TECHNOLOGY

10 Ways to Achieve Business Growth Through Digital Reinvention

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Growth through reinvention of artificial intelligence (AI) and machine learning (ML).

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There are frequent debates on optimal ways to find business growth. Oftentimes, this leads to contradictory views such as 1) emphasis on market-level penetration versus personalization, 2) focusing on the short-term growth levers versus long-term growth levers, and 3) maintaining marketing fundamentals or evolving to reflect current market realities. The answer may not necessarily lie at either end of the spectrum but somewhere in between. As such, it becomes imperative for executives to find the optimal space to pursue their desired growth trajectory.

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Digital capabilities, especially machine learning (ML) algorithms and artificial intelligence (AI) systems are at the heart of unlocking the growth trajectory, independent of the route chosen. However, there is a need for a reinvention of the ML algorithms and AI systems' applications, enabled by the re-calibration of people's skill sets, to remain the impetus for growth. This reinvention and recalibration have become necessary due to the complexities brought about by multiple forces in these disruptive times and evolving consumer behavioural shifts.

Reinvention is one of the key elements of digital transformation. While digital transformation covers multiple dimensions such as 1) proliferation of cloud usage, 2) hybridization of work, 3) growing ML, AI applications and investments, 4) increased transparency, and 5) expansion in the usage of blockchain and metaverse (Shoushany, 2022), it is important to prioritize and focus on key elements that are impactful. Reinvention will accelerate digital capability and recalibration will facilitate the leadership capability to help companies evolve towards digital mastery. As outlined in the 2020 MIT

Sloan Management Review research on 'The new elements of digital transformation', the digital and leadership capabilities will enable companies to transform digital technology into business advantage.

Ways to achieve growth through reinvention of ML and AI applications

Within a digital context, ML algorithms and AI systems need to be reinvented across ten dimensions to accelerate business growth:

1) Predicting the future of a known past to predicting the future of an unknown past

ML algorithms learn from past data patterns to predict the future. However, with economic disruptions and inflationary pressures, it takes time for data to build up before ML algorithms can even predict based on learning from the initial data and improve over time.

This is where generating proxies from different data sources, especially digital data, creating multiple small ML models feeding into a bigger ML model, and combining game theory with ML can tackle the challenges. This has been validated in predicting future short-term sales in the early days of COVID-19 as well as predicting the impact of the inflationary environment on volumes in 2022-2023 to help shape category, supply chain, and net revenue management planning.

Firms should find a convergence of expertise across ML algorithms and behavioural economics to foresee the future and bring certainty to the uncertainty in business decisions.

2) From demand prediction to incremental demand generation

While it is important to predict the impact of various socio-demographic, macro-economic, cross-category, consumer lifestyle, and retail infrastructure evolutions on long-term consumer demand, even more critical is shaping the incremental demand beyond organic growth. The fundamental premise of shaping incremental demand beyond organic growth is a consumer unmet/less-met need. For example, introducing top-down ketchup bottles to offer the convenience of taking the ketchup out from the bottle, especially the last bits or integrating solar panels in the sunroof of the car to power the AC's fan when the ignition is switched off are examples of driving catalytic incremental demand in the category by addressing unmet consumer needs. Incremental demand generation can help double the long-term growth rates, beyond organic growth, with granular deployable strategies. Whilst long-term demand prediction requires the science of combining econometrics and transfer learning (a branch of ML), incremental demand generation requires the art of harnessing in-the-moment human behavioural data in the right way. The challenge for firms is to integrate these two diverse skills in the same working team for a future-proof long-term strategy.

3) From prediction to shaping the growth

The disruptions since 2020 resulted in some products witnessing increased penetration and/or usage while others experienced the reverse for some time. Propensity models, harnessing ensemble ML algorithms can predict customers/shoppers who are likely to defect, downgrade or upgrade their purchase value in the future and the reasons for the change in behaviour with good accuracy. These reasons can drive personalized next-best actions which can increase the customer's lifetime value. Whilst such propensity models have been in existence for decades in industries such as retail, telecom, and financial services, recent evolutions in the data landscape and partnerships have made it a possibility for sectors without customer transactional data such as consumer product goods companies. The challenge for firms is to institutionalize a dynamic organizational practice of such propensity models being updated at a regular cadence given the continuously evolving consumer behaviour. The outcomes from such propensity models can feed into multiple workstreams such as product/service development, pricing, and brand portfolio evolution.

4) From algorithms to the marriage of algorithms with cultural insights

Factors such as innovation impact growth, especially in response to changing consumer needs. However, incremental growth from innovation is still low in many consumer product goods categories. Harvard Business Review article 'How corporate purpose leads to innovation' outlined researchers estimate that 70% - 90% of innovations fail. And despite new organizational structures, internal incubators, big data, and artificial intelligence, there is no evidence that the success rate of innovations is improving.

Trend detection and prediction, harnessing natural language processing and computer vision on unstructured digital data, can help uncover innovation platforms to drive incremental growth. For example, looking at the trend of coconut water as early as 2015-2016 fulfilling the consumer tension of finding a natural source of rejuvenation post-physical activity in a format which fits daily life, one can predict the present catalytic growth of coconut water. Generative AI can help significantly in this area by driving efficiencies in decoding trends from unstructured digital data. These predicted trends help propel a lot of innovations targeting the already expressed consumer desires/unmet needs/pain points in the digital footprint of consumers (such as social media, reviews and ratings, and search data). To thrust longer-term innovations tapping into the not-yet expressed consumer desires/needs, there is a need to combine cultural insights on long-term socio-demographic, macro-economic, and consumer lifestyle changes with the projected evolution of trends. For example, the emergence of non-alcoholic beers at the convergence of non-alcoholic drinks and alcoholic beverages; the emergence of cereal bars with yoghurt creams, light dried fruits, and nuts at the convergence of cereal-based crackers and creamy desserts; the emergence of Chrysler minivan at the convergence of roomy van for families and comfort of a car.

The challenge for firms is to drive the marriage of cultural insights and algorithmic prowess, which reside in different teams.

5) From disparate to always-on, holistic and integrated measurement and optimisation

There are opportunities for attaining 1%-3%+ incremental growth by optimising spending across marketing and sales levers such as media, price, promotion, distribution, assortment, and content. The opportunity is on 4 dimensions: a) optimizing the levers which drive return on investments such as creative quality b) optimal reallocations with granularity such as optimal reallocations across media channels, platforms, formats, audiences, and campaigns c) continuity and granularity to drive convergence between strategy and deployment. For example, pricing opportunities by products, sales channels, retailers, and regions providing deployment details building up to the brand and category strategy d) agility to reallocate between brands, categories, and markets depending on changing opportunities, and strategic focus. ML capabilities have made these opportunities come true with deep-learning models to ensemble ML models, depending on data granularity and frequency. The required re-invention is in the combined use of ML models + econometrics rather than relying solely on econometrics to drive granularity, and continuity at scale not possible before.

The challenge for firms is facilitating different teams towards a common optimization across levers as there are multiple levers managed by different teams with limited resources.

6) From short-term vs long-term to a balanced short-term and long-term driven growth

The age-old debate on what drives and how to balance short-term vs. long-term growth can be addressed with the evolution of measurement frameworks and machine learning capabilities. Machine learning can measure the impact of mental and physical availability levers in driving long-term brand metrics such as equity, purpose, and conversion of the impact to sales.

The long-term contribution to sales is typically seen to be 60%-150% of the short-term contribution to sales, depending on the category, strength and size of the brands. This implies conventional measurement frameworks, focusing only on short-term impact on sales, have been missing around half the impact of marketing and sales levers. The longevity of the long-term impact on sales is much longer than that of the short-term impact. These insights necessitate evolution towards simultaneous measurement and optimisation of short and long-term impact, which is an art of the possible today due to ML capabilities. The challenge for firms is to enable data on the long-term levers with continuity and low latency without which measurement will not be a reality.

7) From thorough measurements with high latency to early warning indicators with low latency

The utopia of continuous learning closed-loop ML model updates may not be achievable for all models in the immediate term due to data and infrastructure challenges. Some of the measurement systems, albeit very thorough, still have high latency to be useful for ongoing business decisions. Hence, the use of proxies from unstructured data as predictive lead indicators of changes in consumer behaviour will start gaining traction. These predictive lead indicators will feed into ML models for various applications. The challenge for firms is to manage the balance between purists and pragmatists as the margins of error will be higher when working with such proxies.

8) From big versus small data to big data enriched from small data

The ability to project multiple small deterministic data onto big probabilistic data, via propensity models, will gain prominence to increase the depth of first-party datasets beyond online signals alone. This will help create a predictive future-proofed basis for activation as well as help with the emerging era of going beyond identity matching, given the challenges in the future. The challenge for firms is to manage the transition of doing things differently from the present practice.

9) From uncovering consumer behaviour to passive continuous consumer pulse

Passive internet-of-things (IoT) consumer data that has not been leveraged for broader applications at scale will gain prominence in the world of zero-party data but with appropriate data governance. This will vary from energy meter datasets to smart machine data (such as coffee machines and washing machines) which will drive new sources of consumer engagement. Applying appropriate ML algorithms to these datasets with help drive the accuracy of existing applications as well as drive new applications. For example, harnessing smart machine data will help drive better in-the-moment retention, up-sell, and promotion targeting. ML algorithms in harnessing these machine data and ML algorithms in integrating these data for business applications (such as in-the-moment targeting to drive retention/cross-sell) are different. Whilst the latter is a familiar territory, the former will be new for many firms which require partnerships to unlock the opportunity.   The challenge for firms is to recognize the opportunity, drive small pilots to establish relevance, and scale by harnessing partnerships with machine data specialists.

10) From heterogeneity to homogeneity in heterogeneity

While there are significant differences between industries necessitating domain-specific expertise and applications, there is also transferability of applications between industries.

The concept of driving retention, cross-sell, up-sell, and acquisition propensity models have been prevalent in the financial services and retail sectors for decades but were not possible earlier in consumer product goods industries at the individual consumer or segment level at scale. However, this can be made possible with the model development and consumer activation synchronised, converging first-party data integrations with either panel data or retailer data partnerships. Such synchronization can facilitate the move from past behaviour proxies to predictive future behaviour proxies as the basis of activation.

During challenging economic times, firms need to rethink and reimagine their pathways towards attaining optimal growth. Reinventing their digital approach would be an important step forward. To enable this, the reinvention of ML and AI applications on the ten outlined strategies will ensure the digital approach is fit for purpose in the context of ongoing disruptions. This will help uncover avenues of incremental growth by foreseeing the future and optimising the present with greater precision, granularity, and automated decisioning engines.

The showstopper to realizing this incremental growth opportunity is not necessarily data, data partnerships, technology, or ML algorithms. The biggest hurdle is the people's skill set at scale. At the heart of these reinventions is the ability to learn and foresee the future consumer decision-choice process. Without having adequate knowledge of the consumer decision-choice process, a data scientist alone will not be able to drive the re-inventions. Similarly, a digital/marketing/insights expert cannot conceptualise the need for these re-inventions without being conversant with the art of the possible in ML. The key task for organizations is to achieve the knowledge convergence of data scientists, insights, digital and strategy experts. An organizational realignment requires some recalibration of the skill set of the workforce (Munoz, 2021). The prerequisite for the knowledge convergence to shape is for the data scientists to acquire knowledge of the different facets of consumer behavioural dynamics and for insights, digital and strategy experts to acquire knowledge of the art of possible of ML. This recalibration of skill set should transcend across organisational hierarchies for it to bear fruit and realise the benefits of the reinvention possibilities.

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