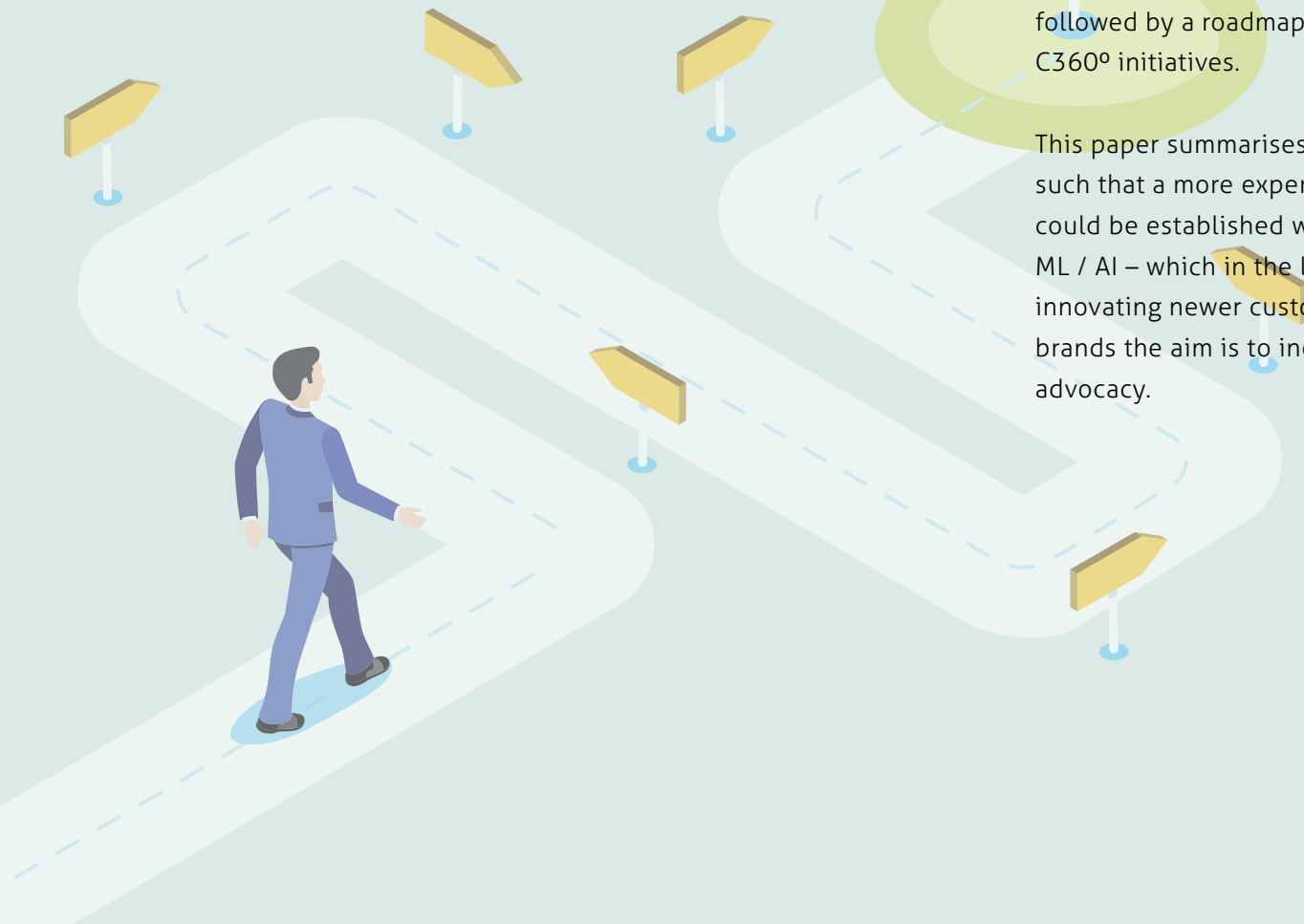


Abstract

Customer behaviour and trends have changed significantly due to the COVID-19 pandemic. Further, due to the lockdown measures by the governments across the globe and the necessary social distancing norms, customers have adopted the use of new digital technologies and have learnt their applications in their day to day functioning. As more customers now move to online engagements and transactions, organisations are wrestling the 'need for speed' to customer intelligence and insights, to understand the new patterns of customer engagement and habits. To enable such an intelligence-fuelled Customer 360° (C360°) ecosystem requires organisations to relook into their customer success objectives, followed by a roadmap and ecosystem assessment to redesign their C360° initiatives.

This paper summarises an approach to analyse the C360° readiness such that a more experiential and meaningful customer relationship could be established with new age technologies and processes using ML / AI – which in the long term is key to rapidly redesigning and innovating newer customer intelligence propositions. Ultimately, for brands the aim is to increase the reach, engage to develop trust and advocacy.





Right now, we are in the age of #LOCKTAIL

The day-to-day life for many people, including you and me, have changed due to the COVID-19 pandemic, which is transforming customer industries in ways that are customer-centric. Between mid-March and April 2020, total sales globally, observed a sharp decline, barring essential goods, as the effects of the pandemic hit stores. In the UK, for example, according to the May 2020 report from the office of National Statistics, sales fell by 5.2% in March 2020, and by a record 18.1% in April 2020¹, and many ceased trading following official government guidance on March 23, 2020. As if predicting the customer's behaviour and attitude weren't hard enough, the lockdown and stay-at-home orders have changed all that. Customers are considerably dropping most discretionary expenditures such as travel, hotels, restaurants, apparels and any outdoor entertainment. Meanwhile, the rise in online purchase and hoarding of essential goods, including groceries is becoming noteworthy and giving direction and acceleration towards digital business for many organisations. For example, before the pandemic, at the start of 2020, around 9% of Tesco's sales originated from digital channels, which post-pandemic accounted for 16% of the sales i.e. set to be worth around £5.5bn in 2020 with plenty of potential growth, up from £3.3bn last year². The crisis and the purchase patterns emerging from this crisis only means that organisations can no longer rely on historical customer data patterns, which have become unusable. The questions on behavioural patterns have become harder to answer than before. Organisations must continuously assess the relevant 7-V's of data³ available, within reduced timeframes, to answer the present-day queries.

Recalibrating the 7-v's of data

The 7 Vs	Brief
Volume	Size of the data generated
Velocity	Speed at which data is generated
Variety	Types of data generated
Veracity	Trust in data generated
Variability	Constantly changing data
Visualisation	The way data is made readable
Value	Measurable impact of data

¹Office of National Statistics, UK. May 2020

²Tesco Annual Report 2020

³7 Vs of Data – Volume, Velocity, Variety, Veracity, Variability, Value, Visualisation



As there has been a significant channel shift to online today, organisations are beginning to observe an increase in their data volumes and velocity, in addition to an increase in variety, veracity and variability of information at their disposal. The Kantar World Panel May 2020 Report states, online shopping in UK now accounts for 11.5% of all grocery sales, attracting more new shoppers in 2020 than the channel has accomplished⁴. Further, the lockdown accelerated the surge in average minutes of TV viewing per day in the UK⁵ i.e. with a shift from broadcast to on-demand content. As a result of these behaviour trends, there is a rising volume of online transactions, increased velocity of data creation daily, and more importantly, data coming from a variety of disparate sources across multiple lines of businesses to which customers may be signed up to, and some which are likely to vary daily. All of these are enforcing organisations to

reassess the need to extract, model, analyse, and visualise customer data and intelligence in near real-time, which is becoming even more important; not just for organisations' sustenance and growth, but also to meet privacy and compliance standards to upkeep the customer's trust and belief with this shift.

Re-think customer behaviours; Redesign C360° initiatives

The harsh reality is that high street stores were under pressure even before the COVID-19 pandemic, and many organisations were struggling to survive⁶. In the current scenario, brand sales and marketers cannot rely on and exploit historical data trends to take informed decisions on how best to employ marketing strategies. Instead they need to evaluate consumers' buying patterns 'daily' to adapt their products and services to the current business models and keep a

pulse on the changing consumer behaviour. For example, while working with a Global CPG major's India business arm, during the Coronavirus outbreak, we learnt that sales representatives were either unable or unwilling to visit the retail stores. With the country under strict lockdown, the organisation faced an uncertain period in their business. We considered and evaluated the sales patterns and product segmentation. We further analysed the brand and channel affinity, wherein we also integrated live government data, which categorised various districts of India into Red, Amber and Green zones, based on the number of Coronavirus positive cases, and provided surgical recommendations.

⁴McKevitt, Fraser; Kantar World Panel May 2020: Grocery growth accelerates in the UK as lockdown eases
⁵OfCom, Media Nations 2020 report
⁶The Guardian; Butler, Sarah, Jan 2020: UK retail industry suffered worst year on record in 2019

This helped answer some specific questions such as:

- Is there a change in the package size of buying?
- Are there any panic products that are selling more and can boost sales?
- What are the products in low demand so that we can reduce production?

Analysing these patterns on a 5-day moving scale is today paving the way to redesign the product distribution during the crisis, to place the right assortment for all touchpoints, thus maintaining the movement of products. Further, it is leading to a growth on actual sales, which helped the organisation in closing the sales gap of affected channels and reached an achievement rate of +80%⁷.

For many organisations, what this means is to revisit customer journeys, reformat to address the digital-first world, and reimagine and

modernise the intelligence platforms to create a 360° view of the customer. Even with the onset of different digital touchpoints, in addition to those that are physical in nature, it becomes imperative for an organisation to provide the best customer experience across all channels—from ensuring an effective crisis response, to managing supply-chain disruptions, to safeguarding the well-being of employees by adjusting daily working practices.

These testing times are also an opportunity for leaders and experts from customer intelligence and customer analytics to position themselves for longer-term changes in customer success initiatives that result from this pandemic - Right from observing real-time changing customer preferences and behaviour trends to swiftly modernising and restructuring journeys that matter. To be able to respond to customers' needs instantly

requires quick exploration to understand the changing forces and attributes, understanding the pain points resulting from these behaviours, being agile to modernisation, as well as innovating the operating model and journey science to address them. Reimagining the operating model and journey science to address them by guiding and migrating the customers to digital channels would be key to accurately evaluate the return on investments on customer acquisitions, and to maintain a better, higher customer lifetime value than physical store shoppers.

In summary, customer success leaders who master this method will be well-placed to generate customer value in high-impact zones, amidst increased competition. By developing a robust C360° foundation, they will be well-equipped to make the brand's relationship with the customers more



the signals obtained through impactful customer experience. To start with, organisations should ask themselves two critical questions:

- Do we have enough information to provide the relevant product and service offerings required to serve the customers?
- Can we rapidly reach out to the right customers, at the right time, and provide best offer selection?

principles to the C360° foundation, such as:

- Evaluating whether the customer has enough data to measure the sentiments based on segments;*
- Assessing the needs, preferences, trend, demographics of each segment to come up with right analytics driven intervention;*
- Assessing and identifying the right signals which need to be amplified to reach out to the right customer with appropriate messaging;*
- Implementing course correct strategies designed for the improvement of each customer interaction to maximise the revenue*

empirical than transactional, which is key to long-term customer relationship and advocacy.

Let the data drive your experiences, using analytics-powered C360° platform

For organisations redefining their C360° initiatives, the challenges to solve in the current circumstances are likely to be very different from the way we have perceived customer interactions prior to the pandemic's outbreak. However, being analytics-driven opens a whole new world of opportunities for organisations to create value and achieve a competitive advantage. This is achieved by understanding customer sentiments using AI-driven interventions, enabling the right amalgamation of predictive and prescriptive analytics to generate insights and amplifying

To answer both these critical questions, an organisation needs to analyse its data to know what their customers want and identify its own limitation to deliver them. It therefore becomes an imperative to have all the attributes evaluated and ideally in place before implementing any C360° program. When we embarked on a customer analytics initiative with one of Europe's largest retailer for consumer electronics, our objective was to establish a solid C360° foundation that would help connect transactional data from offline physical stores with online channels, interpret the massive amounts of customer data attributes at their disposal to enable AI-driven personalised product and service recommendations across all stages of their customer journey. This foundation was laid out to improve the revenue per user, reduce the marketing costs and uplift the customer acquisition. To achieve this, we applied a few

Organisations must therefore focus on the key objectives they want to achieve through the analytics-powered decision-making process before the start of the program. And to achieve these objectives, there should be a leadership alignment on the expected outcome and that must be weighed in with capabilities by assessing the current ecosystem through a scientific assessment methodology, which should clearly articulate both the technological and business gaps to reach a desired maturity level of C360° readiness.

Understanding through a Case Scenario

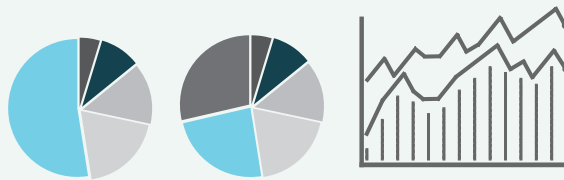
HitProds, a large European retail giant is not doing enough to leverage its customer base, which is hurting the sales performance and therefore the drive for incremental growth through new channels. *Laura Maguire*, who joined **HitProds** as the new Chief Digital Officer realised this, and immediately turned to customer-centricity initiatives with the following objectives:

1. Improve conversion through optimised user experience and customer journey
2. Improve online margins by pushing relevant online services
3. Drive customer acquisition and retention leveraging data analytics

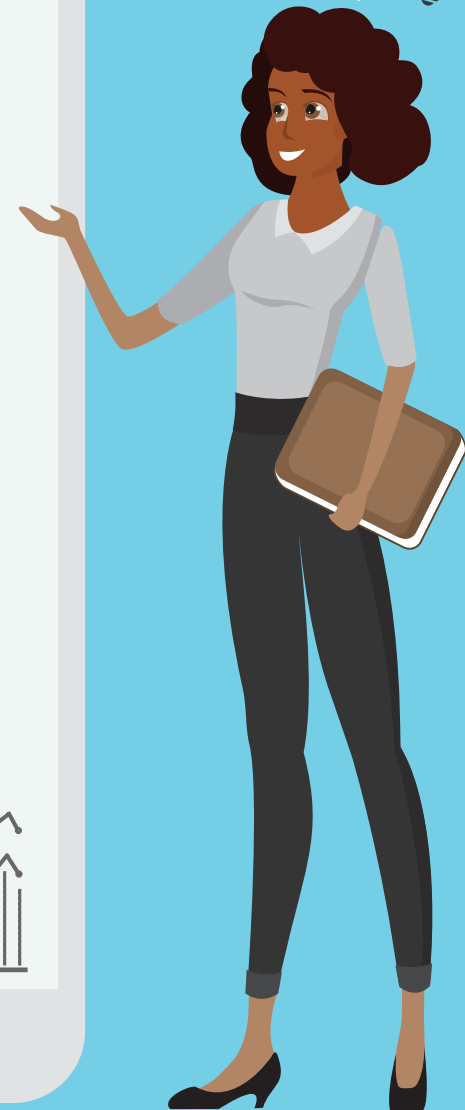


To achieve these objectives required the wider digital transformation goals to be functional, which Laura and their team had designed, such as - utilise internal potential in terms of data and technology across the organisation to re-invent the customer lifecycle, create opportunities to help refine marketing practices and ensure that the proper methodology is applied for relevant customer connection and ensure that resources are appropriately trained to understand the customer genome to bring about right intervention at any stage of customer journey. Natasha Keller, an Analytics Consultant, worked with Laura and team to explore and elaborate the digital transformational goals that enabled customer-centricity with a set of recommendations such as:

- ❖ Detailed use cases with a clear roadmap for implementation
- ❖ Create an end-to-end data view of customer data points across the organisation which gives a journey science view of customers' touchpoint and where their data resides
- ❖ Recommendations for all the sub-processes from data requirement, technology, analytics, and activation required to drive online use cases for C360°
- ❖ Program roadmap for the C360° journey that is contextual to the ecosystem for value realisation with business benefits

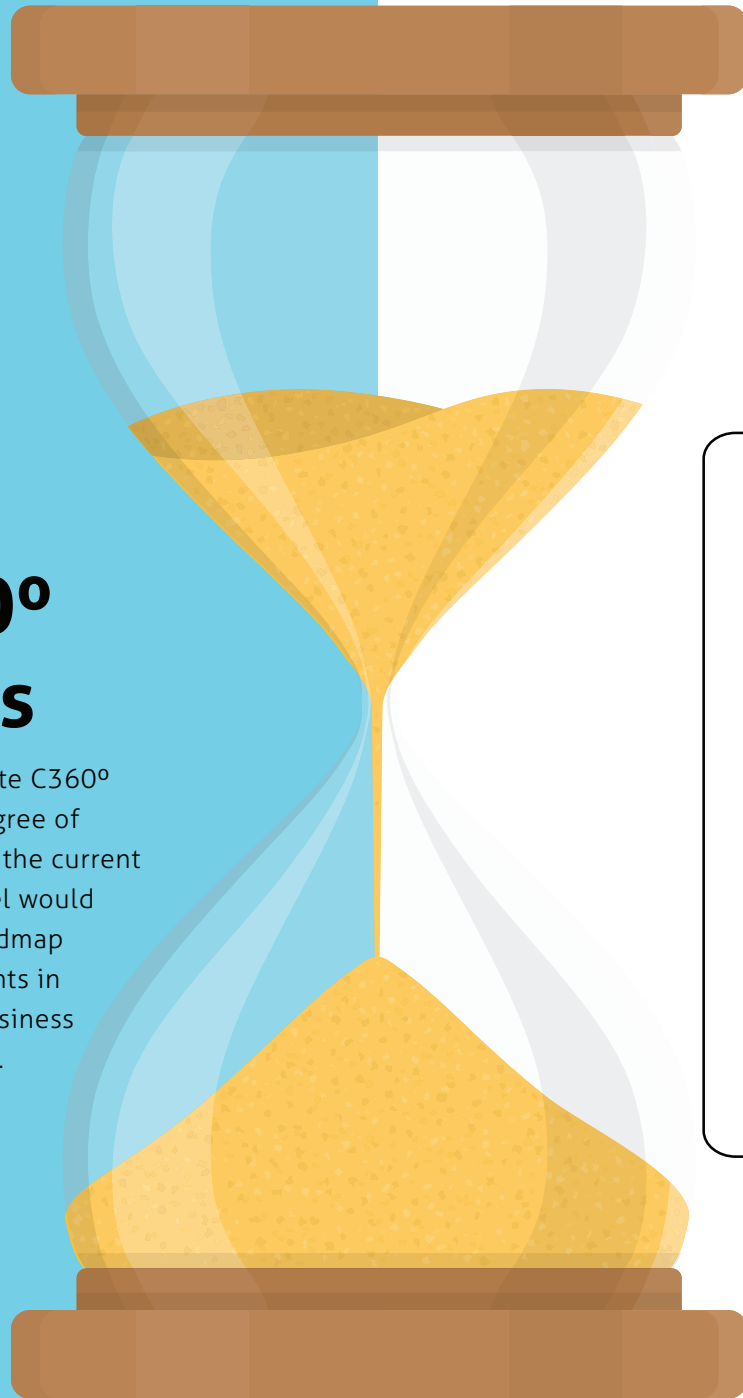


Natasha recommends...



Steps to measure the C360° readiness

Most organisations operate C360° initiatives at a certain degree of maturity. And to enhance the current maturity to a desired level would require a measurable roadmap which requires assessments in the areas of maximum business impact and opportunities. Therefore, a holistic approach should be applied to identify the components required to achieve the objectives.



Natasha, in collaboration with Laura and her team outlined the framework to the desired goal by following the below five steps;

Identify the need

How to increase customers acquisition by 2 to 3% year on year using analytics

Assess the need

assess and map the business and technical epics to achieve these objectives like data, use cases, platform etc.

Analyse the need

Analyse the information to understand the gaps like customer identification KPIs, campaign programs, targeting Mechanism

Build the need

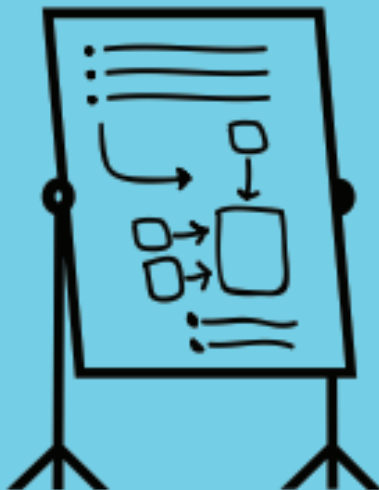
Create the building blocks on data collection, right use cases on targeting, campaigns, strategize activation

Test the need

Test the recommendations with A/B testing, response rate, measurement KPIs like hit ratio, open rate, bounce rate etc.

Identify the need

Understanding the customer, their pains and challenges, and solving them using design, data and technology is important. Therefore, the first step for Natasha was to bring together relevant stakeholders from business functions and technology groups and execute a design thinking workshop to ideate and conceptualise the C360° journey and articulate common business goals of the program. For example, a problem statement articulated by Laura was to evaluate how to increase customer acquisition by 2 to 3% year on year using analytics. To answer this question, Natasha began the analysis of the business outcome through the end users' lens. To achieve this objective, Natasha interviewed stakeholders from various groups such as CRM, data & analytics, business, technology and activation to pitch in with their current capabilities and how they envisage the outcome to be consumed. Once the use case objectives are firm up, Natasha went about assessing and analysing the next level of details from the customer acquisition journey.



⁸GDPR (General Data Protection Regulation)
<https://gdpr-info.eu/>

⁹CCPA (California Consumer Privacy Act)
<https://oag.ca.gov/privacy/ccpa>

Assess the need

Once the business objective for the C360° program was clearly articulated and drafted, Natasha began assessing and mapping the business and technical epics to achieve these objectives.

Coming back to the customer acquisition objective, Natasha analysed HitProds data spread (for e.g. loyalty data, anonymous data streams, customer data, behavioural data, transaction data etc.), technology compatibility, analytics maturity and customer reach to understand how to put the current scheme of things into perspective. This was achieved through multiple brainstorming sessions, with various stakeholders such as:

CRM	▪ Responsible for providing information on customer data, loyalty information, anonymous customers etc.
Enterprise data owner	▪ Responsible for providing data information like quality, data availability, sources etc.
Campaign Management	▪ Responsible for providing information regarding all the campaign and personalisation happening
Analytics	▪ Responsible for providing information on the models being used for targeting, measuring effectiveness and KPIs used
Platform Owner	▪ Responsible for providing information regarding platform readiness in terms of storage, sizing etc.
Activation	▪ Responsible for providing information regarding activating the use cases through a Martech
Data Security	▪ Responsible for providing legal aspect on the GDPR compliance of the organisation

Since customer analytics deals with customer data, during the sessions, it was clear that HitProds must conduct a thorough review on the privacy aspect of the personally identifiable (PII) data for compliance such as GDPR⁸ or CCPA⁹ to name a few.



Analyse the need

Handling PII data is one of the most pertinent challenges for any organisation which is dealing with customer analytics use cases, and Laura and her team were made aware of the fact to consider the challenges it brings about.

There is a clear need for Laura to review the privacy aspects of the data within HitProds. Consider the security of the data not just when it is stored, but also how it is sourced, processed, and moved within the organisation, till it leaves.



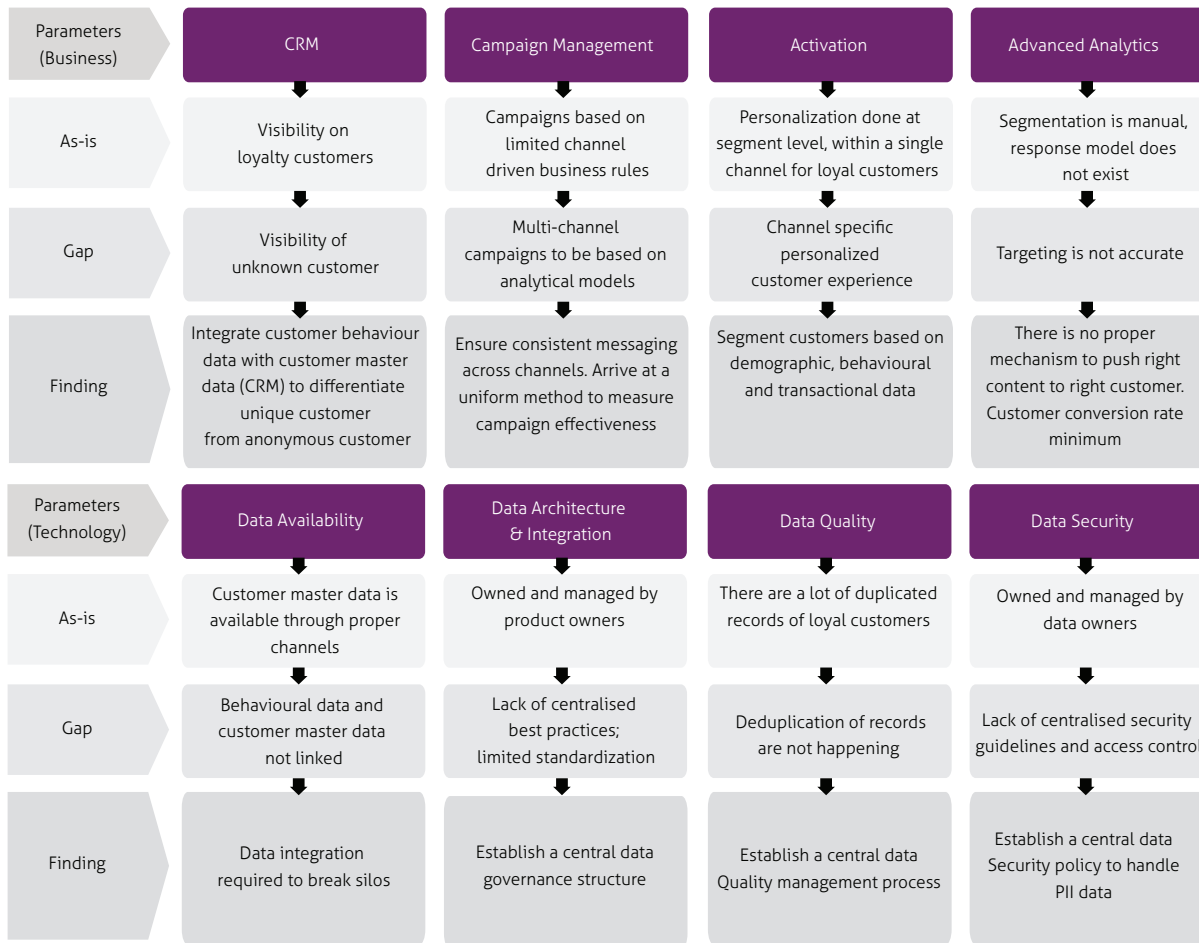
To support this, Natasha developed a framework for ethical data use and advised taking the necessary steps to practice responsible AI which is compliant with the principles of protection, fairness and transparency, by addressing any areas where controls or processes are found to be lacking or inadequate.

The key to delivering a successful C360° solution is to be able to pull together the pieces of information from various sources, preferably in real-time, which help resolve a business problem. Hence, to analyse the need, the information gathered should be analysed to identify the gaps and the building blocks required to close them.

For the customer acquisition objective, Natasha created an assessment framework as illustrated in the diagram below, to rate the existing state of the ecosystem against the target or desired state for HitProds. The result of the assessment showed that HitProds were at maturity level 2 and the target state for them would be level 3 to achieve the objective.

C360 Maturity Journey	Business Maturity Journey	Technical Maturity Journey
Level 1 Basic	<ul style="list-style-type: none"> Customer Data exists in silos Generic Campaigns Uniform Experience Basic Reporting 	<ul style="list-style-type: none"> Data Warehouse Only structured data processing
Level 2 Progressive	<ul style="list-style-type: none"> Loyalty customer centric data acquisition Campaign based on business rules Experience unique to identified segments Limited Analytics 	<ul style="list-style-type: none"> Availability of a Data lake Data Integration with various data sources Data Storage Defined standards and policies
Level 3 Systematic	<ul style="list-style-type: none"> Anonymous to known - deterministic approach Multi-channel experience Predictive Science – response model, look a like model, lead generation Measurement of KPIs 	<ul style="list-style-type: none"> CDP available Identity Resolution Data Enrichment processes Compliance with regulations Semi-structured data processing capability
Level 4 Advanced	<ul style="list-style-type: none"> Anonymous to known - probabilistic approach Integrated Interactions (Offline Online) Cross channel Experience Prescriptive analytics 	<ul style="list-style-type: none"> Integrated data model Consumption / APIs Insight democratization Marketing Automation DevOps implementation
Level 5 Matured	<ul style="list-style-type: none"> Single view of customer with "golden records" Omni channel experience Cognitive analytics 	<ul style="list-style-type: none"> Enterprise Data Lake as "single source of truth" Data monetization Self service BI Advanced AI services Real time insights

Once the parameters to define the maturity were firmed up, Natasha began with the assessment and identification of the identified gaps during the study. The gaps between the existing and the desired states provide an understanding of what HitProds is trying to solve by building a C360° solution. The below illustrates the key parameters of the framework to analyse the customer acquisition strategy through a Customer 360° program, which would eventually translate to work themes during the implementation roadmap.



However, to reach this stage, Natasha defined each level of maturity and benchmarked it against industry best practices. This helped HitProds understand where they are in their journey today and the likely steps to be considered in order to improve their business and become analytics-driven. With a fair, unbiased assessment, Natasha was able to clearly draw the gaps. Hence, a matured and tested framework should be applied to provide a fair judgement.

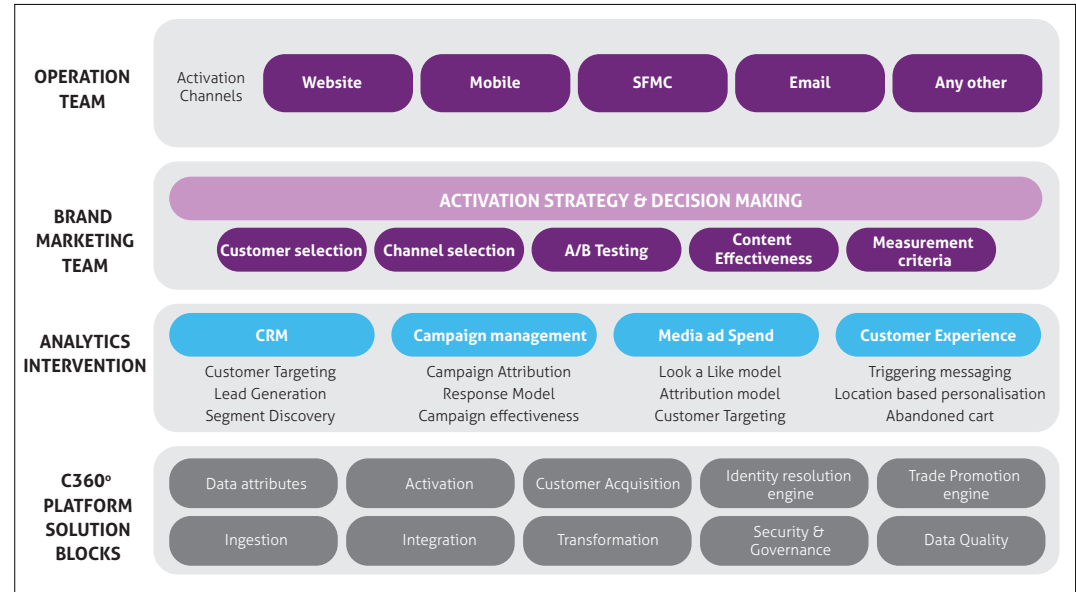


Build the needs

Once the analyses were done, the next step for Natasha was to build solution blocks or work themes which would eventually help fill the gaps. Each work theme may hold multiple use cases of similar types which will help prioritise the work streams and optimise funds and resources to develop them. These solutions were built keeping in mind the desired level to which the objectives are met. Whether these solution blocks are business or technical in nature, eventually they must tie back to the overall objective.

The below illustrates the customer acquisition objective, how Natasha identified a work stream from both a business and technical perspective for each gap to plan for the development.

Once the building blocks or the work themes were identified, Natasha was able to visualise the entire workflow together. The below illustration was provided to Laura as an overview to implement the customer acquisition objective with various solution blocks and dependencies having been identified.



Area	Gap	Impact	Desired Level	Use case	Building block
CRM	<ul style="list-style-type: none"> No integration between internal and external data No anonymous customer mapping 	<ul style="list-style-type: none"> Anonymous customers not known No Accurate targeting 	<ul style="list-style-type: none"> Integration between CRM and DMP A2K -Link anonymous customers to know 	<ul style="list-style-type: none"> A2K Deterministic Probabilistic 	<ul style="list-style-type: none"> Technical Building block Integration & Ingestion Business building block Identity resolution engine
Data	<ul style="list-style-type: none"> Duplication of the customer ID Manual data cleansing 	<ul style="list-style-type: none"> Duplicated Leads Duplicated Offers 	<ul style="list-style-type: none"> Single version of truth 	<ul style="list-style-type: none"> Data quality scorecard Automated DQ checks 	<ul style="list-style-type: none"> Technical Building block Data Quality Unique customer ID
Campaign management	<ul style="list-style-type: none"> No targeted Campaigns No acquisition measurement currently 	<ul style="list-style-type: none"> Multiple strategy to drive single outcome Duplication of effort 	<ul style="list-style-type: none"> Behavioural segmentation Right KPIs to monitor campaign effectiveness 	<ul style="list-style-type: none"> Response modelling Monitoring responses 	<ul style="list-style-type: none"> Technical Building block Integration Business building blocks Qualified lead generation Targeting effectiveness
Activation	<ul style="list-style-type: none"> Static personalization No multi-channel campaigns 	<ul style="list-style-type: none"> Siloed CX No Personalisation 	<ul style="list-style-type: none"> Multi channels integration to enhance customer experience 	<ul style="list-style-type: none"> Recommendation engine per touchpoints 	<ul style="list-style-type: none"> Technical Building block New CX tool Business building block Recommendation engine



Test the needs

The final frontier of the journey was to test the use cases by launching them with the end customers. To understand how the recommendations are being perceived by the end customers, Natasha suggested that HitProds create an ecosystem where such models get tested by using techniques such as A/B testing for example, to assess the accuracy of the targeting and messaging. As this process to derive a conclusion is very iterative in nature, it is recommended to consider a test and learn approach, before scaling the model and platform for multiple segments or brands.

Deliverables envisioned for such assessment

Each assessment would differ based on the objectives set at the onset of the program. However, some of the probable outputs which are common across most of the programs are listed below. This is not an exhaustive list by any means. However, it provides a guideline for organisations on what they need to propel the C360° journey.



Deliverable	Description
Data Mapping	The consolidated view of attributes provides clarity on the data available and/or missing to meet model goals
Attributes list	Based on the objectives set, list of data attributes required to drive the use cases in a C360° environment
Use case backlog	It includes the use cases (technical and business) which the organisation must execute from a short, mid and long-term perspective
Cost – Benefit analysis	Measuring metrics like revenue earned/cost saved as a result of building a work theme. Helps to prioritise work based on the funds available
Architecture solution view	Measuring metrics like revenue earned/cost saved as a result of building a work theme. Helps to prioritise work based on the funds available
Use case detailing	Detail of use case which have been selected by the organisation on business outcome, data, and the level of readiness for execution
C360 Maturity Assessment	Rating the current AS-IS processes vis a vis the industry benchmark based on the parameters identified to be assessed
Use case Prioritisation	Prioritising use cases based on urgency, investment, complexity, resources & demand based on a business workshop
Roadmap & Implementation plan	This deliverable provides a view on the milestones in each phase within the program plan
E-R Model	This model is used to define the data elements and relationship for a specified system

Highlighting the success criteria of a successful C360° implementation



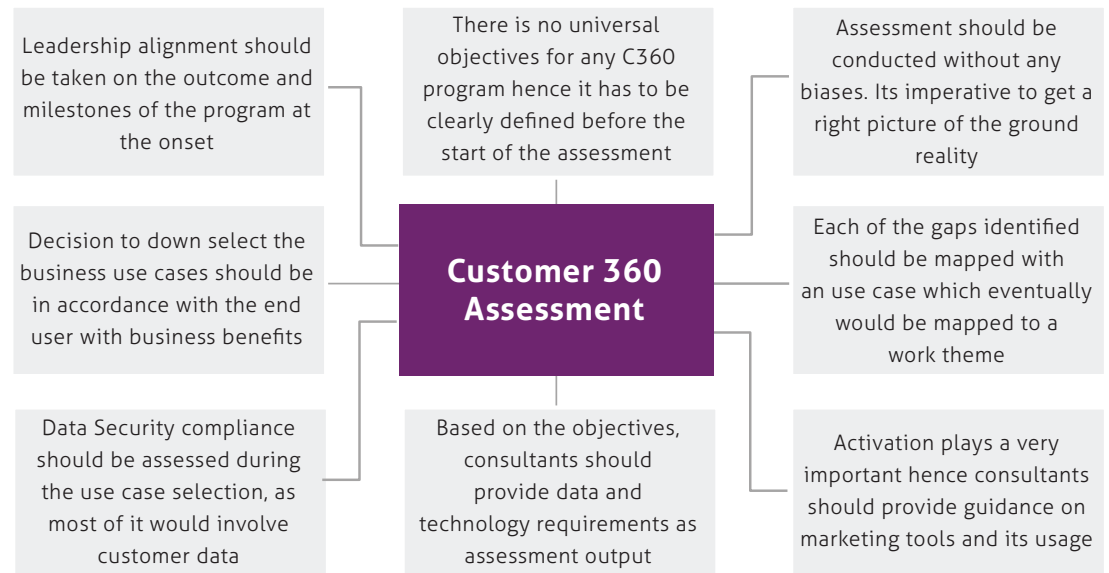
Becoming data-driven is not something organisations such as HitProds tend to accomplish overnight. However, to become one, there are multiple areas within the organisation which should be aligned and worked out together at the onset. Building a C360° platform could be time-consuming, as there are multiple teams involved, various objectives to be achieved which includes all sorts data, and technology to add to the complexity. Hence, it becomes imperative to sort the following challenges during or before the build starts.

Leadership commitment	Strong leadership commitment will provide the direction and organisation-wide support that is required in order succeed the program
Get the responsibilities straight	Get the right people in place and create the RASCI matrix during the start of the project
Data Strategy to be in place	Getting commitment on getting the right data and on time is crucial for implementing any C360° program
Choice of Technology to be sorted	Choice of technology helps to come up with required direction whether the solution to be built on prem or on cloud
Data Security	Involve the GDPR team to find out the legality of using the PII data as it differs from country to country
Integration of data sources	For Integrating internal and external data sources, the challenge is to find a key. Organisation fails to reap the benefits because they don't have enough skills to do so
Filling the team with right skills	These kind of program needs modern techniques and technologies which may not be readily available hence hiring or contracting a SI should be done at start
Business to make the final decision	It is very important that the final use cases to be driven through the C360 program should be decided by the business and IT should only be enablers

Accelerating the C360° program




The continued uncertainty resulting from the COVID-19 pandemic, challenging economic circumstances ahead, and changing customer behaviour resulting from them are forcing organisations to contemplate tough adoptions to accelerate digital. Accelerating such transformation initiatives could be complex and expensive and require customer success leaders and architects to take a step back and reassess their C360° program roadmap, in order to modernise customer intelligence platforms using AI technologies.



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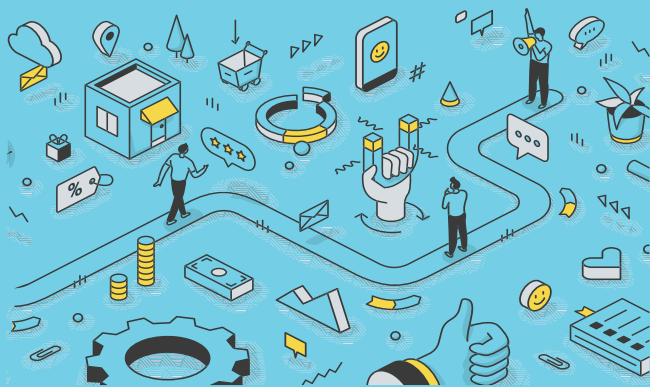
Abhijit Chatterjee is an Advanced Analytics Consultant with Mindtree's Europe & RoW Consulting Practice, where he works to develop new and innovative analytical solutions that meet customer requirements. Abhijit brings in the experience and capability of navigating through complex business processes in the areas of consumer insights, supply chain, marketing intelligence and many more to construct the right intervention in the form of use cases using Machine learning, AI, Edge analytics tools and technique to augment the decision making and simplify the outcomes.



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