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Data-Driven Marketing: Impacting a Revolution in the Marketing Industry

Using data-driven marketing to improve profitability

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<p>Living in a digitised global community induces a combination of instantaneous connectivity with accessible data. Unbeknownst to the consumers who have thrived from data solutions, data analytics on a more advanced level succeeds the digital marketing trend. Marketers with a competitive edge now use the evolved data-driven marketing.</p> <p>The purpose of this thesis is to highlight this revolutionary change and its effect on industry identity, how marketers operate, and whether this adaptation of marketing teams combined with data science, specifically IT utilising analytics, improve customer experience (CX) optimisation.</p> <p>This study consisted of exploratory research so analyses were made with qualitative methods in the form of primary data consisting of three interviews surrounding the topics of: executive decision-making, the marketing process and customer journey, and data analytics with its relation to CX optimisation and investment metrics. Further case studies relied on a semi-structured framework of primary sources and secondary data to validate the research. One of the respondents is a chief commercial officer (CCO) with over ten years of marketing experience and education while the other two respondents are highly educated in computational physics and data analytics with one being a chief science officer (CSO) and other being a senior data scientist.</p> <p>Results further prove that this approach narrowed the scope of decision-making to utilise data analytics to realign marketing investments appropriately. In doing so, marketing decisions have a lower risk factor with marketing investment management and a higher quality of performance measurements from previously analysed marketing campaigns. It is recommended by the author that to enhance the marketing impact, trial demonstrations of analytic solutions to business-to-business (B2B) leads would increase satisfaction, speed up the process of sales funnelling, and lead to product purchasing much faster. Also, adhering to a pricing strategy that is subscription-based would provide a more concrete continuous service as opposed to consultancy projects. The accumulation of these facets would increase the chance of improving the customer experience.</p>	
Keywords	Data-driven marketing; customer experience; data analytics; measurement; impact

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List of abbreviations

AI	Artificial Intelligence. Computer science that is focused on <i>intelligent</i> machines that work and react like humans.
B2B	Business-to-Business. Marketing that is directed at other businesses.
B2C	Business-to-Consumer. Marketing that is directed at consumers.
BoFu	Bottom of the Funnel. Also known as the <i>Decision Stage</i> , BoFu is the bottom of the sales funnel. The buyer has recognised their problem, found a solution, and is ready to purchase a product or service. The company has narrowed down the audience to these buyers and the content showcases this product or service that will help the sales team close the deal with them.
CE	Customer Equity. The accumulation of a company's customer base (value, brand, and retention equity).
CPL	Cost Per Lead. An advertising pricing model where the advertiser pays for explicit sign-ups from a consumer interested in an advert.
CR	Conversion Rate. A percentage of people who completed a desired action on a single website. A high conversion rate means that your website is performing well while a low conversion rate means that it is performing poorly.
CRM	Customer relationship management. An approach to manage a company's interactions, data, and relationship throughout the customer journey.
CX	Customer experience. The overall interactions between an organisation or entity and consumer over the duration of their relationship. See Chapter 2.2: 'Customer experience' for more.
F2F	Face-to-Face. An interaction that is normally conducted in person as opposed to interacting via (electronic) mediator.

IPO	Input-Output Model. A model used for identifying the functions that process the inputs and outputs of a given matrix.
IT	Information Technology. Virtually anything and everything relating to computing technology.
KPI	Key Performance Indicator. A form of measurement to track the performance and progress of an objective.
MMM	Marketing Mix Model. A technique of variations of marketing tactics used to optimise a marketing strategy.
MarTech	Marketing Technology. Technology that is utilised by marketers to facilitate and carry out marketing activities for the purpose of working more effectively.
ML	Machine Learning. A scientific study using algorithms and statistics to develop and improve computer programming experiences via AI.
Modelling	Representation of a system or practice to assist the user in quantifying certain actions and executions.
MoFu	Middle of the Funnel. Also known as the <i>Consideration Stage</i> , MoFu is the middle of the sales funnel. Content has a focus on who their target audience is, establishing the buyer persona criteria while offering moderate value (solutions that they are looking for). This stage usually picks up lead generation.
OKR	Objective Key Result. Depicted as a strategic framework for identifying a goal and one or more specific metrics used to track the performance and achieve it.
ROMI	Return on Marketing Investment. A trending sub-metric that is highly favoured by marketing directors because it reveals the overall effectiveness of a marketing activity. The formula for ROMI is to subtract the marketing investment by the incremental sales and divide that total by the marketing investment.

SaaS	Software as a Service. A software technology that is sold by a company to provide services. Accessibility to this software distribution model can be via subscription on a cloud base.
SEM	Search Engine Marketing. Internet-based marketing that assists in increasing visibility in search engine result pages via paid advertising.
SEO	Search Engine Optimisation. A sub-set of SEM services, SEO is the process of increasing the quality and quantity of traffic to a specific website through organic search engine results.
SKU	Stock Keep Unit. A type of item for sale. This unit can be tracked for inventory, help figure out the lead-time on products, and value sales data.
SMART	Specific, Measurable, Attainable, Relevant, & Time-bound. This acronym is a guide to help create a setting for development in project management, strategic planning, development, etc.
ROI	Return on Investment. A metric that illustrates the efficiency of an investment relative to the efficiency of different investments. The basic formula for ROI is subtracting the cost of an investment by the current value of the investment, then dividing the total by the cost of the investment.
ToFu	Top of the Funnel. Also known as the <i>Awareness Stage</i> , ToFu is the top of the sales funnel. The content contains the widest audience because it is the most general. It is the lowest value, which is least ready to convert but, illuminates the audience of the company's interests.
TRP	Target Rating Point. A percentage of a company's target audience that views commercials or advertisements.
UI	User interface. The front dashboard from which the user can interact with the computer system/software

1 Introduction

1.1 Topic and objectives of study

Innovative solutions in a global community have shifted market dominance from companies and sellers to consumers and buyers. This unpredictable nature in buying behaviour incentivises that the wants and needs of the consumer mandate profitability in a global economy (Bloching, et al. 2012: 131-134). This 'new age' market strategy would parallel with the growing availability of technology and information in the digital age; however, it would be presumptuous to imply that the seemingly instantaneous marketing communications would match with profitable business goals. Business-to-business (B2B) relationships and the value proposition which they aim to achieve may still be a work in progress. Then it stands to reason that improving marketing efforts to adapt B2B in a consumer-dominated market would encapsulate a customer-centric strategy. (Louth, 2966).

Looking toward productivity and marketing efficiency, technological advancements would not preclude marketers from remaining stagnant, but take risk factors in marketing investment management (MIM). To base their marketing decisions accurately from the appropriate metrics, another level of investment and strategic thinking is needed in the marketing process to properly analyse their strategy (Powell, 2003). The usage of data analytics and collecting and measuring big data is a relatively new concept and can be seen as a current trend in digital marketing, however, to veterans in the marketing industry who have an adaptive growth mindset, it is the pioneering age of data-driven marketing (Grossberg, 2016).

By adopting a growth mindset and observing each stage of the customer journey, the challenge begins to form in places where MIM can possibly be optimised, and if so, determine the results as a level of impact unique to the marketing strategy or revolutionised in a data-driven society. As a reintroduction to return on marketing investment (ROMI), originally taking popularity in its infancy during the 1970s along with the "widespread use of ROI to measure firm and strategic business unit (SBU) profitability" (Farris 2015: 269), data analytics are able to assess to improve marketing productivity with a better precision by measuring ROMI (Farris, et al. 2015).

1.2 Scope & structure

The aim of this thesis is to study the developmental stages of digital marketing and determine whether marketing teams can combine creativity with data science to improve the customer experience (CX). Gaining insight on current marketing decision-models and understanding the core of data science which utilises analytics to measure ROMI would act as a catalyst for improving CX optimisation. As the latter part of study will suggest, CX optimisation will occur from large business impacts that derive from marketing activity reallocation.

The criteria for this thesis consist the following: (1) Introduction – summarising the research topic its objectives, its focus, significance to the reader's interest. (2) Literature Review – existing knowledge relevant to the focus of the study so that the reader can grasp an understanding of the research topic and build context around the researching findings. (3) Methodology – also known as research design, methodology gains insight for the reader of the procedures conducted to discover the research findings. (4) Results – collected and analysed information that was conducted from primary research with secondary sources to boost validation within a narrative format, results contain practical knowledge and case studies from the literature review. (5) Discussion – encapsulating the research findings and forming an evaluation of the research topic.

2 Literature Review

To understand the impact of technology and the accessible wealth of data that aids the marketing process, it is important to review the basic marketing theories, practices, and defining stages that parallel with innovative solutions of technological advancement for the benefit of customer experience (CX) optimisation. With a growing economy and increasing demand in global (consumer dominated) markets (Louth, 1966), successful companies have adapted their marketing strategies for the purpose of creating a sustainable competitive advantage. This sustainable competitive advantage is the footnote in innovation, inspiration for growth [in the private sector] and drive for maximising business goals (Kanagal, 2018). For a company to improve upon expanding their business goals, current marketing trends (MarTech) relating to long-term profitability have shown to have more customer-centric valuations that help marketers identify methods for aligning themselves with the right customer. As such, successful marketers that have

virtually always been on the cusp of what is trending have identified the trending paradigm as technology-driven marketing that supports the infrastructure of customer-centricity (Shah et al. 2006: 115).

In business-to-business (B2B) markets, where a company's marketing strategy is structured to target other businesses as customers, technology that supports customer centricity would publicise organisational culture of transparency and impact financial measurement and marketing processes. And as the cornerstone of all business, financial metrics facilitate a heavy weight of importance for any change, so technological applications improving accuracy of financial metrics that would aid decision-making would potentially be seen as an investment for financial impact (Shah et al. 2006: 188). B2B innovations in a digitised world would consist of value-based selling with the main drive behind it being the implementation of data.

2.1 Sustainable prospects through marketing processes

As an activity or set of processes, marketing acts as a prism to better connect an entity with its customers, clients, partners, and audience. These activities can be seen by creating, communicating, and exchanging offerings to provide or improve value for their target (AMA, 2020). Marketing strategies that not only adhere to product, promotion, price, and placement, but also to the perceptions of the players who interact with these marketing activities. This means that by having a company that strengthens their marketing processes and communication methods, marketers can opt for meeting the needs of the customer at a profit (Louth, 1966).

As illustrated in Figure 1, the customer is at the heart of the managing marketing strategies, creating customer value and building profitable customer relationships. As Kotler & Armstrong (2012: 48) illustrates, the layers that encircle each other are processes that strengthen the inner models and consequently achieve profitable relationships that align the needs of the targeted customer and value proposition.

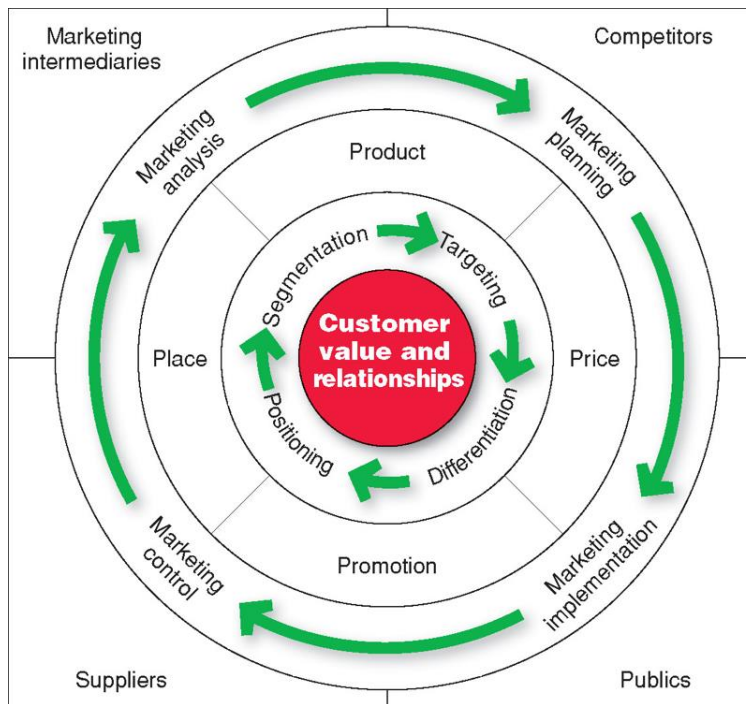


Figure 1: Customer-driven marketing strategy (Kotler & Armstrong, 2012: 48).

By aligning these marketing goals with the customer journey (see Chapter 2.2.1), marketers can adapt and refine their marketing strategies and decision-making to nurture leads, personalise their experience, and optimise customer satisfaction. Through customer satisfaction and retention, executives can then calculate decisions for further growth.

So, as marketing is in a constant state of adaptation, evolving to increase inhouse efficiency, these marketing strategies are always under development and are questioned regularly in order to help maintain a competitive advantage and continually optimise customer value. By addressing specific marketing methods that have been affected by current marketing trends, case study analysis can detect a positive or negative impact on the customer.

2.1.1 Marketing decision-making

When implementing a course of action for company growth, very important decisions need to take place that depend on the future of the company. The steps that follow consist of the decision-making process that every leader uses and repeats as a cycle to ensure that the decision they made created the best possible outcome.

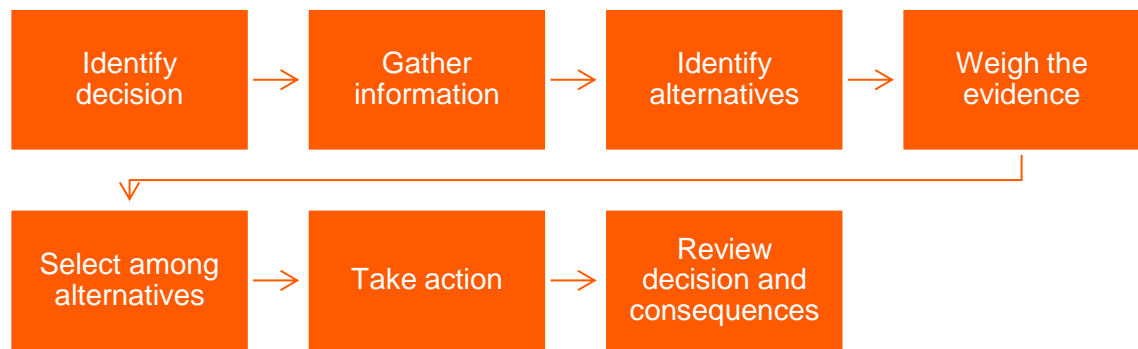


Figure 2: The decision-making process (Dartmouth, 2020).

When it comes to marketing decisions, models are built to categorise marketing planning and operations. The two categories are strategic and tactical marketing. Strategic marketing and the decisions behind it are focussed on an innovative approach that dive into achieving the goals of the company. This can be from changing the pricing model of an organisation to adjusting the marketing mix model (MMM) (Kotler, 1970:139-140). Tactical marketing and the decisions behind it are the detailed operations that work to achieve the strategic goals (Kotler, 1970:139-140). As strategic decisions build the models to achieve company success, tactical decisions operate marketing activities to promote strategic actions. A core marketing system model charting the areas where strategic and tactical decisions are made within the market is listed below in Figure 3.

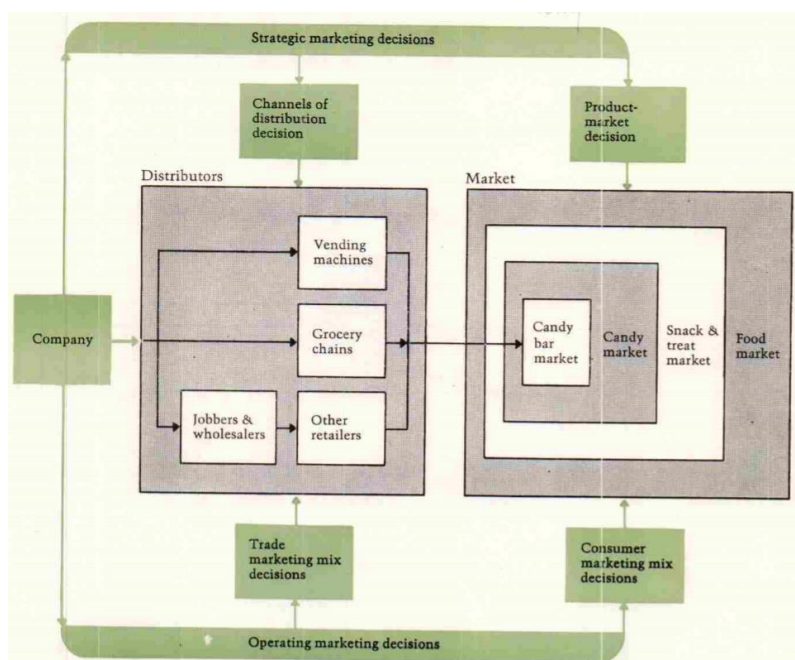


Figure 3: Core marketing system model (Kotler, 1970: 137).

To enhance a system model of strategic and tactical decision-making, input-output models are placed to present current marketing strategies, short-term and long-term, as well as forecast external factors that may affect company goals. The input-output (IPO) model represents a flow of data and materials and how it is transformed as a given product alongside its effect on various factors (Schembri, 2012). Figure 4 illustrates the categorisation of data and how marketing decisions allocate them into different sectors.

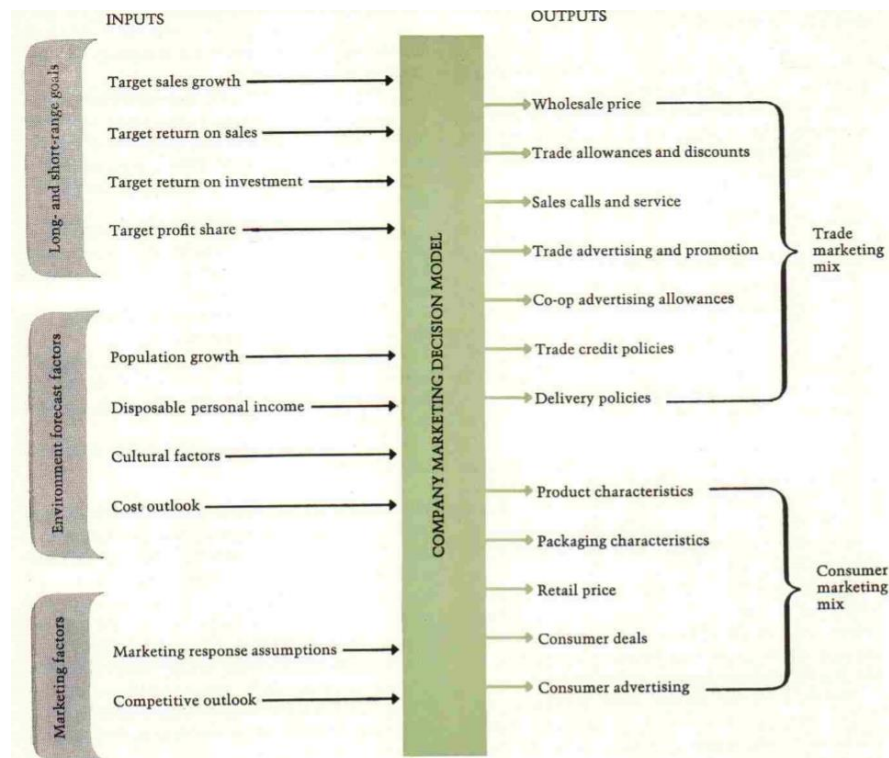


Figure 4: Process of an input-output (IPO) model (Kotler, 1970: 140).

As the transformation of information specifically gears marketing decisions as being a vital aspect, it is important to analyse the process that has a direct effect on the consumer and customer experience. Understanding the information that correlate to marketing decisions and ensuring accuracy can indirectly lead to better quality decisions.

2.1.2 Creative marketing process

A method of marketing that has driven the industry to be world-renowned for applying 'soft skills' (such as being emotionally intelligent, out-going, and having people skills), creative marketing frames an outline for sending a message which is articulated in imaginative forms. Creative marketers held a lot of sway and control for many decades

before the digitalisation boomed as their campaigns were a prominent method of communicating to mass audiences. Traditional marketing, which is a marketing methodology of using mediums that are nondigital like pamphlets, billboards, print advertisements, radio ads, etc., nurtured the creative marketing process, mostly used creative campaigns and benefited immensely (Marketing-schools, 2012). So, from using creative talent and artistic skills, creative marketing governs areas like design, music, architecture, advertising campaigns, etc. alongside the industrialisation, creative marketing has grown throughout the decades to the point of commoditising products as an amazing experience.

Creative preparation

Titus (2007, as quoted in Mednick 1962: 263) suggests that the ability to harvest creative solutions are dependent on variables that help build the theoretical framework shown in Figure 5. As a creative marketer, these four elements factor in a "desired goal of an incremental creative process" (Titus, 2007). (1) Task motivation – empirically categorised by intrinsic and extrinsic motivation, the individual is determined to complete the task by means of personal response to the creative task (intrinsically) or is compelled by external factors to complete the creative task (extrinsically) (Titus, 2007). (2) Cognitive flexibility – the counter argument of functional fixedness (the limited mental block of using an object or performing a task only for its specific purpose) (Camarda, et al. 2018). An essential aspect for creative marketers to promote innovative thinking. (3) Serendipity – pertaining to chance or random occurrence that would reveal a personal impact on creativity. And (4) disciplinary knowledge – surrounding oneself in a level of association that implies the individual has a certain discipline for the industry and can make connections where they seem relevant to a creative solution (Titus, 2007: 266).

Applying this model of eliminating mental blocks and promoting creative solutions produces results on an individual level as well as on a team level and the shaded areas of uncertainty in Figure 5 that resembles creative doubt and analytical thinking diminish

with teamwork and collective effort; therefore, this model minimises the cracks in communication between company and targeted customer.

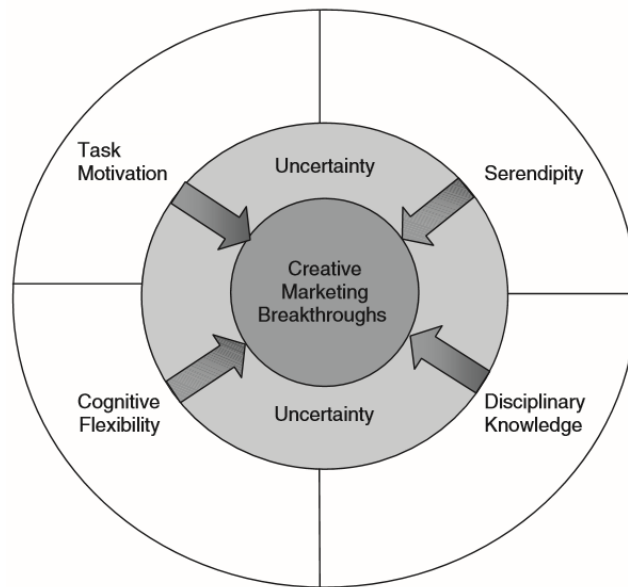


Figure 5: Creative marketing breakthrough model (Titus, 2007: 264).

Creative Marketing & Business-To-Business (B2B) Customer Advocacy

Though creative marketing is, in fact, heavily represented through external marketing (shown in Figure 8), creativity itself is a crucial asset in all variations of service marketing (EPM, 2019). Open-mindedness, inventiveness, and being able to take balanced risks are seen as strong character traits for any company seeking to expand their mission.

In driving a customer-centric strategy, the process that companies use in business-to-business (B2B) markets for reaching a targeted audience and cultivating a long-term profitable relationship lies with customisation and impact (Mittal, 2018) which can be enhanced with communication (Ballantyne, et al. 2011). For companies to better communicate with their audience, marketers who procedurally follow the stages of the marketing as depicted in Figure 6 would need to adapt to current marketing technology (MarTech) (technology that trends in the marketing industry to boost marketing efficiency) to increase their chances of recurring revenue and retention.

The marketing funnel is a step-by-step process in which marketers advertise methods to attract leads (who are potential customers) and nurture those who remain interested

through the purchasing decision in order to narrow down the candidates for the sales team to focus on actionable insights that would prospect leads into customers. The reasoning behind these stages is to educate leads, create a memorable impact, and give them a reason why this product and/or service should be desired (Stemler, 2019).

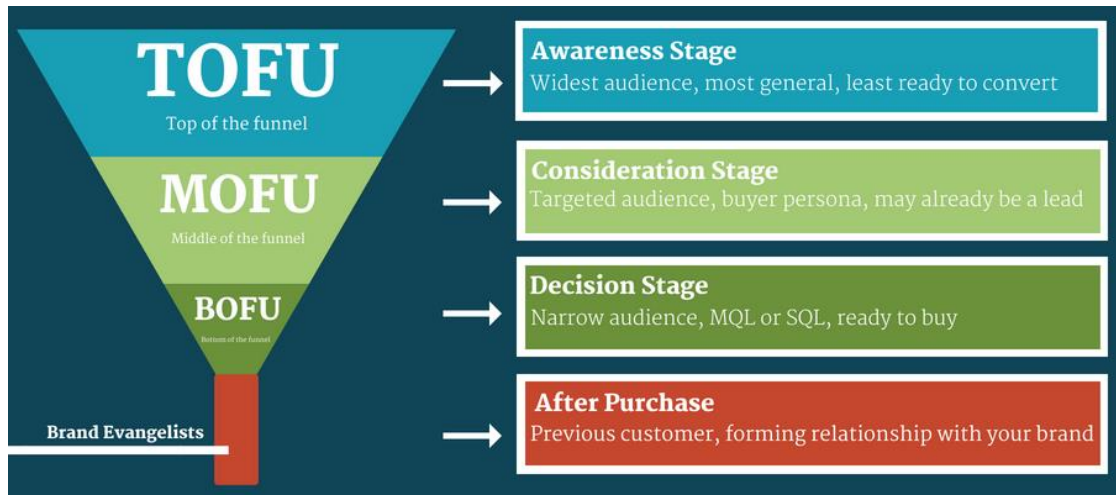


Figure 6: The Marketing Funnel (Stemler, 2019).

Parallel to the visualisation of the marketing funnel in Figure 6, the sales funnel quantifies the conversion rate of prospects (targeted audience) and narrows it down the scope as funnel descends, making proposals, setting meetings, and converting those leads into customers as shown in Figure 7.

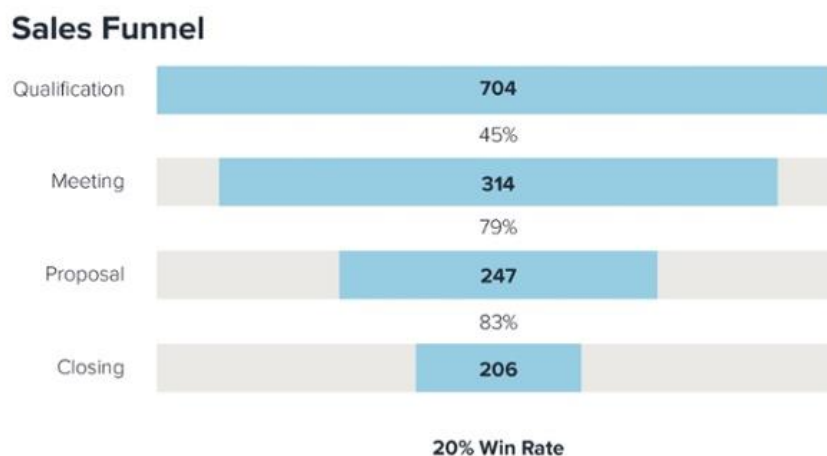


Figure 7: Sales Funnel (Goldstein, 2019).

Consequently, creative development apropos to the commercial process, the marketing and sales funnel unification presents a foundational internal marketing guild for a higher quality of external and interactive marketing methods toward the customers, a demonstration which is shown in Figure 8. From advertising and branding to customer benefits and product development, creative teams are valued in their company to communicate with the target market. Just as marketing is the epitome for communication, creative marketing invites pushing the boundaries of conformity with a unique way to connect and send a message.

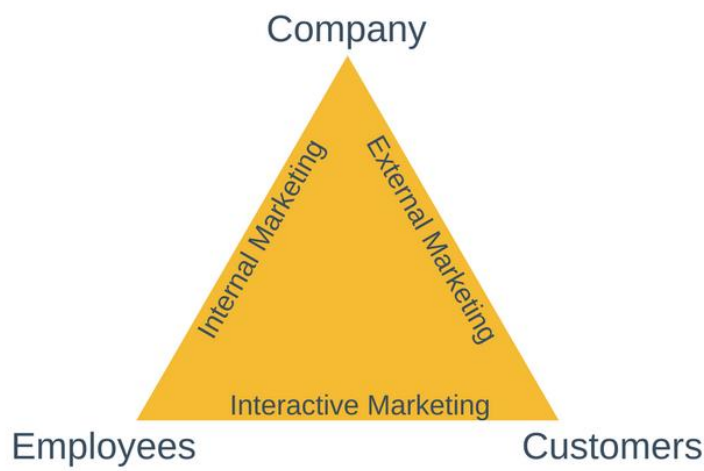


Figure 8: The Services Marketing Triangle (EPM, 2019).

Now with digitalisation drastically changing the way marketing is perceived, viewed, and used, creative leaders are taking another leap to gain that competitive edge. In a society that has access to instantaneous connectivity, sharing experiences and story-telling becomes an important referral for customer satisfaction. So, for marketing teams surpass their competitors, improving customer experiences becomes a necessity (Mittal, 2018).

2.2 Customer experience

The customer experience (CX) can be viewed as an illustrative example of creative marketing; however, it consists of much more than that. It is an interaction between an organisation and a consumer over the duration of their relationship (Deloitte, 2016). In other words, it is the epitome of a company's offering – adhering to the provide quality care for the customer via product and/or service. Depending on the customer, the CX

will vary to some extent. For business-to-customer (B2C) markets, where the products being sold are 'over-the-counter,' the CX may be focussed more on the individual consumer basis. But, as for business-to-business (B2B) markets, there are more considerations with CX. For instance, provided that a B2B company offers software-as-a-service (SaaS), their customers would be companies who would purchase their software. And given the need for the company to sell and the customer to (re)purchase, it would be profitable to improve the overall 'customer' experience which includes the employees who are the end users. This overall customer experience is also known as the customer journey. It provides more detailed specifics of nurturing leads (potential customers) and optimising their CX from the beginning of their interaction, onward.

2.2.1 Customer journey




Incorporating this level of planning to nurture leads and customers along the customer journey behoves that customer providers adopt a process of: (1) listening to their customers' "aches and pains" and understanding their goals; (2) adjusting accordingly to their needs and reaching out through engagements, communicating proposals that lead to executions; and finally customer acquisition and retention with additional support (Greenberg, 2019). This cycle continues to repeat itself as it is refined again and again.



Figure 9: B2B Marketing Funnel vs. Sales Funnel (Company X1, 2019).

Just as Figure 9 integrates commercial processes with providing leads and customers (unique) experiences, the underlying element is strengthening a relationship by maximising business goals. Shapiro (2002) states that to reach high altitudes of customer satisfaction, companies would need to involve marketing to create a customer-centric team. However, to prove the value of this integration for the benefit of customer centricity via profitability, research needs to be conducted on the company’s internal processes and track its financial performance. Digitalisation demonstrates a vast amount of information in a growing innovative society that hyperboles intensive competitiveness as a flattening curvature of normalcy; ergo, determining the financial performance to meet the demand of the consumer-dominated market becomes a requirement (Kanagal, 2018: 93-94; Maechler, et al. 2017). Organisations that have picked up on this and are changing their business strategies embark a high demand of balancing automated marketing activities (marketing automation) and optimising customer satisfaction with a level of human interaction.

To transform B2B journeys, define a range of digital and human interventions, to be combined as needed for each situation.

Journey	 Improved human interactions	 Digitally enabled services	 Fully digital, automated self-service
Identify	<ul style="list-style-type: none"> Educational marketing Strong technical expertise with focus on creating value for customer 	<ul style="list-style-type: none"> Live chat/call-back tool Joint web shopping with sales rep 	<ul style="list-style-type: none"> Product/solution navigator Product configurator Lead capturing
Select and buy	<ul style="list-style-type: none"> Independent performance comparisons Simple and transparent pricing 	<ul style="list-style-type: none"> Sales rep empowered to live-quote based on dynamic deal scoring Online content iterations and signature 	<ul style="list-style-type: none"> Interactive value calculators Web shopping, including availability and delivery timing
Codevelop or customize	<ul style="list-style-type: none"> Best-practice standards on project governance, resource tracking, and progress reporting 	<ul style="list-style-type: none"> Cloud-based collaboration platform Interactive product/solution holding and simulation 	<ul style="list-style-type: none"> Open innovation platforms giving access to key data
Deal with issues	<ul style="list-style-type: none"> Apology and acknowledgment of problem Full transparency about situation Explanation and help to prevent 	<ul style="list-style-type: none"> Augmented-reality tool to guide response Visit scheduling and preparations based on remote diagnostics 	<ul style="list-style-type: none"> Self-help guides Notifications tracking resolution progress
Use product	<ul style="list-style-type: none"> Simple, intuitive interactions Efficient packaging Friendly service, looking to add value 	<ul style="list-style-type: none"> New offerings (eg, uptime guarantees or hourly pricing) 	<ul style="list-style-type: none"> Remote equipment monitoring to trigger maintenance
Reorder	<ul style="list-style-type: none"> Offering but never pushing visits Focus on simplicity (eg, clear product documentation and simple invoices) 	<ul style="list-style-type: none"> Next-product-to-buy engine to add value and drive cross-selling 	<ul style="list-style-type: none"> Analytics-based order reminder 1-slide reordering through self-service website

McKinsey&Company

Table 1: Transformative human-to-digital interactive customer journey (Maechler, et al. 2017).

For instance, B2B companies that are goal-oriented toward customer centricity would adopt the decision-making process with two opposing factors (such as human interactions and fully digital self-services) that aim to provide optimal experiences. Just as Table 1 illustrates, there are variations of customer interactions which marketers respond to. From identification to customisation and actual utilisation of an AI-powered software service system, this information is collected in the form of data sets and is measured using marketing automation and artificial intelligent (AI) systems. Gathering the data to reveal its value can determine whether B2B companies need to improve on their customer centric strategy and at what point during the B2B journey.

2.3 Big data revolution

In order to improve the customer experience, current practices need to be put into context so that areas of development can be uncovered and highlighted. For achieving the business goal of reaching customer centricity, Shah, et al. (2006, as quoted in Venkatesan & Kumar 2004: 118) suggested that the versatile nature of financial impact spreading across all corners of the company (from managerial decision-making to allocating company resources) may factor as a transformative state to determine what investment(s) would be best. This financial impact has become apparent with the shift in marketing growth over the last few decades as shown in Figure 10.



Figure 10: The New Marketing & Sales Funnel (Patrizi, 2012.)

The overwhelming amount of accessible information and usage of data has caused the marketing team to take a larger role in the customer journey and incorporating a more tailored or 'customised' experience at each stage to not only better secure the purchasing decision, but to satisfy the (potential) customer with their decision, strengthen the closing sales proposal, and employ an increase in customer retention & brand loyalty. (Stemler, 2019).

The underlying factor that led to the lack of dissonance in marketing and sales funnels and increase in customer base value and overall customer experience (CX) was revolutionised by data, more specifically, big data that has enabled more detailed reporting for how to meet customer needs (Bloching, et al. 2012).

Big Data

Big data revolutionising the customer experience commonly relates to structured or unorganised collected data that is too large to be dealt with by conventional processing data software. The misconception of big data is the quantity of it, however that is only a factor to the term. The support beams that hold big data are volume, data velocity, and data variety (Baumann & Riedel 2018). (1) Volume is normally regarded by the global community for big data stands off; the amount of data in a specific form whether it is data sets in excel cell rows, transactions, files, etc. (2) Velocity refers to the time that is taken to gather and analyse data. And lastly, (3) data variety means the type of data collected. This in turn, can take the heaviest toll on data scientists who utilise big data because the speed and volume of data is only regulated by how structured the database is and determines the amount of manual labour required to convert (properly termed as clean) data into one format for company use (Lotame, 2019).

Big Data Analytics (BDA)

With digitalisation creating more opportunities for growth in many industries, especially in the information technology (IT) sector, advanced algorithms powered by artificial intelligence (AI) and machine learning systems have improved drastically in order to consume data at a faster, more accurate rate (Iafrate, 2018). Using big data analytics (BDA) to collect and analyse data at a higher quality rate compared to humans changes the way knowledge is consumed today. As a by-product of knowledge consumption, marketing in the digital era (digital marketing) quickly grew from a marketing

trend to a revolutionary component in the industry that shifted the need of labour from creative to analytical (Cvitanovic, 2020). In a B2B market, it is paramount to understand this paradigm shift, striving to working alongside the trending technology. However, the problem is how to monetise big data and determine its value. Because the relevance of big data 'intelligence' is what organisations do with the data, the common challenge is forming a strategy, infrastructure, or data collection method utilise it properly. Aside from the organisations who dominate the market and have a plethora of resources, an evaluation of company status, size, and resources may depict which course of action to take to undergo the BDA shift.

Big data can be found in multiple forms of raw data that offers zero value until it is cleaned and converted into appropriate data sets for a specific company (Sciforce, 2019). From understanding the data given and what it means to a company, its specific value, B2B companies can pool investments into allocated areas of their company to innovate solutions to improve customer experiences through analytical methods.

2.4 Importance of metrics

Determining whether a specific unit or system has relevant value takes quantification, calculation, and comparative analysis. Utilising measurement tactics give strategies and planning their mass, weighing in what is to be allocated and what is not. Systems of measurements give order and structure to virtually everything and is the backbone for optimising quantifiable actions. Generally, organisations use metrics for determining value prospects, tracking performance, and operational forecasts. Managing metrics can be tedious for organisations as there are a whole slew of measurements that often have a large variety of methods (Young. J. 2020). [Marketing] managers would often build a strategic framework with clear goals in mind with plans on how to achieve them. This systematic strategy is often referred to as objective key results (OKRs). By opting to achieve the OKR model, specific activities are targeted to be accomplished. Set to monitor the objectives' progress, key performance indicators (KPIs) are tactical measure values to help achieve OKRs.

Managers review metrics to find efficiency in their investment. Particularly with return on investment (ROI), return on marketing investment (ROMI) determines the effectiveness of marketing activities and return on advertising spend (ROAS) investigates media effectiveness. Overall, the ratios of these measurements that get reported help with

the decision-making process and whether budget allocation should be adjusted or remain the same. Although, not all campaigns can be measured to the fullest of its extent, which leads to inaccurate reports and wrongful decisions that are based on them. For instance, marketing directors who have difficulties with increasing their media spend may not be able to communicate financial evidence to justify their claims of a successful leaflet campaign because its offline media does not have the tangible measurements to report.

Aiming to use the best quality metrics that would cause a reaction that will trickle throughout the marketing processes, customer decision journey, and impact the overall value of the organisation (Rust, et al. 2004: 77). Figure 11 details the accounts of how financial performance (in the form of metrics) evaluate relative returns.

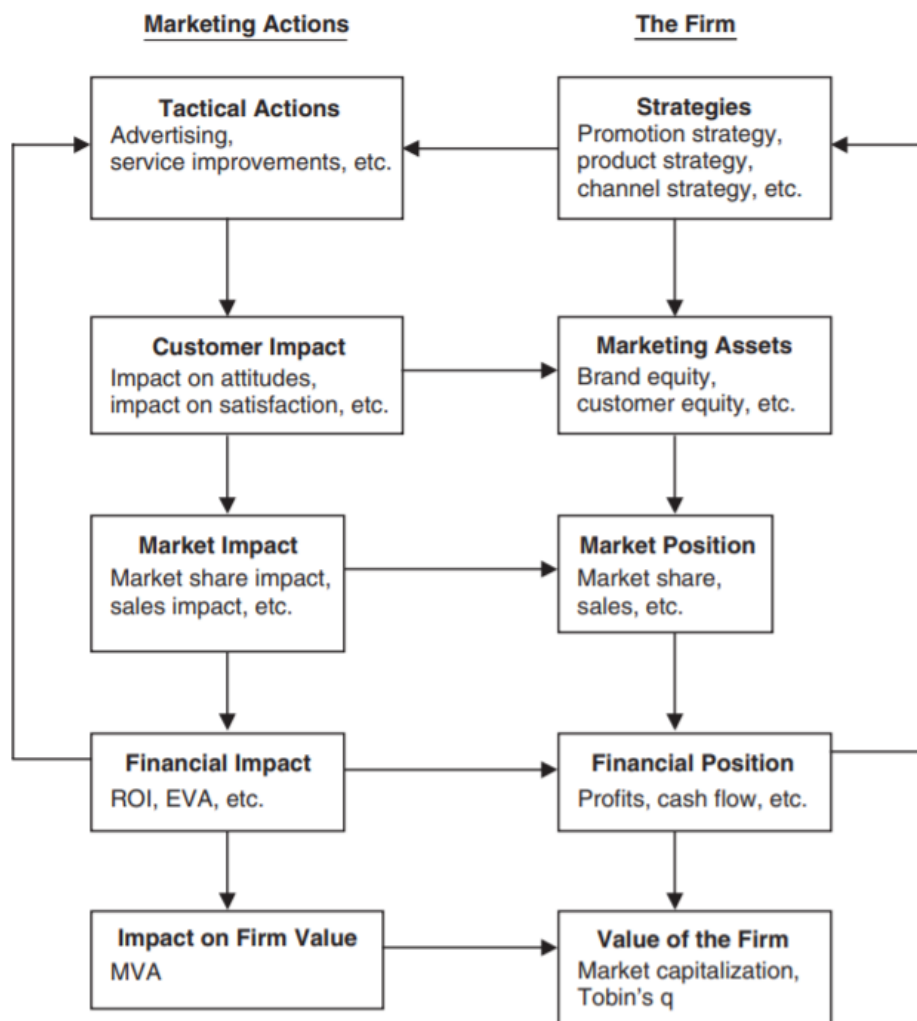


Figure 11: The Chain of Marketing Productivity (Rust, et al. 2004: 77).

However, traditionally speaking, as Rust, et al. (2004: 79) states, “short-term ROI is often prejudicial against marketing expenditures.” This means that to improve the impact on the customer end via financial impact, the company would need to improve return on marketing investment (ROMI) and generate not only a short-term impact but forecast long-term impacts as well. And implementing big data analytics (BDA) to enhance the financial impact of ROMI would help back up successful campaigns and optimise marketing which would lead to better decision-making (Grossberg, 2016).

2.4.1 Return on marketing investment

Return on marketing investment (ROMI) is a sub-metric to return on investment (ROI). Just as ROI evaluates the efficiency of an investment and directly measures the amount of return on a particular investment, relative to the investment's cost – ROMI measures the overall effectiveness of a marketing [campaign] activity and helps marketers with deciding the best course of action.

$$\text{ROMI} = \frac{\text{Incremental Sales Value} - \text{Marketing Expenditure}}{\text{Marketing Expenditure}}$$

Figure 12: Return on marketing investment formula (Farris, et al. 2015).

The quotient following Figure 12 would be able to determine the increase (positive) or decrease (negative) in sales and gross margin generated and would view the marketing decision as a viable investment or not. (Chen, 2020). Moreover, ROMI is seen a financial metric that spans across departments from purchasing, finance, sales, and marketing and it is important to acknowledge that ROMI can be measured for a variety of evaluations such as conversion rates, cost savings, and marketing assets (Farris, et al. 2015).

Broadcasted as an essential marketing metric, marketers who adopt ROMI calculations can offer an increase in revenue and profit when the appropriate mix of data and analytics are implemented. A more detailed return on marketing investment is relative to the predictive behaviour that analytics uncovers from collecting data sets along the customer journey (Bloching, et al. 2012: 129-132). This strategy is already understood among C-level executives who know how to utilise customer information in terms of purchasing decisions, brand-building, and segmentation and aim to achieve a higher

level of marketing effectiveness (Powell, 2003). A great level of care is considered when reflecting on estimated returns because marketing expenditures come from liquid funds (Farris, et al. 2015) so before applying specific marketing decisions, the sources of variations that calculate ROMI need to be evaluated (Farris, et al. 2015).

Valuation of marketing returns

The first source of variation is valuation of marketing returns. This valuation consists of many forms, however the valuation forms that will be discussed and further studied relate to when the sales lift is unknown as well as forms that contribute toward long-term financial health. The frontmost valuation when considering marketing returns is baseline-lift: profit margin generated by incremental sales. In regard to unknown sales lift, there are two forms to consider. The being form being funnel conversion: forecasting incremental sales based off historical conversion rates (CR) and the second form being comparable cost valuation: when opportunity cost differs from the marketing investment in question. When concerning oneself with valuation of marketing returns that contribute to long-term financial health, ROMI measures customer equity (CE) and marketing assets (Farris, et al 2015).

Valuation methods	Financial return assessed
Comparable costs	Cost savings for achieving equivalently valuable contacts
Funnel conversions	Future period incremental sales and profits based on estimated conversion rates
Baseline-lift	Current period ^a incremental sales and profits
Customer equity	Changes in customer lifetime value
Marketing assets	Changes in brand and firm valuations

Notes: ^aCurrent period refers to 'accounting period', which may include short response lags. For example, carryover effects of advertising on sales may be found one or two weeks after exposure. In most cases, such delayed effects would still occur within a quarterly accounting period.

Table 2: Marketing return levels: (Farris, et al. 2015).

Granularity of spending evaluated

The second source of variation is granularity of spending evaluated. This source evaluates what seems to be opposing thought experiments as a modeller can use ROMI to measure either a single marketing campaign at a granular level – specificity to the subject's choice (i.e. cold-call advertisement, email campaign, etc.) or a combination of marketing activities and ROMI can measure the whole marketing mix model (MMM)

(Farris, et al. 2015). The scope can appear to evaluate a given impact from which it had been measured.

Range from which ROMI is calculated

The third source of variation that ROMI measures is the range. The evaluation of this dimension is presented three-fold: total, incremental, and marginal. Total ROMI evaluates return on all spending and determines whether an investment is generally profitable. Incremental ROMI specifies spendings in increments and marginal ROMI illustrates returns gained when increasing spending per unit (Farris, et al. 2015).

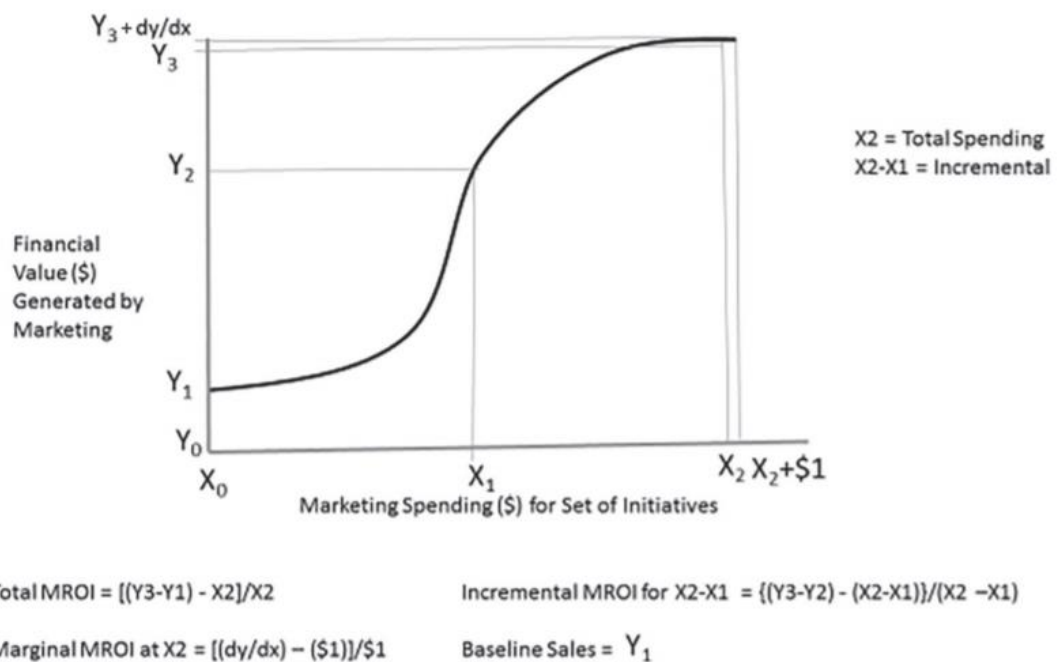


Figure 13: Total, incremental, and marginal ROMI (Farris, et al. 2015).

As demonstrated in Figure 12, this 's-curve' is an optimal illustration of ROMI calculating a good investment. So, it stands to reason that ROMI is a financial metric that succeeds past measuring marketing effectiveness, but also belongs to departments in sales, finance, and IT.

“The critical difference among the three [range variations] is the comparison or reference spending level. Because marketing impact on revenue is nonlinear, it matters a great deal which reference point is chosen” (Farris 2015: 272).

2.5 Marketing approaches

Advancements in accessibility peaks and continues to rise with constant innovations in technology, communication, and strategy. The evolution of society has collectively grown because of this and globalisation reaches a new era in the Information Age (Clark, 2012). For value to be recognised, corporate gears to continue turning, and sustainable growth to pursue onwards, acknowledgement of trending marketing technology (MarTech) and its correlation to marketing strategies need to be evaluated to understand the following marketing approaches (Clark, 2012).

2.5.1 Digital marketing

Outbound method

Specificity and buying behaviour are acutely challenged with technological interference that B2B companies need to have an adaptive strategy with current marketing trends (Veronica, et al. 2018). Traditionally, marketing strategies offered little-to-no engagement with leads and customers in terms of approach. This outbound approach was only sending information rather than accepting and receiving information as well does little for marketing efficiency within a customer-centric strategy. Because this linear approach is very one-sided, outbound marketing has an internal perception of success where the is more product-centred (Shah, et al. 2007). As previously mentioned in Chapter 2.1.2. 'Creative marketing process,' traditional marketing often relied on creative marketing campaigns which comprised outbound methodology. As a result, there is a lack of information via customer engagement, feedback, etc., which now gives hindsight into the limitedness of technology during that time. Even with the digital boom, outbound campaigns abused this direct touch to customers with an overflow of advertisements and commercials, missing the overall purpose of centring around the target audience (Havenga, et al. 2004). Of course, it does not discredit the outbound approach today, but perhaps adopting a balance of an outbound approach with new age adaptation can opt for customer experience optimisation.

Inbound method

Perceived as an over-correction with marketers now going from being "soft" to being 'too technical' (Moorman, 2019; Albee, 2015), This perceptive look within the industry may derive from the dependency on online marketing and how marketers can easily

gain measurements on such an enterprise level (Albee, 2015). The value of digital marketing lies within its ability to tell stories to directly reach specific audiences for the purpose of conveying a message via internet and online technological tools & platforms (Albee, 2015). This process is on an ongoing learning curve, constantly improving alongside digital adaptation. While the digital era was on the rise and connectivity becomes relatively convenient, innovative practices in nonlinear approaches proved to not only improve customer satisfaction, but also profitability and brand loyalty with the introduction of customer relationship management (Clark, 2012). The inbound approach adheres to the innovative practices that attract leads and customers and bring quality content to the marketing funnel. (Clark, 2012). Advancements in customer support and inbound marketing techniques increased the customer experience; however, there was still a void in digital marketing that would combine creative marketing teams with online marketing strategies. The technical perception of how marketers were operating became realised with the abundance of web design, SEO material and internet marketing which has allowed marketers to lose sight of truly personalising customer UI and maximising the customer journey.

Lacking the ability to accurately measure both online and offline media under one modelling system and having technical short-sightedness are symptoms of a void that derives from lack of knowledge, capability, and vision. If innovative leaders are able to combine their IT department and data science expertise with creative marketing, perhaps inducing the new age thinking of being “data-driven,” marketers would use data analytics at face value with optimising their operations and subsequently increase customer experience, ergo profitability.

2.5.2 Data-driven marketing

As the pursuit of digital marketing progresses, trends in digital technology have been in a frantic state, climbing over each other for innovative superiority. This could be due to the “new is always better” mentality that many marketers have. The large appeal in MarTech software platforms (marketing automation) is that the attitude of “working smarter, not harder” may motivate companies to opt for what is trending (SingleGrain, 2019). Digitalisation has clearly made an impact in forming a global society with readily instant communication. For organisations to maintain that competitive edge, the search for innovative solutions becomes more of a priority (i.e. following the current marketing trends to optimise marketing effectiveness) (Fossacecco, 2015). More than just a trend,

data-driven marketing has shaped industries and left a major impact on businesses (Grossberg, 2016). Utilising online marketing tools and combining the creativity of marketing teams with data science to measure the quantities of big data will be a game-changer for organisations optimising their portfolios creating an opportunity for change. All that is required is a different kind of mindset. There are two basic mindsets that shape and define the way people invest and live (Dweck, C. 2006: 48-50).

	Fixed	Growth
Inherent Ability	✓	✗/✓
Success without much effort	✓	✗
Limitations due to regression	✓	✗
Success with Hard Work	✗	✓
Persistence & Sustained Effort	✗	✓

Table 3: Motivation and succession – Fixed Mindset vs. Growth Mindset (Dweck, 2006).

The growth mindset of personalising customer experiences with the use of big data analytics (BDA) is the backbone of data-driven marketing, it is the main component that differentiates itself from other marketing methods and modernises digitalisation in the marketing world (Gordon, et al. 2015).

From simple in-house analytics to more advanced analytics, a data-driven mindset envisions a more futuristic approach toward measuring and analysing data & business intelligence. With more improved metrics, data science has the capabilities to analyse and optimise the data further. In this case, data science can help marketers understand their consumers better, allow more accurate reports for better decision-making and investment management, and push the era of marketing into a new frontier that encompasses customer centricity. The potential challenges that data-driven marketing faces ahead are the uphill battles with competition that work on an enterprise level in the growing digital economy. Conducting an in-depth audit of the company status and marketing activities would determine if inhouse marketing is possible with the available resources or does outsourcing offer a higher ROI.

2.6 Marketing development toward customer centricity

Adaptation and maintaining a competitive edge are the main elements of survival in marketing and business (Kanagal, 2018). For organisations to be profitable and grow, marketing evolves to be era appropriate. During the rise of industrialisation, Mass targeting through direct mail and advertising and outbound methods were successful. With the digital era, marketers still survived with outbound methods, but also needed to adjust to inbound marketing, engaging with their customers and receiving feedback – leading to incremental improvements in customer service and satisfaction. To fill in the areas where there is a current void, big data analytics (BDA) can gather the vast amount of data and utilise its knowledge for the benefit of marketers and marketing directors to make higher quality decisions. These decisions range from increasing the marketing budget, optimising the customer experience (CX) for leads and nurturing them more intensely along the customer journey, acquiring more resources, etc. (Braverman, 2015). The challenges of improving CX with the utilisation of metrics would come from the consensus of using AI-powered data analytics to analyse the data from which metrics derive from. Before the time of BDA, digital information was unfiltered, unorganised, and not utilised properly. Either data was not accessible because of the complexity of receiving information or the potential for nurturing data was overlooked, but now technological achievements in AI change that (Bichler, et al, 2016). Executive leaders in B2B companies for instance, see the innovative solution for tapping into data knowledge and uncovering its value for prioritising data management on a consistent basis, organising company infrastructure, re-adjusting performance measures, and allocating expenditures for full optimisation (Braverman, 2015). Just as digitalisation has attributed to the popularisation of marketing and data science as respective industries, the interdisciplinary field of combining departments would maximise operations on all angles, from a consumer knowledge basis and understanding the wants and needs of the consumer to analysing that data, planning on the best course of action, and executing the decision with the goal of opting for win-win situations (Grossberg, 2016).

3 Methodology

3.1 Research background

The methodology or research design directly parallels as the backbone of the study and sets the tone of what content will be produced. Given the nature of the study, the combination of creative marketing and data science offer a mixed structure of literature-based research and analytical thinking to properly identify and analyse the problem statement. Empirical values that derive from relevant experience and measured knowledge drive the purpose of research and research design. Following the approach of a problem, research design mandates a methodology of either exploratory, descriptive, or causal research – each that may have data that overlap into one another.

Exploratory research is an initial set of questioning that develops research objectives and helps define and identify the problem at hand. Exploring related topics, existing data, and conversing with professional exploratory research aims to narrow down the problem statement from a slew of unanswered questions to one. (Sreejesh, Mohapatra and Anusree, 2014: 31-35)

Descriptive research explains the reasoning behind the study. It simply describes a given situation for what it is rather than describing what caused it. For these reasons, descriptive research is limited to surveys and observational methods within quantitative and qualitative data analyses (Sreejesh, Mohapatra and Anusree, 2014: 58-59).

Causal research aims to identify the relationship between variables and how they influence each other. It may support projects that favour more problem-centred theories on a more experimental basis. Causal relationships which can be seen by three types: symmetrical, reciprocal, and asymmetrical. (Sreejesh, Mohapatra and Anusree, 2014: 82-83).

Symmetrical conditions usually occur when the two variables become alternate indicators of another cause or independent variable. For instance, the low attendance of youth in martial art clubs and active participation in discotheques and parties is the result of (dependent on) another factor such as lifestyle preferences...When two variables mutually influence or reinforce each other, we can say that there is an existence of a reciprocal relationship. For instance, a reciprocal relationship exists when a person goes through a particular advertisement, which leads him to buy that brand of product...Asymmetrical relationship exists, when changes in one variable (independent variable) are responsible for changes

in another variable (dependent variable) (Sreejesh, Mohapatra and Anusree, 2014: 82-83).

3.2 Research design

3.2.1 Qualitative research

Qualitative research refers to an inception of theory that conceptualises diverse perspectives toward a focused analysis. Sonyel Oflazoglu (2017: ix) characterises qualitative method “as a naturalistic, interpretative approach, concerned with exploring the phenomena ‘from the interior.’” Quality content is an essential aspect of qualitative research with results being more descriptive than predictive. Uncovering descriptive data differ as there are many methods to qualitative research: (1) one-on-one interviews, conducting in-depth F2F interviews with experts and collecting authentic data on a given topic; (2) focus groups; collecting data from selected respondents regarding unanswered questions to better understand a specific target market; (3) case studies, contextualising and understanding inferring data; (4) observational methods, using subjective methodology to collect specific data; and (5) record keeping, rely on existing documents as a data source. In congruence with qualitative subject matter, primary and secondary data provides evidence to support theories for quantitative projections (Sreejesh, Mohapatra and Anusree, 2014: 47-57).

3.2.2 Interviews

A qualitative approach primarily conducted on an individual basis, interviews present the opportunity for the researcher and interviewer to elaborate more deeply about a particular topic. Depth interviews are better diagnosed as a preliminary setting for quantitative research with an analytical questionnaire. In-depth interview on the other hand, are categorised into three types (Sreejesh, Mohapatra and Anusree, 2014).

Unstructured Interviews

Dependable on the allowance of informal interaction because there is no prepared questionnaire, the interviewer would need to establish a level of rapport to ensure cooperation and show the interviewee there is a level of freedom amongst them and that the interview can take various directions. Unstructured interviews are flexible to the situation at hand and are successful when the interviewer is able to still have a certain

level of control and reprise relevant topics. Unstructured interviews range from five minutes to two hours, depending on the interviewee (Sreejesh, Mohapatra and Anusree, 2014: 48)

Semi-structured interviews

Semi-structure interviews are flexible yet are subject to a more formal setting in terms of language, time, and discretion. Preparation is important for the interviewer because the level of questioning may possess complex answers from the interviewee (or at least knowledge that surpasses the average person). Semi-structured interviews have prepared questions, but the interviewer is also opened to ask follow-up questions in order to get a better understanding (Sreejesh, Mohapatra and Anusree, 2014: 48).

Standardised open-ended interviews

Suggested as the term implications, standardised open-ended interviews contain an elaborate set of questions, specifically worded to leave open-ended answers. This technique is made for systematic data collection, ultimately helping to compare results analytically.

3.2.3 Quantitative research

Contrary to qualitative research, quantitative research generates numerical data and highly focuses on measurements to support hypothetical claims that were made prior (Oflazoglu, eds. 2017). In opposition to qualitative research supporting systematic questioning and interpretation, quantitative methodology dictates objectivity and pragmatism with mathematical precision (Oflazoglu, eds. 2017). In a more layered, structured format, applying a quantitative methodology means that the quantifiable opinions and research predetermine a set research design. All research that contains numerical results and operate under scientific review are quantitative methods (such as surveys and experiments).

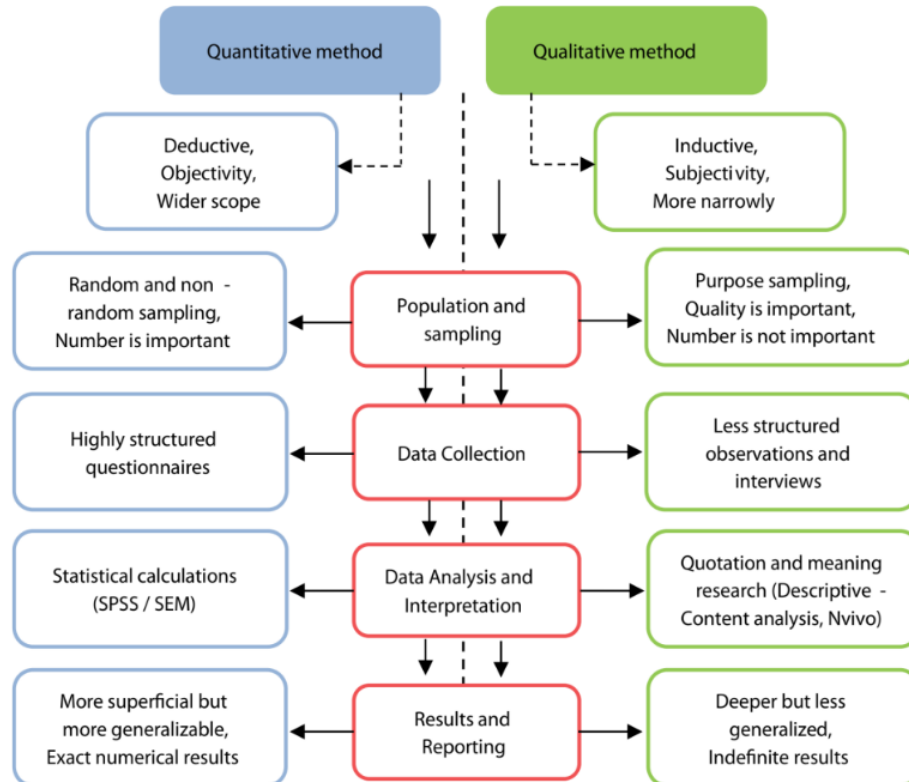


Figure 14 Qualitative and quantitative methodology (Oflazoglu, eds. 2017: 5).

Despite the differences between qualitative and quantitative research, data sets can very much support the primary analysis in a deductive or inductive manner, as shown in Figure 14.

3.3 Data collection method

As the problem statement questions how marketing teams can combine creativity with data science to improve the customer experience, empirical values take precedent and govern this study with a mixed structure of experience, expertise (in a qualitative manner) and quantitative data. Exploratory research is to be conducted first so that related secondary data can be collected from all relevant angles and various perspectives in the fields of marketing and data science. This will lay out a framework of determining the scope of qualitative and quantitative data needed. Research will be conducted by utilising qualitative methods will narrow the purpose further with quantitative data to support the variables in question. More specifically, as there is a substantial amount of literature relating to [data-driven] marketing, primary will help narrow the focus in a more subjective tone.

Collecting and measuring data is a vital aspect of data-driven marketing. So, in pursuing this new approach, the only way it would be approved is if it improved the organisational support levels. But, how? Research in this area will be done through face-to-face interviews with chief executives and secondary sources pertaining to organisational structural change. Consequently, this leads toward its importance in the marketing industry and a list of the opportunities that allowed such popularity.

3.3.1 Qualitative data collection

Initial data sets will derive from primary and secondary research from different points of view. Qualitative research via exploratory research will be conducted through face-to-face (F2F) interviews as primary sources. The interviews are made to be both semi-structured so that the interactions between the interviewer and interviewee are more relaxed and flexible (Sreejesh, Mohapatra and Anusree, 2014: 48-49). Limited to the research topic, the questions are designed in an open-ended manner so that there is more room for information to flow that also generate additional questions and further explanation.

Secondary research will be conducted via existing documents pertaining to the topic at hand: articles, research reports, books, etc.

3.3.2 Conducting interviews

The research was conducted by using semi-structured interviews. This way, there was a level of flexibility in which the interviewees had freedom to answer however detailed they desired. As a semi-structured interview, there needed to be careful terminology and the questions related to each topic needed to have a general targeted direction. As the interviewees in question were two chief executives and one senior supervisor, the time frame for each related topic needed to be taken into account as well. All within preparation, the respondents were still given the flexibility to cover as much as they deemed relevant to the topic.

Due to there being three separate in-depth interviews, the first three questions of each interview begin the same, as shown in Table 4.

<p>I. <u>Background information</u></p> <ol style="list-style-type: none"> 1. What is your name, title, and role within the company you work for? 2. What day-to-day activities do you operate that are vital to the company's business goals? 3. What is your educational background and professional history that led to you being an expert in your respected field?
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Table 4: Face-to-face interviews: Background information (Appendix 1).

As each interviewee begins, they are enabling themselves in an interactive method of introducing themselves, providing value toward the research topic in practice, and offering a powerful statement about themselves which transitions each interviewee to the core of the questionnaire. As there is one interviewee covering the topic 'how to perceive data and ROMI modelling' and two interviewees covering the other topic 'ROMI analytics,' the beginning of the interview remains the same, then two sets of questions were presented, tailored to each research topic.

The theme pertaining to the perception of data from a marketing point of view enables a line of questioning that starts off with an insightful communicative process, which has the goal of making an abstract challenge transition toward a tangible solution, as depicted in Table 5.

<ol style="list-style-type: none"> 1. Can you shed some light on the average CMO's mindset when it comes to: <ol style="list-style-type: none"> a. communicating with other C-level executives? b. battling the stereotype of marketers being lightweight businesspeople? c. spending vs. investing or budgets vs. investments? 2. Can you briefly define return on marketing investment (ROMI) and describe what ROMI modelling is? 3. What is the mindset or purpose behind measuring ROMI?
--

Table 5: How to perceive data and ROMI modelling: Questions 1-3 (Appendix 1).

In contrast to the interview “How to perceive data and ROMI modelling,” the second interview topic titled: “ROMI analytics” transitions with more analytical questioning with flexibility to provide examples, case studies, and comparisons.

4. How can a start-up optimise on ROMI metrics as opposed to a large corporation using the same metrics?
5. How do these metrics optimise the customer journey?
6. How does ROMI provide reliable results?
7. What is the business impact when organisations adopt ROMI modelling?

Table 6: ROMI analytics: Questions 4-7 (Appendix 1).

The detailed questionnaires for these in-depth interviews can be found in Appendix 1.

3.3.3 Quantitative data collection

Marketing, more specifically data-driven marketing, is dependable on collecting and measuring data. As the study is not subject to experimental or causal research, quantitative data will be collected by secondary sources to support the qualitative research.

3.4 Data analysis

The study will be conducted from extensive research on issues that plague marketing productivity and the innovative process of how using data analytics to measure ROMI optimises its marketing activities and consequently improves the customer experience (CX). In unison with a literature study simulating full optimisation with various cases and the procedures that lead to them, from its abstract form to factual case studies. There will be a road map of the journey that data analytics, more specifically ROMI SaaS, will take as the results of its services render across industries and branch throughout data-driven marketing, metrics, and customer success.

3.5 Limitations

Approaching research shows that the main limitations are two-pronged. The first being the subject matter and the data collection of related topics and the second being time limitations and its correspondence to early development.

Data collection methods of related topics demand that the target sampling to be limited in size as the topics may oversee the focus of the study. With the problem statement concerning areas in marketing development, business analytics, and customer experience; a substantial amount of questions in each field overlap and may possibly re-route the focus. With each topic being large enough to be its own thesis, targeted sampling needs to be limited to narrow the scope.

The second factor that restricts research are time limitations. Due to the increasing competition in a new market to upscale the demand for B2B communications, the relatively new concept draws an issue of concern pertaining to B2B companies' privacy which would make collecting primary source material restricted. Moreover, given the early stages of development within the market to improve CX by optimising metrics, secondary sources would be limited, and research indicates that B2B companies will be competing to work toward developing better SaaS products and optimising ROMI in the near future.

4 Software-as-a-service (SaaS)

Starting from the inception of communication networks practising innovative solutions over the decades, cloud computing has grown over many industries reaching a multitude of customer touchpoints.

[Cloud computing is] a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction ((National Institute for Standards and Technology (NIST) cited in Nayyar, 2019: 4)).

With technological advancements, cloud computing became clearly identified and common practise with digitalisation, "via resource sharing and transforming end-user computing" (Nayyar, et al. 2019). Companies and individuals alike use cloud computing as

a means for different service models. “Infrastructure as a Service (IaaS): providing hardware, software, storage, and servers, Software as a Service (SaaS): to access cloud applications and other software, Platform as a Service (PaaS): the platform to code, run, and deploy apps” (Nayyar, et al. 2019). In business-to-business (B2B) markets, SaaS is sold to other businesses as a means for customers to use the online applications of the software on a subscription-based model (Grant, 2020). This way, the factors laid out in Table 7 can be met real-time via online.

SaaS	PaaS	IaaS
Customer Relationship Management	Business Intellect	Computation
Transactions	Deployment	Content Distribution
Content Managing	Coding and Testing	Storage Space
Enterprise Resource Planning	Integration	Backup and Retrieval

Table 7: Service model applications (Nayyar, et al. 2019: 11).

As opposed to other service models, SaaS is structured to tailor company interactions with B2B clients as a customer relationship management (CRM) system. Moreover, as a cloud service, adapting to customer needs would strengthen the marketing funnel, improve customer retention, and cause a financial impact.

5 Results: Opportunities to improve profitability

5.1 Background information

Company X is a data science start-up company that provides software-as-a-service (SaaS) to business-to-business (B2B) customers. Operating on an enterprise-level, Company X competes in the global market for providing businesses with a continuous service of optimising their marketing activities. The three respondents selected for interviewing are colleagues of one another and as previously indicated in Chapter 3.3.3. ‘Conducting interviews,’ the position of each respondent correlates to subtopics of the research question. Beginning with definitive explanations that strengthen the narrative of the research question, analytical solutions are provided with deeper insights by the two respondents with data science expertise. The first respondent is the chief science officer (CSO) of Company X who possesses an extensive educational background in

engineering & computational physics while the second respondent is one of the senior data scientists, also possessing a professional background in computational physics and retail analytics. The third respondent is the chief commercial officer (CCO) of Company X who has over ten years of marketing experience and education. This respondent will provide insight regarding the perceptive nature of ‘the modern marketer’ and solutions that would enable a more fulfilling customer-centric strategy. The conducted interviews collectively hold detailed accounts of modern issues, how competitors adhere to these challenges, and how companies who opt for more customer-centric values attain higher ROI.

5.2 Return on marketing investment analytic solutions

5.2.1 Case introduction & positioning

The usage of data science to proliferate software-as-a-service (SaaS) and increase the quality of the customer journey not only creates business opportunities for a competitive global market, but also builds stronger business-to-business (B2B) relationships. It is in these B2B relationships where the accumulation of big data, AI, and marketing teams improve the customer experience (CX). As a B2B client, the company in question needs to evaluate the level of need for ROMI solutions and to what cost. As a competitive player, B2B companies that focus on exemplifying transparency and building customer relationships would optimise the unison of creative marketing and data science, positioning themselves at the frontier of advanced analytics and high-quality service.

Simple Analytics

Often attributed to organisations who choose not to invest in advanced analytics, the internal system that is meant for measuring the correlation between sales data (daily receipts, receipt value, or sales data) and different marketing activities and ROMI derive from inhouse data analytics. For reasons of budget allocation or mindset as a commodity rather than necessity, a small organisation may have requisition of one or two data analysts/ scientists at hand to build a model or perhaps utilise a template which is online based. However, other means of creating an inhouse marketing analytics team (for a middle-large sized organisation with an annual turnover of +50 million – 10,000 million) would require a large budget for an entire analytics department and years of

R&D to rationalise the vast amount of complex data sets that come from big (marketing) campaigns. The developmental stage for this would need a substantial amount of resources to measure the marketing effectiveness and implement customisation costs.

Consultancies

Many organisations that do not have the expertise or resources to manage their own campaigns, let alone measure them, seek aid from a third party. These specialists model projects that give them proven credentials alongside years of experience. This B2B relationship is built from the organisation's weak marketing team, operational health, and/or need for strategic advice. As the average lead time for advising on a campaign on model ranges from two to three months, the clear implementation is best tailored toward middle-sized companies who can justify a small mix of advertising campaigns and marketing activities. Investments in powerful advanced analytic software would also be unnecessary as middle-sized companies would not necessarily carry heavy offline media investments. The downside for these B2B relationships is that with the labour-intensive projects that consultants (and media agencies) oversee, security matters reputedly result in poor (financial) transparency and there is relative vendor dependency.

Advanced analytics

With the usage of software-as-a-service (SaaS), this AI-powered customer relationship management (CRM) system incorporates machine learning models at higher computing power which collects and analyses sales and marketing data in real-time (for more accurate results), expedites lead time, and forecasts predictive behaviour based on individual purchasing data and external factors. With the intensive capabilities of computing power being able to process millions of rows of data, advanced analytics are suggested for organisations with a large turnover (+150 million to 10,000 million euros annually).

5.2.2 Analytics

Without the right service model, actual sales and investments are poorly channelled. This puts a strain on the customer journey and the company itself and it stands to reason that a non-digital method would be less favoured as a marketing strategy in the digital age; consequently, leading to an incremental increase of investments in online

marketing. One of the advancements that rectifies this is by engineering a ROMI model via SaaS to highly prioritise sales and media data. These models generate higher precision and create opportunities for better decision-making. Although, depending on level of analytics, computing power may not be able to fit enough available data into a model, hence, generating bad media decomposition and poor forecasts. To tackle these challenges, the top-of-the-line modelling techniques utilise statistical methods, specifically Bayesian hierarchical methods. By using Bayesian inference, (a statistical method used for revising probabilities as more information comes to light), one can conveniently introduce prior distributions for a model to enter in the correct amount of data. Basically, one can utilise the same principles that are found in data to improve the results and prevent overfitting [data into a model] so that the updated reports made for marketers are accurate with all available data.

Reliable results

Optimising marketing on every level derives from ROMI analyses, and even more so, data quality. Attaining more granular data provides opportunities for information to improve results. For instance, a weekly marketing campaign contains a different item from a given category. As Table 8 indicates, the sales uplift is shown in item level figures, but the category level describing which items are sold remain still.



Table 8: Sales on a weekly basis.

The importance of granularity presents quantifiable signals once the sales impact is isolated on a specific product set level. This acknowledges reliability when analysing ROMI and offers higher quality insights into decision-models.

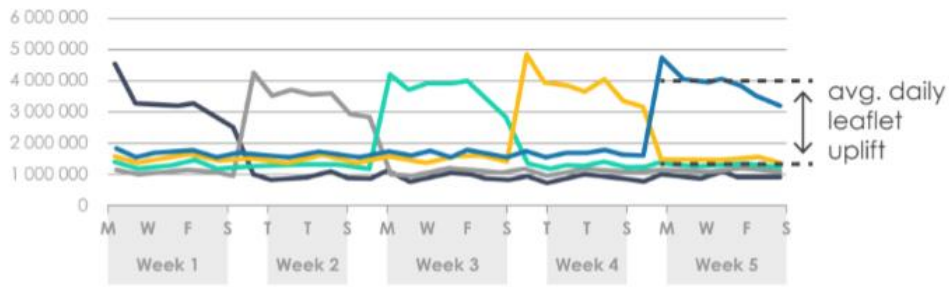


Table 9: Isolated sales impact.

This level of granularity with Bayesian inference statistics is able to measure individual excel rows of data and project offline media activity success – reallocating a B2B customer’s offline media spend toward a more customisable, cost effective media spend.

Marketing activity regression

Many marketing activities operate simultaneously on a daily basis. This makes measuring each marketing activity difficult as are not isolated and overlap each other.

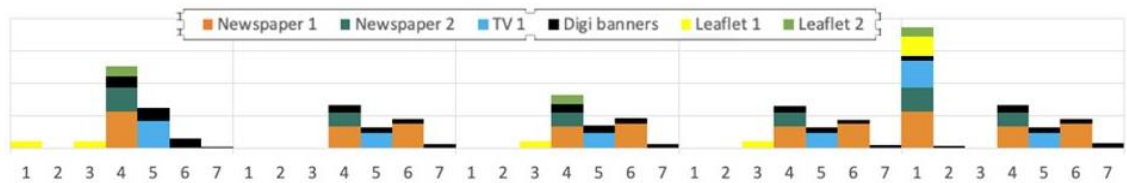


Table 10: Marketing Activities over a monthly period.

The challenge for B2B customer who would review these overlapping offline and online measurements, would not be able isolate and compare the most successful from the least successful activities. So, sales would generate a graph similar to Table 11.

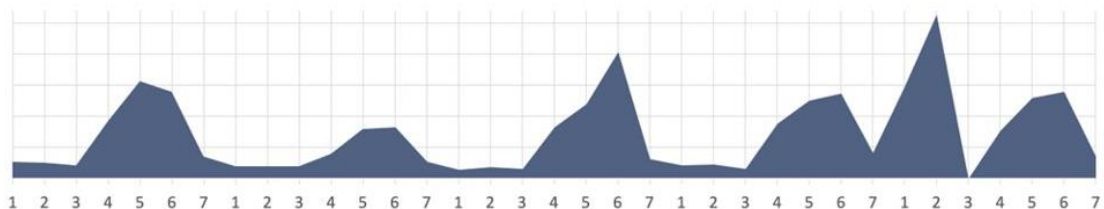


Table 11: Sales over a monthly period.

As there are a number of methods that organisations use to solve this, from linear regression (relationship between a dependent variable and independent variable) to Bayesian statistical modelling, it is typically simpler to show the correlation rather than the actual causality. Advanced analytics that utilises Bayesian statistical modelling for measuring ROMI uncovers causal links between marketing and sales and is able to proxy sales decompose per activity.

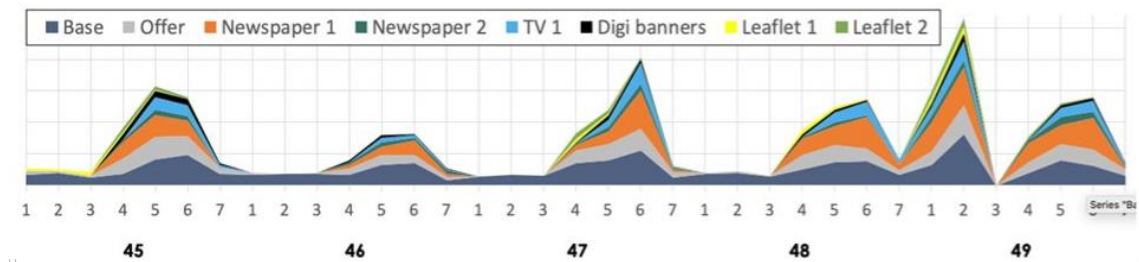


Table 12: Sales decomposed per activity.

Short-term impact

The impacts illustrated in Table 13 demonstrate the baseline uplifts in sales with a small response time. Regarding long-term strategies, this high uplift carries no impact, however, is helpful in short-term tactical marketing when reviewing campaigns.

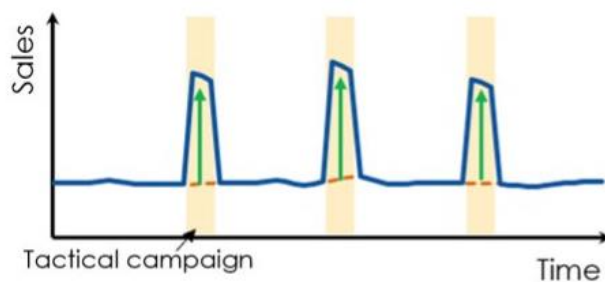


Table 13 Short-term tactical marketing impact.

Impacts like these are often attributed to promoted products and this model helps demonstrate a customer's purchase cycle and conversion rate (CR).

Long-term impact

Long-term marketing strategies that centre around a customer-centric strategy usually would involve brand-building. The effects of monitoring the long-term impacts over a

fixed period can be measured to gradually increase with each short-term impact elevating the standard baseline. Modelling ROMI over this period of time can evidently prove to show performance increases.

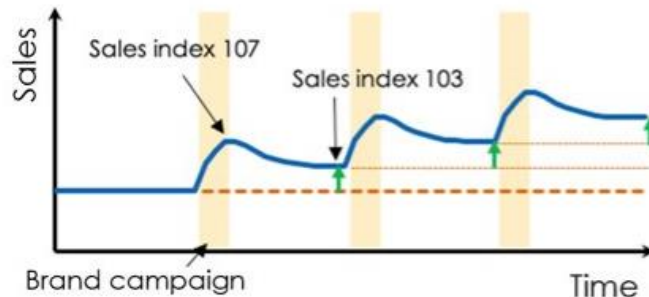


Table 14: Long-term, brand-building marketing.

By tracking key performance indicators (KPIs) such as brand awareness and brand building gauge a further understanding of long-term development of base sales and margin, while the media investments explain the evolution of brand metrics.

5.3 Consumer insights

5.3.1 Customer Archetypes

Understanding the behaviour and mindset of the buyer personas help an organisation set appropriate objectives to plan a suitable course of action to meet the demands of their customer and uncover ways to improve their experience.

Marketing Managers

For marketing managers, it is an on-going pursuit to monitor different media channels and discover which ones are performing best or which campaigns are performing best. For a marketing manager to achieve, goals like being on top of the latest trends and have easy high-quality reports will lead to success. At the bottom of the managerial hierarchy, marketing managers to strive to impress and have a goal setting of keeping on top the latest trends and becoming “the next CMO.”

Commercial Director

It is the duty of the commercial director to build cooperation between sales and marketing functions to encapsulate the whole commercial process. The commercial director is basically the catalyst for bridging profitability and customer success management. This includes finding out ways to increase sales and how different sales channels are performing along with improving brand loyalty and customer retention.

Chief Executive Officer

Depending on the size of the company, the CEO struggles with thoughts of growth, risk, and divestment. When it comes to presenting to the company's stakeholders, the CEO must prove profitability and that the company is succeeding in its endeavours. With misconceptions of marketing and what is proven to be shown in with the marketing department, CEO's also struggle with how to view marketing, an expense or investment.

Marketing Director

Similar to the commercial director, the marketing director is constantly searching for methods to bridge the gap between marketing and sales. However, one of the biggest challenges faced is the fixed perception the business world has on marketing. It hinders the marketing director's abilities to perform optimally and it strengthens the barriers of vertical silos between sales and purchasing. So, finding a way to communicate with the other departments who speak with financial reports is a goal set along with budgeting accordingly for appropriate investments. All of which is one of the biggest struggles because being perceived as "soft" will not gain any accountability.

5.3.2 Case study: Telecommunications

A B2B customer, telecommunications Company Y had no structure for cross-sales between products, no marginal view for analytics, nor a dashboard for long-term brand-building and sales channelling (i.e. online channels, stores, etc.). However, Company Y seemed to possess plenty of analyses of marketing activities. With a decline in store traffic as well as having disorganised space in data storage, Company Y had been sought out to audit themselves and agree to position themselves as a company deserving of advanced analytics. Now subscribed to a service model that regularly updates in real-time, BDA was able to analyse millions of rows of their receipt data and generate a

dashboard, or user interface (UI) for Company Y that produced: (1) annualised subscription revenues; (2) an analysis that linked all media spend to the main product category; and (3) cross-sales effects. The UI also recommended corrective measures that would help with store traffic. Company Y adjusted their advertising space toward the best performing products and maximised the total group margin impact.

5.3.3 Case study: Grocery retail

Company Z depended on traffic-driving weekend price campaigns, but lacked reports showing which categories were bringing in traffic. As a result, all categories were promoted in media (seen in Table 15), even though only few performed successfully.



Table 15: Campaign uplift categories.

With the adoption of using advanced analytics to create a user interface (UI) for measuring ROMI via SaaS modelling, Company Z was able to analyse marketing assets such as marketing plans, media spend, and print advertisements. Data storage was also analysed down to the most granular sense of individual anonymised customer receipt data. By using this data, a ROMI analysis was also able to measure the following:

- Individual promotion uplift: increase in sales as response from promotion.
- Cannibalisation: a reduction in sales as a result of introducing a new item.
- Stock-up: obtaining a large quantity of an item for later purchase

- Vendor funding: a company lending money for the purpose of resale at a separate outlet.
- Halo: an upsell of an item as a by-product of promoting another item.

As a result, it was revealed that Company Z's best performing media were newspapers and consequently found which holidays and seasons gave the best ROMI.

5.4 A growth mindset toward customer centricity

The common challenge for marketers has been measuring marketing in terms of balancing different media into one KPI, granted, online marketing has dominated marketing activities today as digital MarTech trends alongside digitalisation, but It is understandable because of how reliable and accurate generating long-term customers are from original point of sale (POS) to checkout and further repurchase. However, it does not mean companies should discredit offline media. It has become increasingly difficult to measure marginal ROMI of offline media effectiveness as there are no cookie tracking methods to trace and analyse. For organisations opting for a fix, there have been an array of solutions that were previously mentioned in Chapter 5.2.1.: 'Case introduction & positioning.' It does become evident though, that measuring ROMI via granular spending with advanced analytics learns to analyse sales receipt data, marketing data, and external data to report the optimal investment. As Table 16 describes, measuring marginal ROMI curve shows how much an addition unit of media investment is expected to generate incremental margin at a certain level.

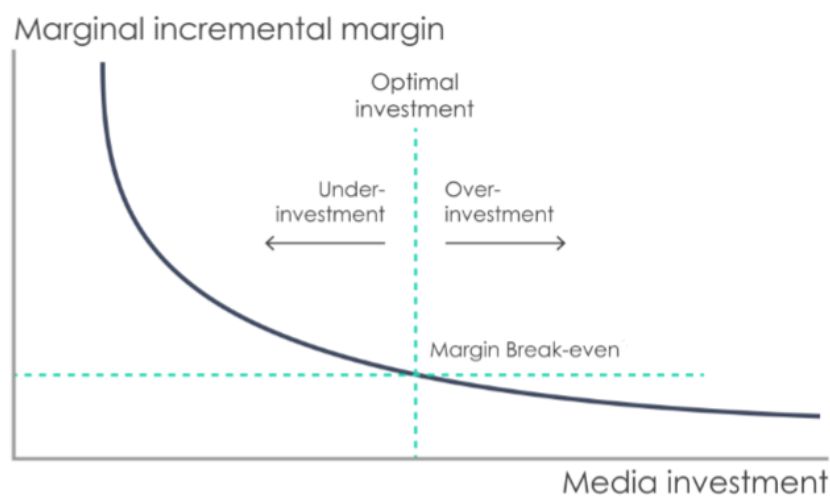


Table 16: Marginal ROMI.

Marketing executives almost invariably report marketing activities in euros so being able to project the optimal investment as a result of granular ROMI analysis proves that using AI practises to automate detailed analyses generates a financial impact.

5.5 Optimising the support beams of decision-making

By using the input-output model that was described in Chapter 2.1.1: 'Marketing decision-making' and applying ROMI models into strategic and tactical marketing strategies, inputting ROMI metrics would assist strategic planning in a manner of: emphasise brand-building or sales focussed activities and reallocate media investments with the highest expected return rate. Inputting ROMI metrics into tactical operations would: reallocate campaigns and prioritise them according to the most cost effective; segregate the optimal media channels traffic; and subject media spend at the most profitable time periods. As a result, the output model presents incremental sales and margin for the SaaS provider and in turn, recurring revenue. Recurring revenue in the form of incremental sales and margin implies that the customer is happy and the objective of the long-term strategy of brand-building increases brand loyalty from the customer. Strategically, taking into account loyalty data by trending customer segments allows the B2B vendor to not only witness the customer impact, but also the latest trends by that specific segment which will help find trends before competitors. By including the competitor's media investment information into modelling ROMI as an external factor, advanced analytics will be able to benchmark actions that perform and present the correct level of investment.

6 Analysis

6.1 Business impact

As this study started off as deciphering a method of combining creative marketing and data science to improve the customer experience, it became apparent that data-driven marketing via measuring big data was the heart of gaining perspective on how to gain a competitive advantage. The values pertaining toward a competitive advantage today appear to share a similar value system as using ROMI as a SaaS for B2B customers. It is using innovative methods to place the B2B vendor around the customer's wants and needs. As the cases studies have shown, implementing SaaS allows transparency and organisation for the customer's inhouse systems as well as integration that may be

subject for continual improvement. As a result, this customer-centric strategy increases brand loyalty and customer retention. With understanding the customer archetypes and the challenges they face, it is important that when marketers communicate the many solutions that big data has to offer, that specificity plays a role into appropriately classifying the right solutions to the right potential customers (prospects). As a SaaS model that fully integrates into a company, it is able to be optimised on a multitude of customer touchpoints and create a customer impact (with a level of satisfaction of marketing effectiveness) and allocating marketing assets from poor marketing actions. Also, the market impact generated by measuring ROMI on a granular level to isolate marketing activities and reallocate media spend for optimal investment optimises revenue and sales margins. This ultimately creates a financial impact that entices customers to re-purchase and/or pay their subscription. And so, the recurring revenue for the B2B vendor acts as the output nurturing the bottom of the funnel (BOFU) of the customer journey.

6.2 Analytical oversight

Growing in popularity in the digitised world, big data research has expanded to many industries in the public and private sector. By also creating opportunities to improve services, big data and analytics are continuously creating innovative methods to optimise business relationships and the overall customer experience (CX). Nowadays, whether a company is using inhouse sourcing methods or hiring outsourcing avenues to apply measurements of big data, predictive analytics suggest that the company who is able to communicate to the customer they that possess the most relevant up-to-date technology will gain the competitive advantage. For B2B markets, the competitive advantage is retention via applying creative solutions to adhere the customer journey. Using analytics to measure the three sources of ROMI and find solutions for B2B customers does strengthen marketing efficiencies and closes the gaps of the communicative process for B2B customers. Big data analytics (BDA) has optimised the source of what maintains a strong marketing investment management. The MarTech that is constantly being innovated pushes marketers to interchange between different systems, searching for optimal technology that would give the solutions desired. Every modern marketer needs the skills that trend in today's world in order to work in a proactive behaviour. For instance, methods of proactive behaviour for improving marketing effectiveness are adjusting by simply shifting the perspective of marketing expenditures from

budgets to investments and constantly searching for ways to enhance the CRM system.

6.3 Marketing investment management

When it comes to short-term tactics that require more focus and attention, marketing effectiveness has been shown to have a higher impact, represented by ROI. Long-term strategies strengthen the marketing management guild, building trust and value for the B2B customer as well as covering security for the on-going future. It may not be as impactful as short-term strategies, but over time, one can illustrate the incremental growth. Marketing executives with a clear motivation for breaking down departmental silos, allowing more communication and integration within a company, and pursuing a growth mindset in the direction of customer centricity persist on improving marketing investment management to show sales and purchasing departments that investments in these strategies will be justified with either high or slow incremental impact.

6.4 Conclusion

Concerning the relevance of data and how it affects optimisation, research and results determine that measuring data provides actionable insight into various functions of an organisation as well as spanning across different industries. Such actionable insights vary depending on the level of technology advancement. For instance, in B2B markets, IT departments use AI and analytics for the purpose of measuring data and improving operations based on the analyses derived from data. Using real-time data can generate a predictive analysis on challenges that customers may face. These challenges that companies faced are filtered through the customer archetypes who represent as B2B customers (the target audience). Through deduction, the author recommends that to improve the CX along the customer journey, the B2B vendors would benefit from proceeding to optimise on the relationship stages, combining the elements of utilising digitally enabled services and engaging further in human interaction throughout the awareness stage and consideration stage, (the top and middle of the funnel) to educate and nurture those leads. In doing so, this qualifies them further along the customer journey and strengthens the bottom of the funnel (BOFU). Further customisation of these trial demonstrations for the qualified leads would strengthen the marketing impact and possibly shorten the response time between stages of the funnel, bringing leads closer toward purchase. Along with measuring ROMI as part of a SaaS, planning the pricing

strategy to be subscription-based would not only bring recurring revenue, but entice a certain self-image for the B2B vendor to continually optimise their product and as a result, increase retention.

However, for B2B companies to invest in this campaign and justify CX optimisation, a growth mindset toward being more data-driven needs to be established. A data-driven growth mindset values transparency as all available data is not only collected and stored, but also analysed and used for the benefit of an objective analysis.

Indicated in Figure 9, the 'after purchase' stage in BOFU shows a level of loyalty as the product is delivered. As decision-models for brand-building vary, it can be assumed that with B2B companies selling SaaS there are higher risks of investment management due to company-wide integration and so adhering to the (assumed) subscription-based model of SaaS, provides a relative brand loyalty. Incremental increases in brand-building further provide an analysis of after purchase retention and continued loyalty by advancements in this technological field.

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Face-To-Face Interviews

Interviewer: Juha Hurstinen

I. Background information

1. What is your name, title, and role within the company you work for?
2. What day-to-day activities do you operate that are vital to the company's business goals?
3. What is your educational background and professional history that led to you being an expert in your respected field?

II. How to perceive data and ROMI modelling

1. Can you shed some light on the average CMO's mindset when it comes to:
 - a. communicating with other C-level executives?
 - b. battling the stereotype of marketers being lightweight businesspeople?
 - c. spending vs. investing or budgets vs. investments?
2. Can you briefly define return on marketing investment (ROMI) and describe what ROMI modelling is?
3. What is the mindset or purpose behind measuring ROMI?
4. Does ROMI modelling allow a more holistic and granular view of the customer journey? How so?
5. Can you demonstrate how ROMI modelling can help shift a CMO's focus to retention investment with an example or two?
6. Can you provide some consumer insights and the marketing point of view of utilising ROMI modelling?

7. What do you mean by marketing impact? What does that mean to marketing executives?
8. How does using data analytics affect decision-making?

III. ROMI Analytics

1. Can you define return on marketing investment (ROMI) and how it can be measured and optimised?
2. What is important in ROMI Modelling (that makes it so important in business)?
3. How is it possible to accurately measure huge amounts of data?
4. How can a start-up optimise on ROMI metrics as opposed to a large corporation using the same metrics?
5. How do these metrics optimise the customer journey?
6. How does ROMI provide reliable results?
7. What is the business impact when organisations adopt ROMI modelling?