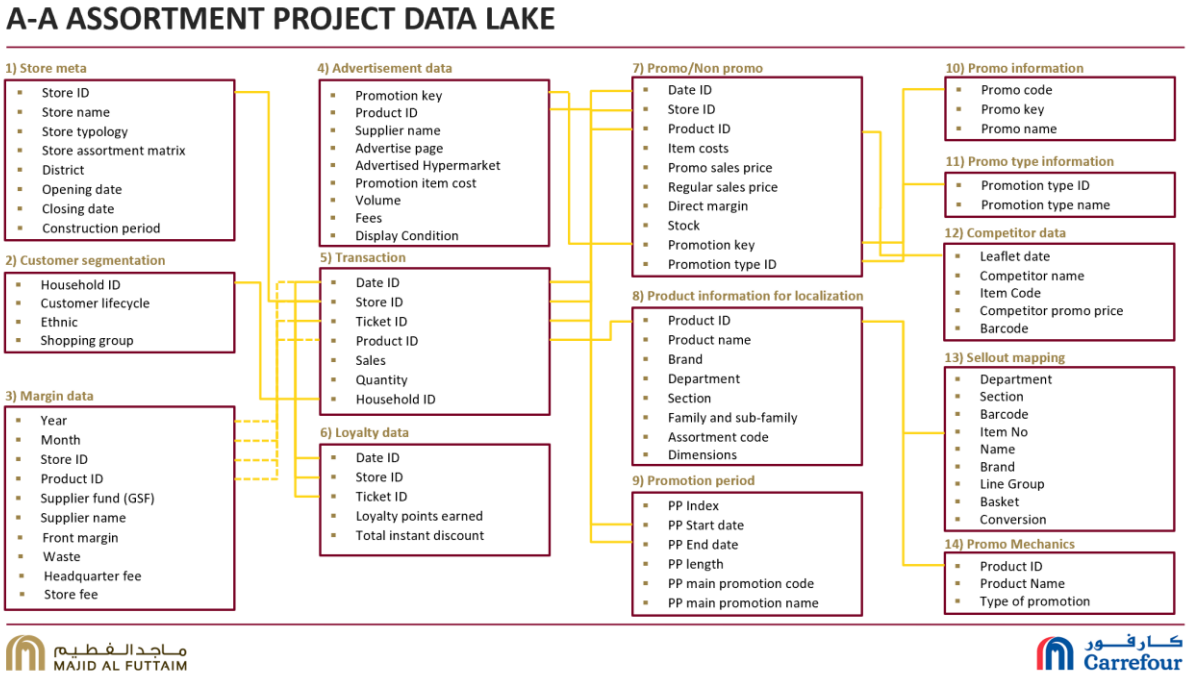
Exhibit 14
Data Mapping



Source: Majid Al Futtaim

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Exhibit 15

Assortment Optimization in Stores

Reduce Outer shelves	Shift Minis to snacking and reduce facings	Enhance specialty, gifting & choco-date visibility
		
▪ **Current**: 2-3 shelves are allocated to outers ▪ **Target**: Free 1 shelf for new listings	▪ **Current**: 3 dedicated blocks for minis despite heavy promo sales ▪ **Target**: Relocate minis to snacking and reduce facings	▪ **Current**: 5 blocks dedicated to specialty and gifting ▪ **Target**: Enhance visibility by dedicating additional 2 blocks

Source: Majid Al Futtaim

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Exhibit 16

Measuring the Impact

Loyalty based approach (customer based)

- Follow loyal customers through their purchases before and post changes and assess their switching behaviour and spend in the category

Bottom up approach (SKU based)

			A		B
Overall sales impact from delisting[1]	=	Revenue lost from de-listing SKUs	⊖	Transferred demand to remaining SKUs	
A Revenue lost from de-listing SKUs	=	Average SWS[2] for delisted SKUs in pilot stores for pre-pilot period	⊗	1 +	Growth in delisted SKUs for control group in post-pilot period
B Transferred demand to remaining SKUs	=	Average SWS for remaining SKUs in pilot stores for pre-pilot period	⊗	Growth in remaining SKUs for pilot stores in post-pilot period ⊖	Growth in remaining SKUs for control group in post-pilot period

- Assess revenue loss from delisted SKUs based on their sales contribution before the pilot and in control group
- Assess revenue gain from the listed SKUs based on their contribution to pilot period

Source: Majid Al Futtaim