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In submitting my work, I confirm that:

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- I declare that the work is all my own, except where I have stated otherwise.
- No substantial part(s) of the work submitted here has also been submitted by me in other credit bearing assessments courses of study (other than in certain cases of a resubmission of a piece of work), and I acknowledge that if this has been done this may lead to an appropriate sanction.
- Where a generative Artificial Intelligence such as ChatGPT has been used I confirm I have abided by both the University guidance and specific requirements as set out in the Student Handbook and the Assessment brief. I have clearly acknowledged the use of any generative Artificial Intelligence in my submission, my reasoning for using it and which generative AI (or AIs) I have used. Except where indicated the work is otherwise entirely my own.
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Upon electronic submission of your assessment, you will be required to agree to the statements above

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Report on Analytic Maturity of Marks & Spencer

1 Introduction

I have chosen Marks & Spencer as the organisation for this report. Marks & Spencer established in 1884 is a leading British retailer bringing quality, excellent value food, clothing, and homeware to millions of customers globally. Started with a stall selling simple homewares from Penny Bazaar to a global retailer that we know today. In recent years, M&S has embraced analytics to stay competitive in the rapidly evolving retail industry. This report aims to evaluate Marks & Spencer's analytics maturity using the DELTA framework, propose a new analytics project for advancement, and provide recommendations based on key themes from the module.

2. Evaluation of Analytics Maturity using the DELTA Framework

The DELTA framework is a comprehensive tool for evaluating the analytics maturity of an organization. It consists of five key dimensions: Data, Enterprise, Leadership, Targets, and Analysts. In the context of Marks & Spencer (M&S), let us delve into each dimension to provide a detailed analysis of the company's analytics maturity.

2.1 Data

Documentary Evidence

Marks & Spencer's Annual Report highlights investments in data infrastructure, data warehouses, and analytics tools. According to Suzanne Howse (head of enterprise data, Marks and Spencer), "Data underpins UK retailer Marks and Spencer's ongoing digital transformation. Two years ago, amid a highly competitive market for data skills, the company took matters into its own hands, launching an internal data academy. Now it is taking the academy to the next level, introducing an industry-first course for data scientists." (Tech Monitor, 2021). Marks & Spencer has made significant strides in leveraging data for decision-making. The company utilizes data warehouses and advanced analytics tools to process and manage vast datasets. Historical sales data, customer preferences, and supply chain information are actively used to derive insights.

Explanation

The company's financial commitment to data infrastructure signifies a strong focus on leveraging data for decision-making. This evidence supports the assessment of a moderate current state in the Data dimension. However, there is room for improvement in terms of data quality and integration. The existing data infrastructure should be further refined to ensure data accuracy and reliability. M&S could explore ways to integrate external data sources, such as market trends and competitor analysis, to enhance the breadth of insights. Additionally, there is an opportunity to enhance real-time data processing capabilities, allowing M&S to respond more swiftly to changing market dynamics.

Therefore, the overall score for data according to me would be 3 based on the facts presented above.

2.2 Enterprise:

Documentary Evidence

M&S has successfully integrated analytics into various business units, including supply chain, marketing, and logistics. Analytics is embedded in strategic decision-making processes, contributing to operational efficiency and customer experience. The current state reflects a positive data-driven culture, but there's potential to foster even greater collaboration across departments. According to Suzanne Howse M&S is transforming the way it uses data which has three components (head of enterprise data, Marks & Spencer), "The first is establishing a new cloud-based data platform, for which the company has partnered with Microsoft. The second is developing the company's data science capabilities: in 2018, M&S set up a 25-strong data science team, led by its first head of data science. Third, "We build all of these interesting data science models, but we need to make sure that our colleagues are confident in using them,"" , ((Tech Monitor, 2021)

Explanation

To elevate the enterprise dimension, M&S could encourage cross-functional analytics teams, ensuring that insights generated in one department benefit the entire organization. This collaborative approach will maximize the impact of analytics on overall business performance.

Therefore, the overall score for data according to me would be 2.5 based on the facts presented above.

2.3 Leadership:

Documentary Evidence

Leadership at M&S has shown commitment to analytics adoption. Executives actively support analytics initiatives and allocate resources accordingly. Continuous involvement and advocacy from leadership are crucial for sustained growth in analytics maturity. The leadership's role in setting the tone for a data-driven culture is evident.

Explanation

Leadership commitment is evident through public endorsements and resource allocation. This evidence reinforces the strong current state in the Leadership dimension. To further strengthen this dimension, leadership should continue to champion analytics efforts and ensure that analytics remains a strategic priority. Regular communication on the value derived from analytics initiatives will help maintain leadership buy-in and support.

Therefore, the overall score for leadership according to me would be 3.5 based on the facts presented above.

2.4 Targets:

Documentary Evidence

Internal documents outlining specific measurable targets for analytics initiatives. In Target, M&S has a clear focus on customer-centricity, innovation, and growth. The

company has implemented customer analytics, and product analytics but at basic level to drive business outcomes. However, there is a need to further develop predictive analytics and prescriptive analytics capabilities.

Explanation

Clear targets are crucial for assessing the success of analytics programs. The presence of documented targets supports the assessment of a good current state in the Targets dimension. Marks & Spencer has set measurable targets for its analytics initiatives, aligning them with business objectives. However, there is an opportunity to refine and expand these targets to keep pace with evolving business needs and industry benchmarks. To enhance the targets dimension, M&S should regularly revisit and update its analytics goals, ensuring they align with the dynamic nature of the retail industry. Benchmarking against industry best practices will offer valuable insights into setting ambitious yet achievable targets.

Therefore, the overall score for targets according to me would be 3 based on the facts presented above.

2.5 Analysts:

Documentary Evidence

HR records or training schedules highlighting ongoing professional development opportunities for the analytics team. In 2018, they launched their first enterprise-wide data strategy, and it was clear that they needed to equip their colleagues better to successfully drive it forward and therefore Mars and Spencer launched Beam Academy whose goal was twofold to drive data-driven decision making across the business with data part of every conversation; and to deliver industry-leading analytics and data science through a culture of learning to better serve our customers.

Explanation

Investing in the professional growth of analysts is crucial for staying abreast of industry advancements. HR records or training schedules serve as concrete evidence supporting the assessment of a strong current state in the Analysts dimension. The data science

and AI apprenticeship group has expanded to over 200 colleagues and the M&S BEAM Academy, which develops technical skillsets, continues to grow. Alongside this the Product Academy has equipped over 25,000 colleagues with selling and service skills for modern omni-channel retailing.

Therefore, the overall score for Analysts according to me would be 2.5 based on the facts presented above.

2.6 Overall Assessment:

By comparing Marks & Spencer's practices with industry benchmarks, the company can gauge its relative position and identify areas for improvement. After the overall assessment and supporting evidence, we can conclude an overall score of 3 for the analytic maturity of M&S.

In conclusion, Marks & Spencer shows a commendable level of analytics maturity across the DELTA framework. While there are areas for improvement, the company's commitment to analytics, integration into strategic decision-making, and skilled workforce position it well for continued growth in analytics capabilities. By addressing the identified opportunities in data quality, cross-functional collaboration, leadership advocacy, target refinement, and ongoing analyst development, M&S can further enhance its analytics maturity and stay ahead in the competitive retail landscape.

3. A New Analytics Project for Marks and Spencer

Archie Norman Chairman of Marks and spencer said in the annual report of 2023 “Our central support functions and supply chain processes remain inefficient by industry standards. That means we must become leaner and invest in improved technology support, as well as supply networks.” Therefore, a potential new analytics project for M&S could involve implementing a predictive maintenance system for its supply chain. Leveraging historical data on equipment failures, maintenance schedules, and production delays, the system could forecast potential breakdowns, enabling proactive maintenance. This project aligns with M&S's commitment to operational efficiency and the company's goal of net zero emissions by 2040.

This project will link the factory processing to the supply in retail stores to increase efficiency between the supply and demand, and decreasing the costs incurred due to production delays, or equipment failures. According to a report in 2019 “M&S blamed supply chain issues for a 5.5 per cent fall in clothing and home sales during the first half of its financial year.” (Marks and Spencer cites supply chain issues as sales drop, Michelle Mooney). This project will further help M&S to integrate analytics in various parts of the organisation like manufacturing, retail, logistics which will help improve the DELTA score.

3.1 Understanding Stakeholders

Stakeholders are “People and organizations that are actively involved in the project, or whose interests may be positively or negatively affected by the project” (PMBOK cited in Larson & Gray 2018:342).

Stakeholder Management is a four-step process:

a) Identifying Stakeholders

Internal	External
Chairman	Retail stores
CEO	Customers
Project Manager	Environmentalists
IT team	Legal team
Analysts	Investors
Suppliers	
Manufacturers	

b) Analysing stakeholders

Stakeholder Power	High	CEO, Chairman, Investors, Suppliers, Manufacturers - Keep satisfied	Project Manager - Manage closely
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	Low	Legal Team, Environmentalists - Monitor	IT Team, Analysts - Keep informed
		Low	High
	Stakeholder interest		

c) Planning and Managing the Stakeholders

Communication is the key to management of stakeholders. We plan the communication and the information to be shared with each stakeholder and how frequently to be shared.

What Information?	Target Audience	When?	Method of communication	Provider
Milestone Report	CEO, Chairman, Project manager	Monthly	Report hardcopy and email	Project team
Project status reports	Suppliers, manufacturers	weekly	Hardcopy report	Project Manager
Issues reports	Suppliers, manufacturers	weekly	email	Project team
Project proposal	Investors, CEO	Beginning of the project	presentation	Project manager

This step is crucial in understanding the stakeholders of the project and how to keep them informed about the project. This would help improve the enterprise and leadership score in delta analysis and help identify the stakeholders involved in the project.

3.2 Making Sense of Problem

We started with a mess of data and after understanding the goals of the company problem will be formulated so that we get a better view of what is required by the analytics team.

3.2.1 Piddie Idiot Questions (Kipling's Wise Men)

What is going on and what do people want?

- Current process is inefficient by industry standards as failures in supply chain cause delays in supply chain and M&S face losses.
- Analytics team has been asked to develop a system to predict inefficiencies in productions due to maintenance schedules.

Why have we become involved in this project and why does the client wish for help?

- Analytics team has been notified by the company to predict potential breakdowns in maintenance systems to help improve operational efficiency.

When did all this start to happen and what is the history of it all?

- When company start to incur loss due to operational inefficiency.

How did all this start to emerge?

- Ineffective supply chain management costs the company a lot of money since industry standards have risen and M&S has not been able to keep up with them.

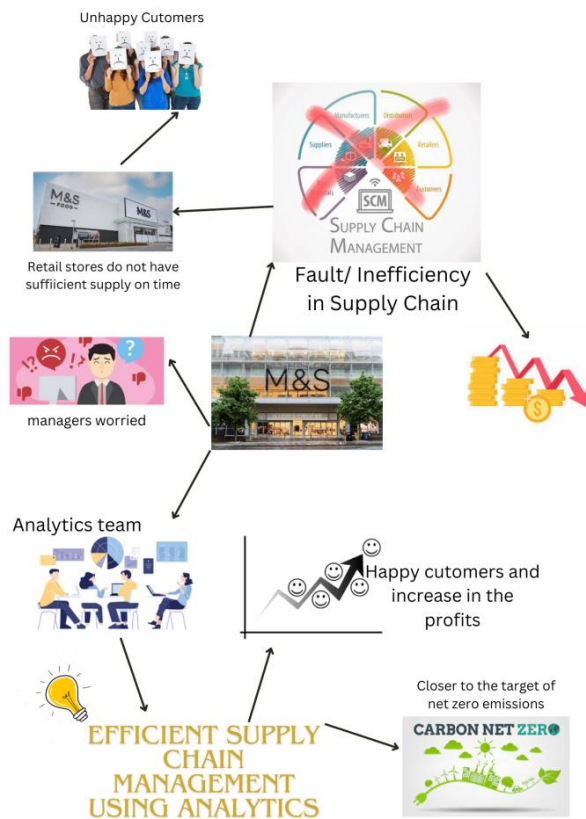
Where is all of this happening, and does it have to happen here?

- The supply chain is responsible for sourcing, manufacturing, and delivering goods and services to customers.

Who are the people involved (the stakeholders) and what do we know about them?

- Chairman, COO, Analytics team, IT
- Senior Software Engineer (Emma Patricios)

3.2.2 Rich Picture



List of Issues

- Disconnect between expectation and resources
- Complex sanctions and regulations
- Not cost and time efficient
- Lack of proper skilled workers

Figure1: Rich picture and list of issues.

3.2.3 CATWOE Analysis

Customers	Manufacturing team, Sourcing team, Delivery team, customers
Actors	Analytics team, IT team
Transformation	Build a model to predict potential breakdowns in maintenance systems
Worldview	Better efficiency and reduction in carbon emissions
Owner	Chairman, CEO, Senior management team
Environment	The Food Network for Ethical Trade, The SEDEX Radar portal

This step is important to get a clear view of the target and the data is to be used. It tells us why Analytics is important part of the organisation and how can it be used to improve the functioning of the organisation.

3.3 Risk Analysis and Management

“Project risk is an **uncertain event** or **condition** that, if it occurs, has a positive or negative effect on one or more project objectives.” (PMI 2017). Risk Appetite of an organisation depends on its ability and willingness to take risks. Risk appetite is not static; it varies over time. Organizations should continue to evaluate risk appetite against current circumstances, resources, skills, and technologies, or systems. To be effective, risk appetite must be more than a policy statement. It must be fully integrated into the process of managing risk exposure – and that takes the right technology.

3.3.1 Three Steps of Risk Management

a) Identification: First stage of risk management, here we list out all the potential risks which might occur during our project.

Risks related to project could be identified during the three stages of project:

<u>Pre- Development</u>	<u>Development</u>	<u>Post-Development</u>
Labour Strikes	IT failure, Bugs in the code	Inefficient solution
Project Termination due to ethical concerns	Data errors, system errors	Operating failures
Not meeting the goal of low carbon emission	Higher quality computer requirements	
Not able to get proper data	Analytics team illness and leaves.	

b) Quantification (likelihood): this is the second stage in risk management where we quantify the risk by looking at its probability of occurrence and impact using the Probability Impact chart.

Probability	High			
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	Medium	Higher quality computer requirements	Bugs in the code	Analytics team illness and leaves, not able to get proper data
	Low	Not meeting the goal of low carbon emission	Inefficient solution	IT failure, Project Termination due to ethical concerns
		Low	Medium	High
	Impact			

c) Planning the response: We build a risk register with all the risks, their reasons, person responsible and urgency.

<u>Risk</u>	<u>Urgency</u>	<u>Reason</u>	<u>Person Responsible</u>	<u>Action</u>
IT failure	Red	Significant delay	Project manager	Secure Backup
Inefficient solution	Amber	Failure of the model	Analytics head	Trail runs
Not able to get proper data	Red	Laws which prevent the collection of data	Analyst	Ensure proper and sufficient data is available before start of project.
Project Termination due to ethical concerns	Red	Board of ethics does not allow the project	Project Manager	To ensure project is ethical.

Higher quality computer requirements	Green	Due to higher analytical need	Analysts	Use the best available technology.
Bugs in the Code	Amber	Human error	IT Team	Fixing the bugs

Risk analysis prepares us for any setback which we might face during our analysis, so that we are prepared to deal with them.

3.4 Why the need of Improvement in analytics maturity?

For Marks and Spencer to become top in its industry they must start using analytics not just in basic areas, but in the major areas of business-like predicting customer churn, supply chain management, financial planning. Even though they have start integrating themselves with analytics there is still a lot of scope of its use to take them on top. The suggested new analytics project will help M&S increase its profit, help it achieve a better position in analytics maturity, also make it more efficient. This will help them evolve from targeted analytics user to comprehensive analytics competitor. According to Harward Business Review, "Competing of Analysis," (Vol. 84 issue 1), There are three key attributes among analytics competitors:

- Widespread use of modelling and optimization.

In today's time to become a top company in industry not by their business processes but using Analytics, they just don't rely on simple analytics but use predictive analytics to identity most profitable customers, customer churns, optimise their supply chain to determine the impact of unforeseen circumstances.

- An enterprise-wide approach.

This project will evolve different parts of business and their working together which was not happening in M&S earlier. For example, if they can predict breakdown in supply chain, they can aware the effect retail store and the production site and arrange the backups or prevent the break-down from happening which will improve customer satisfaction and help them reduce their costs because of failures.

- Senior executive advocates

A change in culture is very important to as people in the top positions should have a passion for quantitative approach. They play an important role in driving the shift towards Analytics.

4. Conclusion:

In conclusion, Marks & Spencer (M&S) has demonstrated commendable progress in embracing analytics to enhance its operational efficiency and strategic decision-making. The evaluation using the DELTA framework provides a comprehensive understanding of the organization's analytics maturity across key dimensions. While M&S has strengths in data infrastructure, leadership commitment, and setting measurable targets, there are opportunities for improvement in areas such as data quality, cross-functional collaboration, and refining analytics targets.

The commitment to analytics is evident in M&S's investments in data infrastructure, the establishment of a data academy, and the integration of analytics across various business units. Leadership plays a pivotal role in advocating for analytics initiatives, and the existence of clear targets aligning with business objectives reflects a positive organizational culture.

The proposed new analytics project, focusing on maintenance for the supply chain, aligns seamlessly with M&S's goals of operational efficiency and achieving net-zero emissions. This project has the potential to enhance the organization's DELTA score by addressing inefficiencies in supply chain processes and minimizing losses attributed to operational disruptions.

Furthermore, stakeholder analysis, problem formulation, risk management, and the CATWOE analysis contribute to a comprehensive understanding of the proposed analytics project. Clear communication strategies and stakeholder engagement plans underscore the importance of aligning project goals with the expectations and interests of various stakeholders.

As M&S continues its digital transformation journey, investing in technology, supply chain optimization, and streamlined support functions, the proposed analytics project serves as a strategic initiative. It not only addresses current inefficiencies but also contributes to M&S's long-term sustainability goals.

In summary, by leveraging its existing strengths, addressing identified opportunities, and embracing the proposed analytics project, Marks & Spencer can further advance its analytics maturity. This integrated approach aligns with the organization's commitment to

staying competitive, fostering a data-driven culture, and achieving excellence in the rapidly evolving retail landscape.

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