

Marketing Mix Models “On Demand” Cross Publisher Measurement in a privacy first world



Background

Today's consumer journey is extremely complex. With an average consumer owning multiple devices they are able to research and shop across multiple devices, platforms and publishers anytime. For a marketer, deciding which touch point to prioritize and how to invest across these are important to drive future growth of their business.

In contrast, there are multiple regulatory and ecosystem changes occurring in the digital ecosystem which are making it difficult to connect users across platforms and identify what is driving outcomes. This connected ecosystem has been the basis of digital marketing ROI measurement through techniques like multi touch attribution. Losing the ability to measure outcomes can lead marketers to make decisions on poor proxies like views/clicks. Studies have shown that proxies like clicks and views have low correlation to true outcomes.

There is an urgent need for a solution to help advertisers quantify the impact of all of their marketing activities and prioritize investment. Marketing Mix Modelling (MMM) is a well-established technique which can potentially address these questions. MMM is a data based statistical technique which can help marketers quantify the impact of marketing and non-marketing activity on sales. In addition, it is privacy-friendly and highly resilient to the changes occurring in the ecosystem.

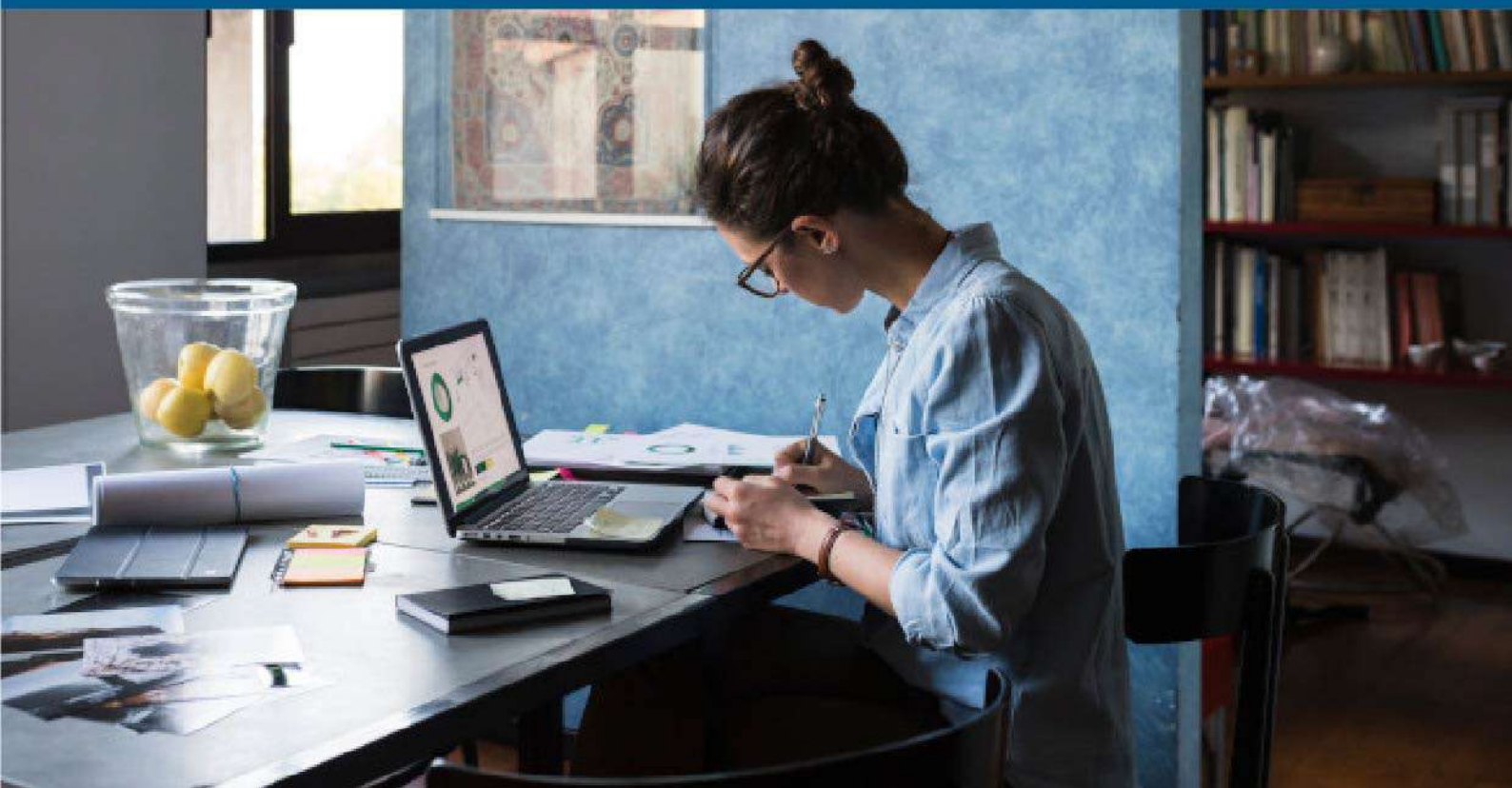
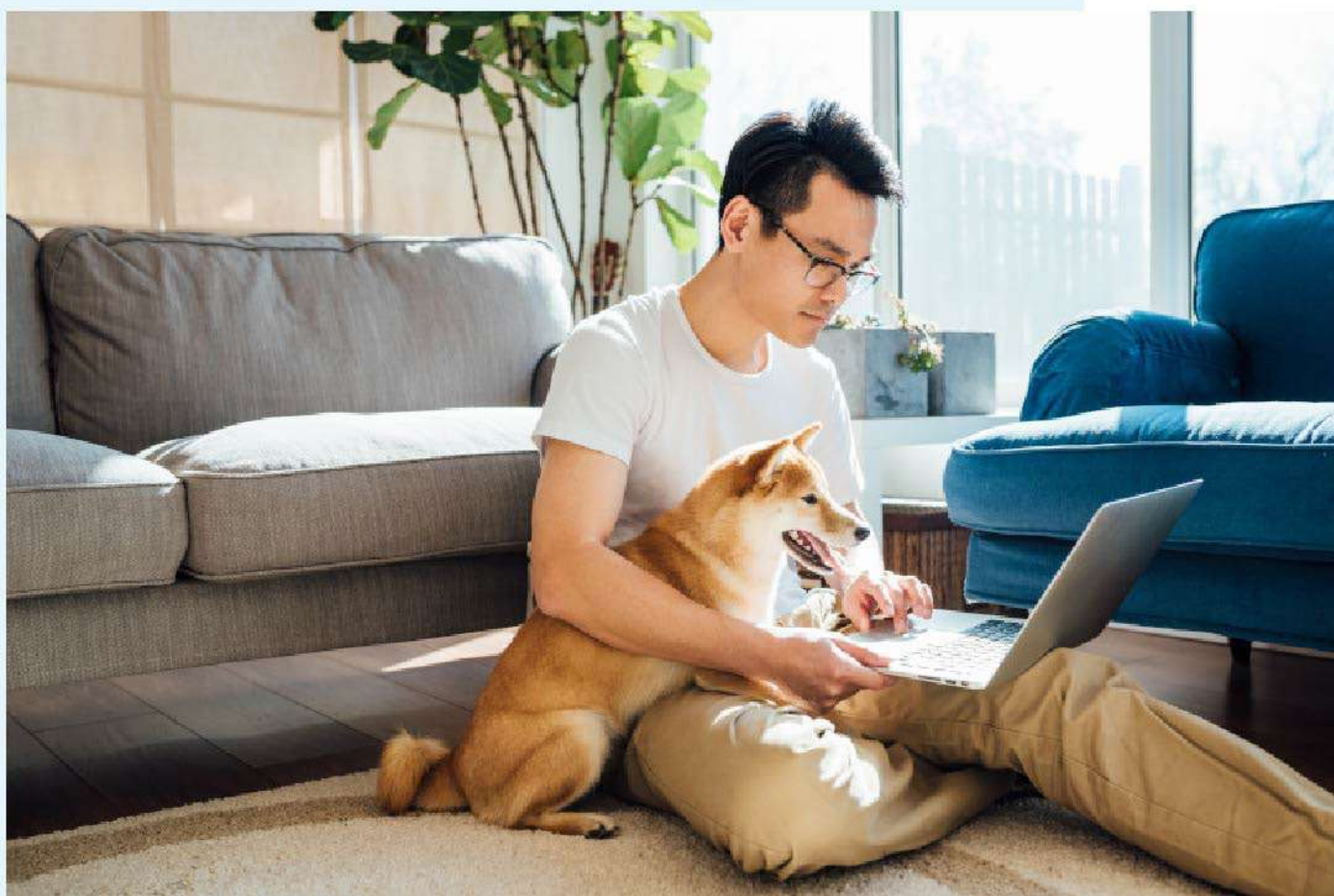


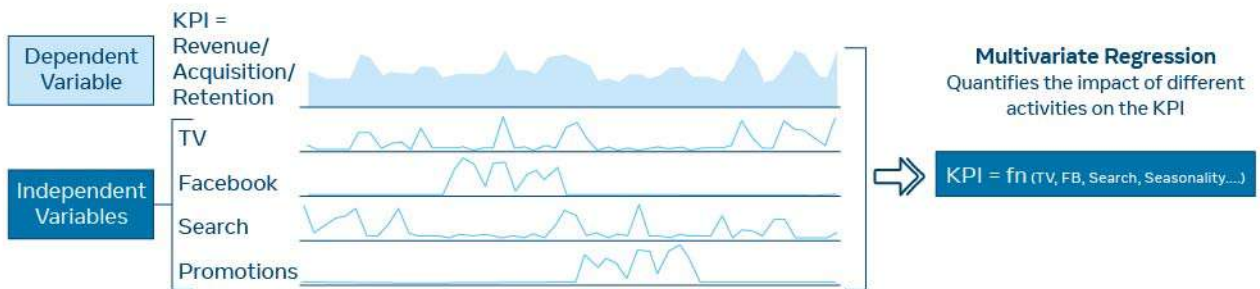
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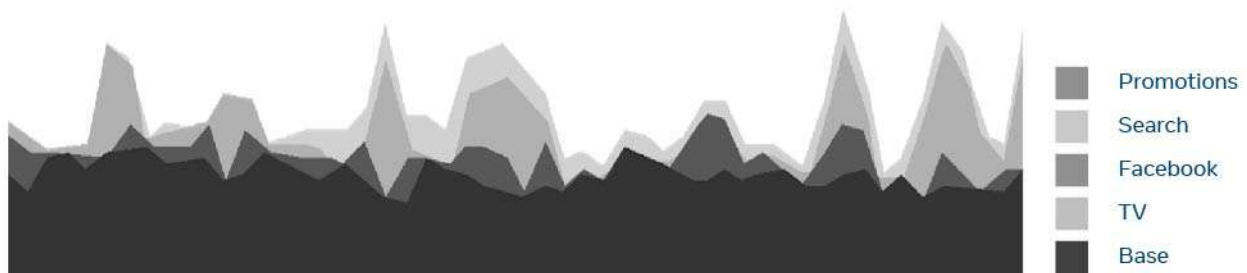


Marketing Mix Models (MMMs) belong to the family of supervised machine learning models which use statistical analysis to quantify the impact of marketing and non marketing activities on the business outcomes.

Marketing Mix Model Overview



Attribute sales to different marketing activities



Quantify marketing contribution to Sales and ROAS



Use MMM outcomes for future planning



Figure 1: Marketing Mix Model Overview (Illustrative)

While MMM can provide an alternative, there are challenges which limit its viability as an always on cross publisher measurement and planning solution.

RESOURCE INTENSIVE: Marketing Mix Models can be extremely resource intensive both from an investment as well as man hour perspective. Given the high levels of investment can make it very difficult to scale to a large part of the business.

EPISODIC AND NOT ALWAYS ON: The time investment required for running a traditional MMM can be significant (3- 6 months). As a result, MMMs are often used as an annual exercise and cannot keep pace with business where decisions need to be made rapidly.

COMPLEXITY AND VALIDITY: MMMs use complex econometric modelling to arrive at the outcomes and as such it may seem like a black box approach.

LEAD TIMES AND IMPACT: Given the long lead time from project to results, MMMs can lag behind and not get integrated into the business planning process.

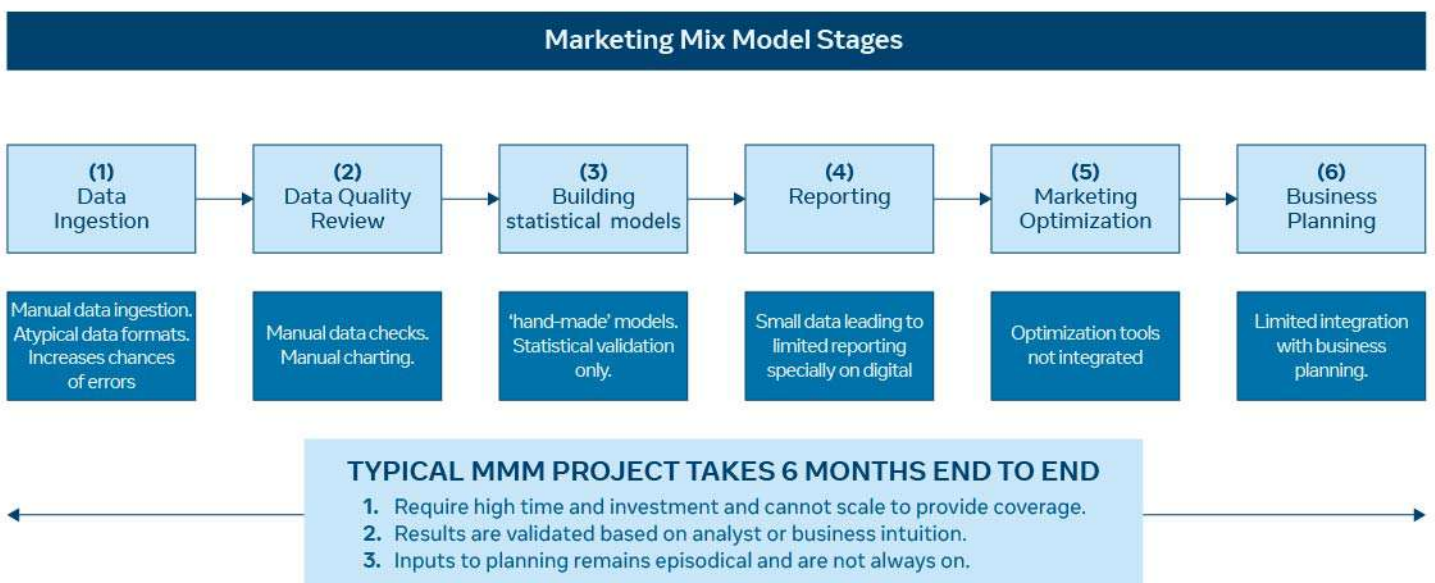


Figure 2: MMM Process and Challenges

The challenges to MMM are well known and the MMM ecosystem has been evolving to mitigate these. With the increase in data science resources and computing power, there is an increasing experimentation with building on demand MMM capabilities. Success of such initiatives will be predicated on the inhouse team to develop an agile and easy to use platform which can manage the MMM process seamlessly.

MMM SaaS (Software as a Service)



The MMM Software as a Service (MMM SaaS) program from Facebook is specifically designed to help advertisers accelerate their journey in this space. This program wants to help advertisers adopt an incrementality based planning process through the integration of a self-serve MMM platform. The program enables the following:

01

Automation

The tools are designed for automatic integration into the advertiser and publisher data ecosystem to allow seamless flow of data reducing effort.

02

Speed

The MMM processes are automated and scheduled allowing for faster project turnaround and resource management.

03

Open box approach

The analytics team has a full view of the workings in the box increasing transparency and trust.

04

Forward looking

The tools will have inbuilt scenario planning tools which allow businesses to use the outcomes for future planning.

05

Intelligent

The integration of machine learning techniques reduces analyst effort in decisions increasing speed to insights.

In summary, the key objective for MMM SaaS is to help advertisers move towards always on, scalable X-pub measurement and planning.

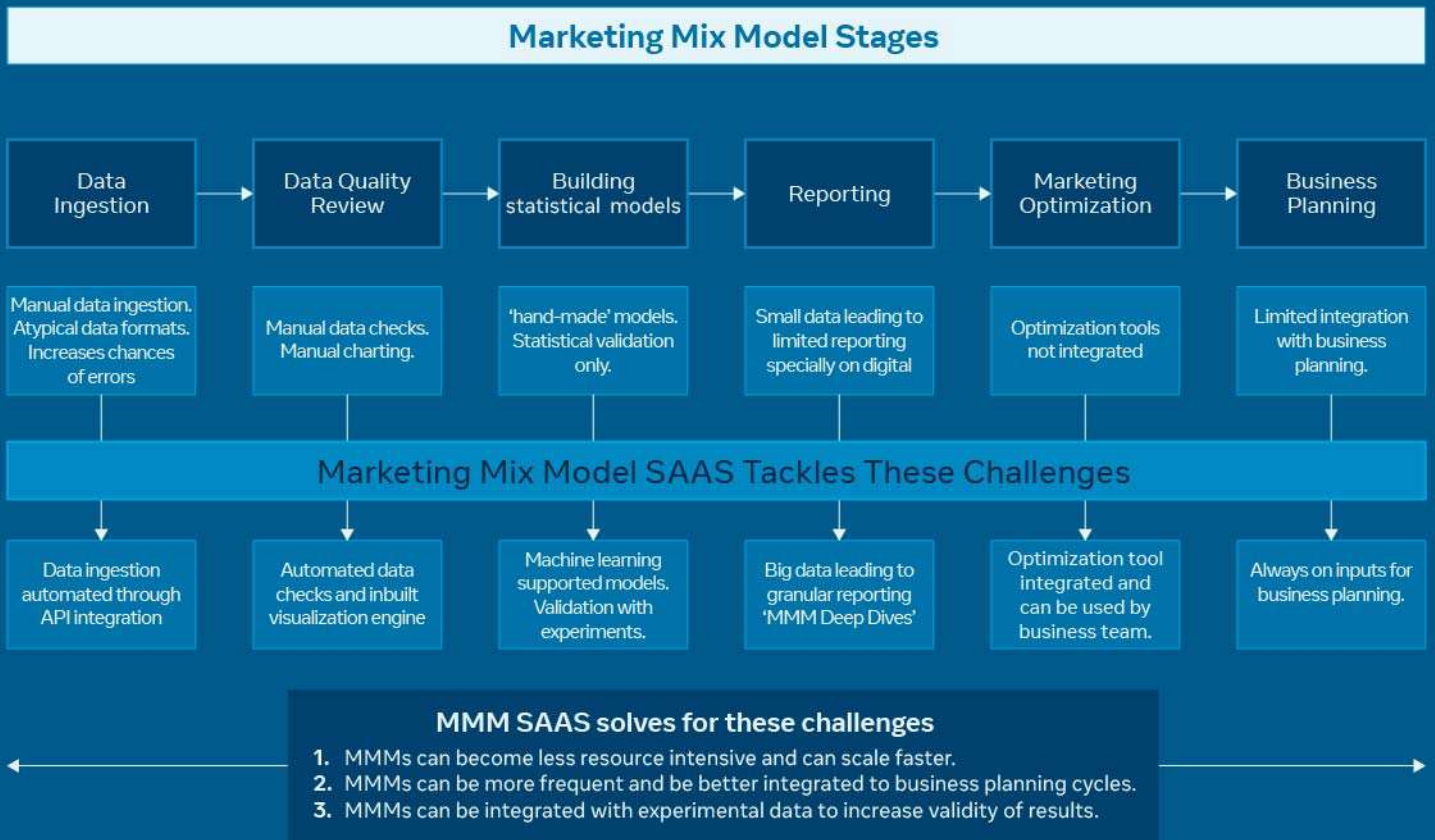


Figure 3: MMM SaaS Benefits

For the application of MMM SaaS, Facebook partnered with Analytic Edge and identified their Demand Drivers™ platform as the platform for the MMM SaaS program.

Demand Drivers™ is a cloud-based platform that enables companies to run MMM in-house. It uses an integrated process that offers the speed, cost and scale advantages missing from traditional MMM. This platform is already in use by several global advertisers and has helped them achieve faster, more responsive marketing effectiveness measurement and decision making.



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In Marketing Science, our mission is to help all businesses grow by transforming marketing practices, grounded in data and science. The rapid privacy change within ads and measurement ecosystems will make privacy friendly methodologies like MMM and their new evolutions ever more relevant to advertisers and agencies. With MMM SaaS initiative, Facebook is helping to design and fit third party MMMs solutions to the digital age and extend the ability for incrementality based cross publisher measurement to more advertisers. ”

GEORGES MAO

Director, Head of GBG Marketing Science APAC, Facebook

MMM SaaS Application:

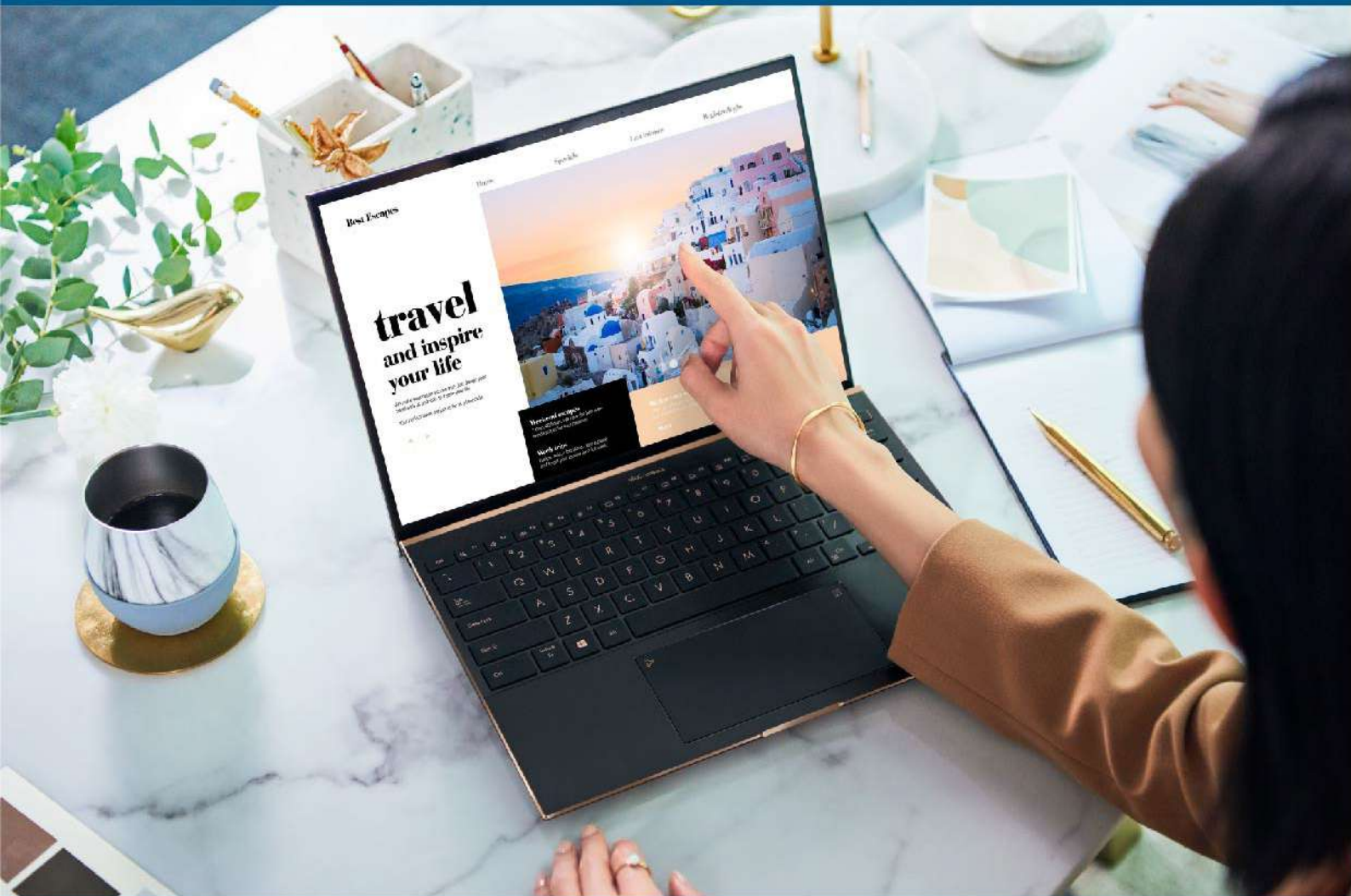
ASUS

ASUS is a Taiwanese multinational computer and phone hardware and electronics company headquartered in Taipei, Taiwan. It is a large advertiser who has vast global businesses within 10+ major markets. Given the complexity of their business it was a challenge for them to measure and optimize business planning across regions, markets and product lines.

In 2019, given the rising demand in the need of quantifying the impact of Facebook and other publishers' investment, Facebook and ASUS had partnered to conduct a traditional MMM with a 3rd party to evaluate marketing performance for France and Germany on their hero product lines. The MMM results identified significant opportunities to unlock growth by media optimization. Asus was able to measure ROAS of different media and shift allocation towards high ROAS vehicles like digital from low ROAS vehicles like OOH and print.

ASUS wanted to expand this to the rest of 80% of their business. However, the challenges of a traditional MMM approach meant that they could not activate this plan.





To help ASUS continue to grow and advance on this digital transformation journey, Facebook and ASUS started the MMM SaaS program to expand ROAS measurement. The ASUS and Facebook MMM SaaS program was designed to test the following:

01

Can MMM SaaS enable a global and complex marketing organization to move to be data driven in cross channel allocation?

02

Can the process be simplified enough for a small inhouse analytics team to execute the program efficiently?

03

Can this program allow ASUS to scale ROI learnings beyond a few key markets?

With our initial pilot for the Vietnam market, we were able to help Asus to execute the MMM via the MMM SaaS platform. Their internal analytics team was able to execute the MMM, quantify the learnings and use the results to run scenario plans to optimize media mix more effectively and efficiently.

OPPORTUNITIES CREATED BY MMM SAAS

The MMM SaaS has created the following opportunities for ASUS:

01

Accelerated speed to insights

Through the use of MMM SaaS approach, ASUS was able to get MMM insights faster. The MMM project took around 2 weeks of effort and significantly reduced the time to insights. This was achieved due to efficiencies from streamlined data processing and modeling workflow in the MMM SaaS platform. The modeling engine in the platform is customized for MMM, has an intuitive user-interface and does not require any programming skills.

02

Identify opportunities for media investment

Post the MMM the ASUS team was able to understand the media efficiency by each paid media across online and offline. Vietnam data saw good efficiency for digital channels while Facebook contributed to 40%¹ of media incremental sales volumes with more than 60%² efficiency improvement. Based on the model results, ASUS can now simulate different scenarios to make informed decisions on marketing budget allocation. Alternatively, they can use the automated system-driven marketing budget optimization algorithm to maximize revenue or profit.

Source 1: MMM SaaS model result conducted by ASUS and Analytic Edge based on data from January 2020 to June 2020.

Source 2: MMM SaaS model result conducted by ASUS and Analytic Edge based on data comparing July 2018 – June 2019 to July 2019 – June 2020 for Vietnam market.

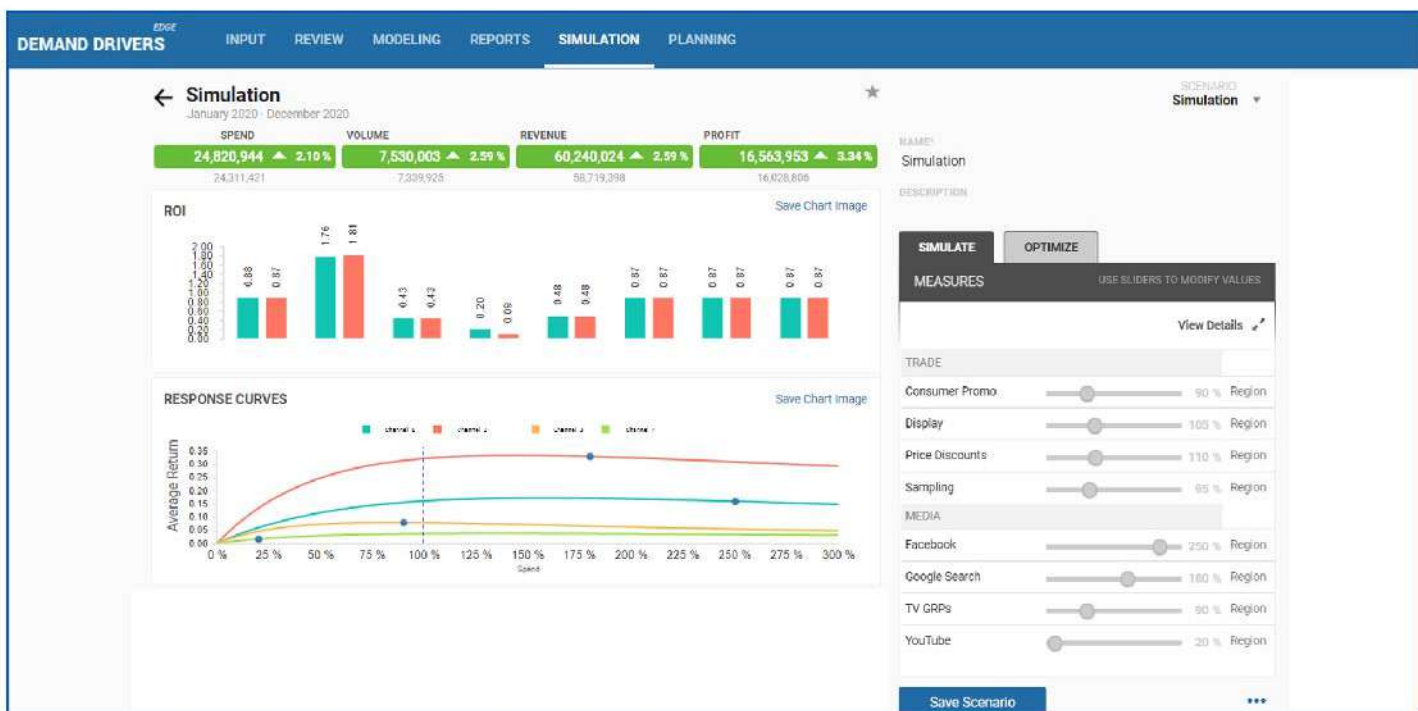


Figure 4: Scenario planning (Image for illustration)

03

Scale

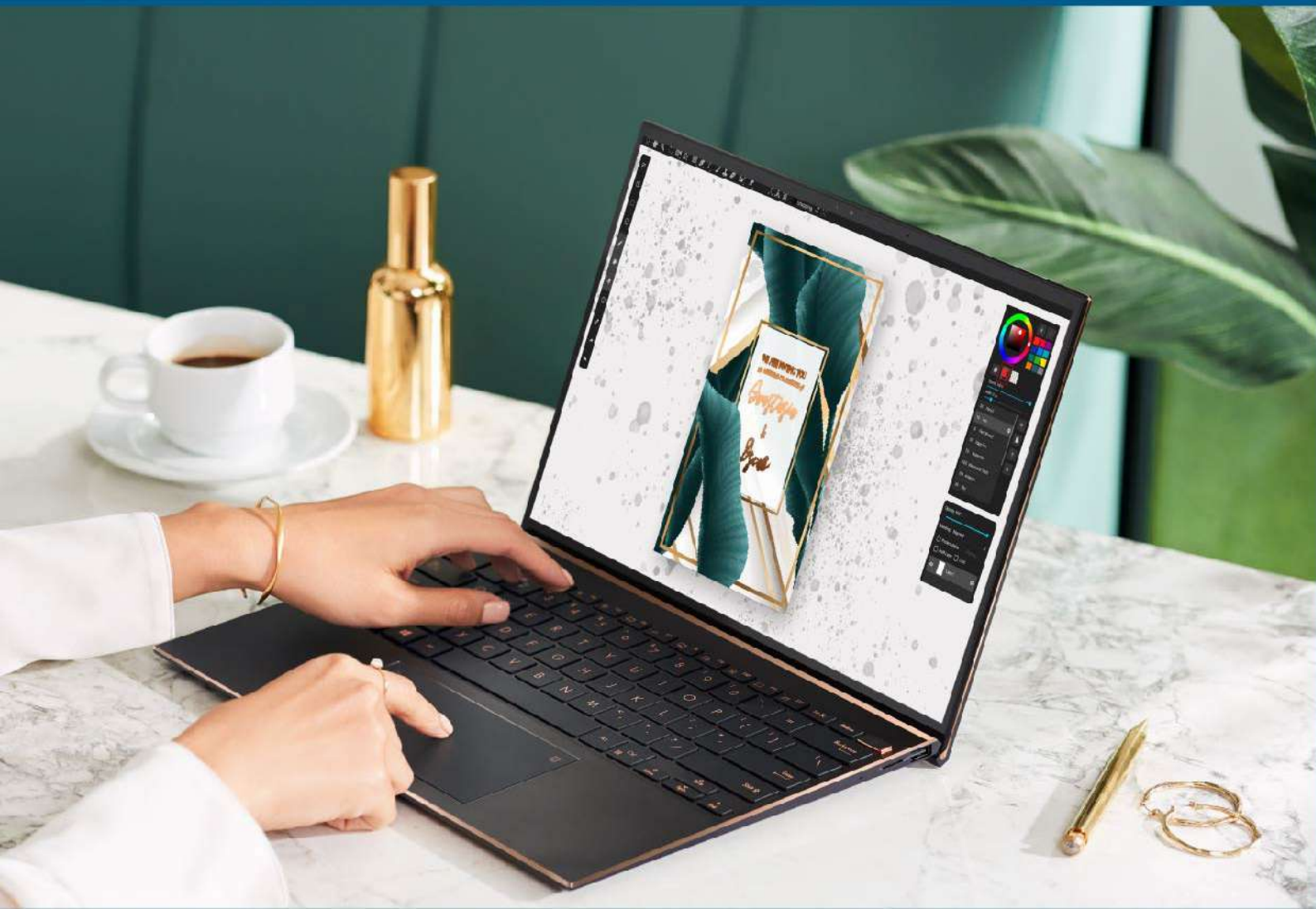
With MMM SaaS, ASUS is now able to apply a more scalable approach to measure marketing performance for many more markets at an affordable cost, and their scientific way of measuring media effectiveness is no longer limited to key markets applications. Post the Vietnam pilot, ASUS was able to scale it to additional markets like India.

Interestingly without MMM SaaS approach a market like India would never have been considered for an MMM study.

04

Analytics expansion

The value created by MMM SaaS tool has enabled the ASUS team to expand their analytics team and established an inhouse MMM team. This team will be the key POC of MMM SaaS and future data analytics and measurement work within the organization.



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We truly believe in the spirit of "measure what matters" and have always been in search for better and more accurate way of calibrating our marketing efforts with true uplift to the business. Through the comprehensive learning journey together with Facebook from traditional MMM to MMM SaaS, we are now equipped with results driven insights and become more confident to scale up the ROI learnings across the organization to thrive in today's highly complex marketing environment. ”

JEFF LEE

Head of Social, Influencer and Media Buy, ASUS

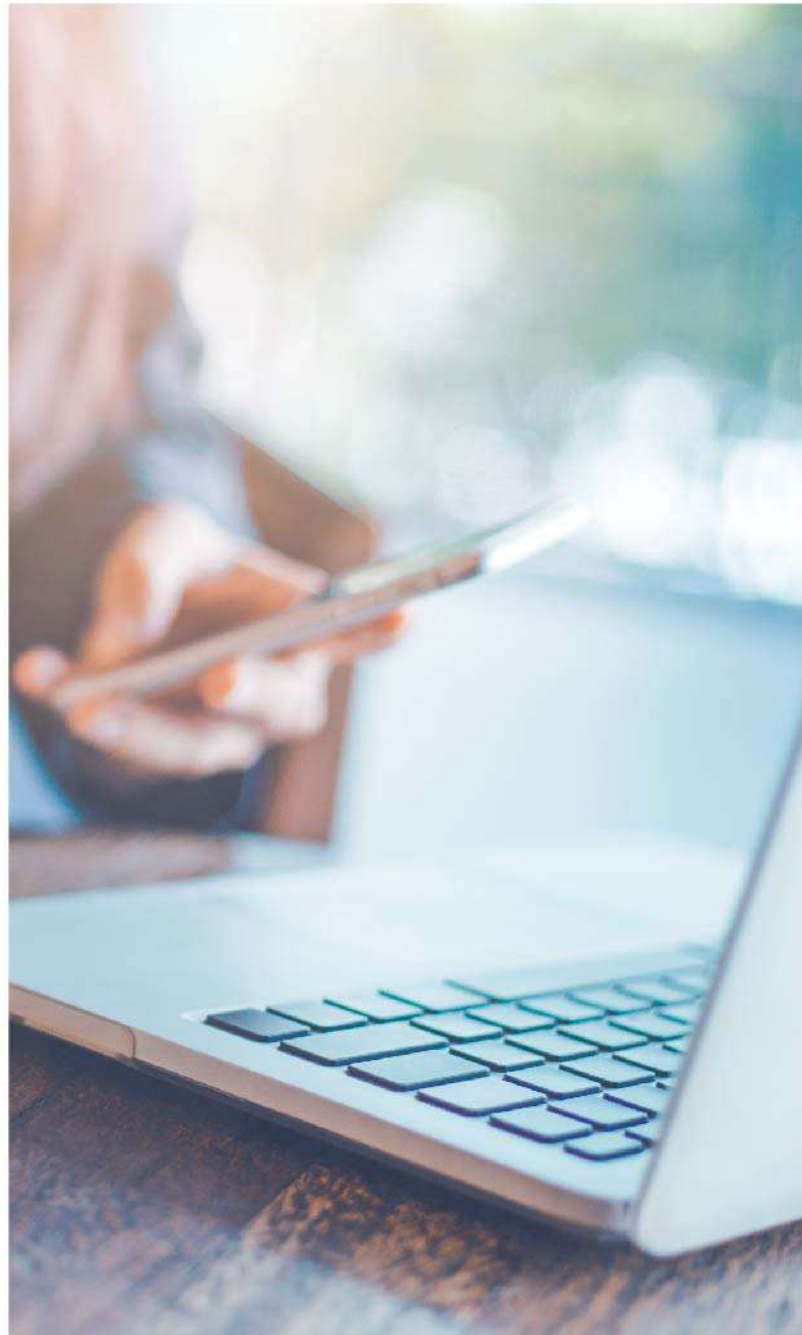
MMM SaaS in the future

Further innovations are underway that will make MMM on SaaS platforms simpler, automated and AI-driven. This will enable widespread adoption of MMM for both large and small companies, who couldn't access MMM before or couldn't scale MMM across their whole business.

The ability to run models on-demand will give decision makers the flexibility to leverage MMM insights far more frequently as they encounter new questions or need to change priorities. This adaptability will be a strategic advantage for any brand that can achieve it, especially in uncertain times.

MMM SaaS will also reduce bias through cross-validation and calibration from experimental approaches, to further strengthen the insights from MMM. This includes emerging econometric techniques that can leverage 'natural' experiments like geographic-based tests and these will be integrated into the MMM and MMM SaaS framework.

We expect the evolution to continue. The right computing, data, and analysis approaches are already available. Integrating them all into an accessible, scalable, efficient MMM SaaS approach is how brands will take advantage of those tools and overcome the challenges they're facing in an increasingly complex marketing and advertising landscape.



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