Advances in Consumer Research
ISSN (Print): 0098-9258
ISSN(Online): 3079-1766

Vol. 2, Issue 4 (2025) https://acr-journal.com/

Integrated Sales Performance Management Platforms: Leveraging AI for Quota Allocation, Demand Forecasting, and Zone-Based Sales Optimization

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Cite this paper as: Raviteja Meda, (2025) Integrated Sales Performance Management Platforms: Leveraging AI for Quota Allocation, Demand Forecasting, and Zone-Based Sales Optimization. *Advances in Consumer Research*, 2 (4), 461-477.

KEYWORDS

Integrated Sales Performance Management, AI-driven Quota Allocation, Demand Forecasting, Zone-Based Sales Optimization, Sales Analytics, Predictive Modeling, Territory Management, Revenue Planning, Machine Learning, Sales Efficiency, Performance Metrics, Real-Time Insights, Data-Driven Decision Making, Forecast Accuracy, Sales Strategy Optimization, Intelligent Automation, Workforce Planning, Sales Enablement, CRM Integration, Adaptive Planning, Sales Productivity Tools.

ABSTRACT

Sales are at the core of any business yet technology in support of such imperative operational departments has lagged in sophistication and integration. As ubiquitous Artificial Intelligence functionality becomes intuitively accessible in the cloud, organizations have shifted their focus towards vertical SaaS applications which leverage these capabilities within end-to-end process ecosystems. However, most of the SaaS solutions, which enable integration and automation of specific sales operations activities are merely splintered and offer limited or no cross-application process workflow and data support.

Recent advances in integrated intelligent enterprise applications with a vertical focus natively bundle multiple key sub-processes into a single unified application platform. These applications capture rich data by covering broad, deeply connected process areas, which serve as a foundation for superior embedded intelligence. With this approach, SaaS vendors bring sales functionally-specialized applications onto an integrated platform architecture, help organizations cross the process trenches while driving integration amid the increasing process specialization. However, the approach circumvents the limitations of horizontal multi-departmental enterprise applications for business change and dramatically accelerates organizations' revenue growth while enabling finance control and bottom-line profitability.

This is especially relevant for the sales function espoused by companies today with the desire to accelerate revenue growth. Despite technology's long and storied adoption to support sales, the intelligence today is often limited to just process automation and embedded coaching. Application vendors have made incremental progress modernizing with collaboration capabilities. But, with the anticipated second wave of sales performance technology adoption on the horizon once customer adoption of AI for sales expands, often incremental enhancements wouldn't be enough. Increasingly disparate capabilities across point solutions, and disparate processes and data from tools already used, will aggravate the difficulty of deploying product intelligence and process automation, creating new challenges for a sales organization's operations.

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1. INTRODUCTION

In recent years, data has changed the nature of sales from a basic numbers game to a more sophisticated strategy-driven operation. Artificial Intelligence (AI) powered software, once only available to large enterprises with the budgets to match, is now entering the domain of Mid-Market and SME companies as technology powerhouses enter or expand their focus on this market with Cloud-based integrated suites. In the last decade, the go-to-market motion of these companies has also seen dramatic changes. Mid-Market and SME companies are perhaps the most digitally transformed with respect to their Go-To-

Market strategies due to the effects of COVID-19 Digital Transformation. Companies have been forced to operate remotely which has accelerated the adoption of new methodologies in digital sales via new channels and methods, both on the demand and supply side. The Supply Chain is no longer a one-dimensional issue as Supply Chain Operations take on a holistic approach with areas such as Finance and Sales being pulled in to support the logistics and fulfillment teams.

Integrated Sales Performance Management platforms serve to enable such collaboration. These platforms are designed to bring disparate pieces of Sales Operations together in one place, leading to increased efficiency and productivity. Integrated Sales Performance Management Platforms are built natively with deep integration directly into the system of record which for most companies is a CRM in use. Such Integration brings a new level of synergy to the processes that these operations manage, including Forecasting, Territory Management, Quota Setting, Compensation Planning and Payments, Deal Desk, Coaching, and Sales Intelligence and Analytics. Corporations benefit from the efficiencies that come from having a single supplier for these processes, as opposed to the usual cobbled together collection of best-of-breed packages requiring complex API integrations with the CRM system

2. UNDERSTANDING SALES PERFORMANCE MANAGEMENT

Sales Performance Management (SPM) represents an integrated set of processes, analysis, and systems designed to help organizations transform their sales efforts into improved and sustained business performance. SPM combines sales strategy, processes, and systems, associating all elements with measurable business results. SPM is the foundation for sales execution and forms the interface with sales enablement. How organizations interpret this definition drives their implementation of the major capabilities that comprise SPM. At its core, SPM prepares organizations and their sales teams to execute effective, planned sales strategies. These strategies ensure that the right products are sold to the right customers at the right time, by the best sales resources, through the most effective channels, using the best sales tactics, and are rewarded with a combination of specific goals, commission, and bonus compensation.

Fig 1 : Sales Performance Management

Although SPM capabilities can vary from organization to organization, the most common elements within SPM are sales strategy management, quota management, sales guidance, territory management, incentive compensation management, and sales performance analytics and reporting. The SPM function is the "executive summary" of how an organization's revenue goals relate to planning, selling, and eventual realization of revenue. SPM includes all the methodologies, strategies, and systems that help define, manage, and optimize how sales teams evaluate are compensated for the achievement of their goals. The planning and deployment of a SPM function is "launched" by stating the current and future goals and objectives, and by defining the means Achieve Integration of All Major Capabilities.

3. THE ROLE OF AI IN SALES MANAGEMENT

The term artificial intelligence, or AI, was first coined in 1955. In short, sales management involves the tactics, behaviors, and different types of activities sales managers undertake in order to have their sales team achieve success. The importance of AI systems in making solutions to problems crucial to the success of sales management opens a wide field of possibilities in the application of AI in the different tasks and problems that sales managers need to solve. These tasks revolve around identifying the profile of potential customers, selecting an appropriate approach for each customer, offering suitable promotions, and determining effects of advertising and other marketing actions. Those identified challenges may be all solved using AI techniques, with increasing levels of sophistication according to the solution to the problem associated. Sales management is the administration of the personal selling phase of the firm's integrated marketing management plan, with the goal of realizing maximum corporate profits. Sales managers are responsible for training, mentoring, and motivating

subordinate personnel, forecasting and assigning territory sales quotas, and evolving territories and sales quotas. They also need to assure the development of healthy relationships between the sales team and clients. Their main goal is to manage the entire trade sales process, from prospecting and qualifying potential leads to closing sales and providing post-sale follow-up and support. Questioning the necessity of the presence of a sales force in organizations, times of crisis, and commercial transformation have made their results the focus of the attention of academic research. AI has also been increasingly considered in academic work as a key resource. Technology-assisted sales process solutions allow sales managers to access timely information about sales team members, customers, products, sales support applications, and performance monitoring and feedback.

4. QUOTA ALLOCATION: PRINCIPLES AND PRACTICES

Sales quota management is one of the most stressful parts of a sales manager's job and one of the least understood. All stakeholders have a strong stake in the outcome because of the high stakes involved. The sales quota is the major performance assessment criterion for most salespeople. Also, the foundational financial model used to develop and evaluate the investment in the sales organization is dependent on the sales quota. With these high stakes, one would expect a well-founded, detailed, and unbiased process that uses a long list of quota determinants, both internal and external. But the traditional quota management process is very rudimentary. Sales managers have been assigned quotas for both revenue and expense for their whole careers. Individuals often resent that as salespeople, they are often held to a different standard.

Equations 1 : Auction-Based Allocation

$$\sum_{i=1}^{n} v_i(q_i) - C(q_i)$$

Where:

- $v_i(q_i)$ is the value agent i places on quota q_i
- $C(q_i)$: cost function

Common mechanisms:

- **VCG auctions**
- **Uniform price auctions**

Sales quota setting and allocation are time-consuming but essential responsibilities in the sales management function. Quotas tell the salesforce how much the company expects them to sell and translate corporate and marketing objectives into sales targets. These quotas fuel the motivation of the salesforce, as they are tied to incentive compensation reward systems. Quotas also serve to align individual behaviors with corporate objectives, are key input variables in the financial performance model, and ultimately affect corporate profitability as well as individual earnings. Thus, quota setting and allocation serve multiple purposes and are critical for business performance. Quota setting requires continuous monitoring and communications, as strategies change and external conditions evolve. A number of problems must be anticipated, and strategic approaches should be in place to deal with them.

4.1. Traditional vs. AI-Driven Approaches

Quota allocations, as one of the most frequently used levers to drive salesforce performance, have recently received renewed attention in sales research. Quotas can be defined as specific, measurable goals assigned to individual sales representatives. Studies have universally emphasized the need for careful quota assignments to maximize performance. However, as requirements for niche expertise become pervasive in many sales organizations, there is a greater need for a nuanced understanding of the criteria and methods used for quota allocation; in particular, the complexity of the allocation task calls for advanced solution methods that go beyond the traditional growth-based heuristics used in practice.

Enrolling machine-based support in the allocation process is a promising option for increasing data-driven quota allocation. Not only can respondents explore the solution space in greater depth, but the use of AI might also help minimize the asymmetric emphasis of traditional expert- and bottom-up heuristics on growth objectives. Yet enhanced machine support for the optimization of quota assignments will only be useful if such enhancements can help distribute quotas more equitably across individuals and departments.

Despite the importance of appropriate quota setting for sales organization performance, there has been little research on quota setting in recent years. The theoretical and empirical work on quota allocation generally tends to be descriptive rather than normative. How should sales companies allocate quotas? What quotas should companies designate for their members?

Determining how quotas should be allocated is a key sales management task, but the approach taken affects the basic essentials of sales organizations. Quotas, generally both carrot and stick, can influence how effectively different segments are serviced, a decision central to corporate strategy. They impact individual motivation and performance.

4.2. Factors Influencing Quota Setting

To determine if a proposed goal is the best one to drive a seller's behavior, all aspects influencing their motivation should be accounted for: 1) demand generation, either through marketing programs or customer store visit, 2) supply constraints, either through category-specific volume allocation across partners or limited stock in actual stores, 3) number of customer interactions and type of demand, either referral to local partners, establishment, new product adoption, or local store visit, 4) store-specific potential for customer value accretion, either store sales, turnover growth rates, return on sales, or contribution margins, and 5) deal structure, either product margins, schemes, volumes, split allocations across partners or purchase awards with specific orders and discounted prices.

An intelligent quota setting algorithm, in line with these principles, considers all agent-level characteristics influencing sales and builds Optimal Store Contribution (OSC) targets for each store, category and agent before back-calculating achievable sales targets and mappings through agent proximity and account ownership rules. These OSC targets should be approved by manager level in a horizontal cascading process with increasing uncertainty over the sales potential since for larger stores and/or additional revenue streams, sales targets and the distribution key of the relevant category expense structure might have different values. Approval mechanisms should take into consideration the time available for either talking to allocated accounts around the OSC levels, or passing by those not allocated at all or only in part without losing the OSC credibility.

Fig 2 : Top Factors That Affect the Price of Oil

5. DEMAND FORECASTING TECHNIQUES

Demand forecasting in essence aims to define the sales achieved by an offering within a certain future period. An accurate forecast allows to leverage company resources efficiently and is thus essential for inventory management and supply chain optimization, but also for identifying optimal prices. At its essence, a forecast has to consider three aspects: when the demand is present (a temporal), what the forecast indicates (for the sales of one offering, for some distribution of several offerings, etc.), and how accurate the forecast is going to be. In terms of the temporal aspect, demand forecasts can be further distinguished according to the forecasting horizon. Long-term forecasts span several months or years and are needed, for instance, for setting up a new factory, to meet demand for an electric vehicle charging infrastructure. Medium-term forecasts for a specific offering are used by managers to define plans for sales, advertising, pricing, and new product development. Short-term forecasts, on the other hand, are used by operations managers for prediction of staffing and scheduling requirements, inventory and cash balance requirements, and production before the demand presents its trend. Short-term forecasts would thus typically indicate forecasts for the immediate weeks or months ahead.

Demand forecasting can be based on several techniques ranging from historical data analysis to AI models capable of predicting demand far better than a human can. In-shop sales and consumer shopping history data can be utilized to analyze the demand at a very granular level, which can be aggregated to a preferred level. Demands can be predicted for the latest items, for times with events occurring, areas neighboring the single stores, sales staff assignments, etc. Using models provided by data science professionals allows going even deeper into predictive modeling and indicates sales at a daily level, uses machine learning skills to predict demand for very user-defined models and uncertainty levels, or be specialized on close-to-close sales modeling.

5.1. Historical Data Analysis

Leveraging historical data to project future sales demand is one of the tried-and-true techniques of demand forecasting. What's noteworthy, however, is how the concept dates back to prior to the digitization of modern society. In industries where demand for certain products is consistently cyclical, looking back to sales during the same cycle a year or two prior often provides useful clues about demand in future cycles. Moreover, in consumer-driven markets in particular, historical consumption of certain products has been used as a general framework to compare with current demand. The phrase "demand for a product tends to be forecast most accurately by observing its own prior demand" is considered a fundamental axiom of sales demand forecasting.

Prior to the use of machine learning to construct predictive models, auto-regressions were the gold standard technique for predicting future demand based on demand history and are still widely used today. Any time series model for predicting a product's future demand is, essentially, a life-sized auto-regression function. The strength and weakness of such models lie in the ability to identify periodic patterns such as cyclic dips and spikes or daily, weekly, monthly, or quarterly patterns.

The advantages of the simple approach of assigning the weighting in an auto-regression to be equal for all prior cycles are that it is mathematically simple, transparent, and easy to implement. Auto-regression methods excel most when the data is very granular since fine granularity serves to minimize the problem of smoothing out important systematic short-term variations by taking averages such as monthly or quarterly averages.

5.2. Machine Learning Models

While historical data can provide considerable insights into sales demand, machine learning can reveal more potent correlations and complex relationships within the data, aided by today's advanced systems. When a specialty food manufacturer decided to diversify and sell direct to consumers, they were equipped with data from about 1,000 supermarket locations that could be grouped by sales channel and characteristic. The company, now known for its brand of fresh basil, approached a strategy firm and a data science consulting firm, which developed a supervised machine learning prediction model using a gradient-boosting machine approach to forecast how the new direct-channel sales would impact each store's sales so that reductions could be made and overall excess supply eliminated. "By generating a forecast down to the SKU/store-day level," said a CEO, "we generated accurate demand management and cycle stock recommendations that were configured to the unique operational constraints of the business."

ML-based demand forecasting has been successfully applied in many industries and locations. In a review of the approaches and papers that had been published through 2020, the researchers found deep neural networks to have become the most widely adopted machine learning for demand forecasting, surpassing traditional statistical forecasting approaches, including Exponential Smoothing and Box-Jenkins models. Academic research had also reported successful applications of other neural-net based architectures for demand forecasting in fashion, telecommunications, e-commerce, retailing, and more. Moreover, neural network models are able to build relationships with both the seasonality inherent within demand series and autocorrelations that are translated in the temporal dimension, which incorporate important retail characteristics such as holiday or markdown promotions for fashion goods, in addition to temporal correlations commonly used in time series models.

5.3. Integrating Market Trends

The above-mentioned techniques broadly use historical examples which mainly assume that historical sales data patterns repeat. However, market trends often do not repeat. Events and factors can change the demand forecast regardless of historical patterns. To improve forecast accuracy, an effective solution is to integrate other datasets that indicate larger market trends, and to apply them in the forecasting models. Potential datasets for such integration include social media, weather data, economic indicators, financial data, related product series, competitive sales data, advertising spending, etc. Companies that use only existing data patterns without considering other changes in the market give up on many forecast improvements. Such forecast improvements can be crucial to their sales performance, given the right context. For instance, spending on households and services dropped sharply due to the pandemic and the economy hit a downward trend. However, spending surged for several industries such as entertainment and online shopping. Companies in these industries needed to anticipate demand changes and increases due to the shifting consumer demand. To do so, they had to effectively track emerging trends, which would deviate from historical patterns. They also needed to answer how temporarily or permanently these demand increases would last for, unlike historical patterns.

6. ZONE-BASED SALES OPTIMIZATION

Optimization of sales resource allocation begins with customer segmentation, which must address both quantitative factors—products purchased—or engagement—including opportunity stage. Potential customer productivity, which presumably drives business success, helps identify zones that need the most attention. Historically, resource allocation was based on territory design, often demarcating clear geographical boundaries. Due to fundamental changes in selling environments, where account managers traverse many geographical locations on a daily basis, other need-based factors may drive resource allocation. Today's integrated sales performance management platforms deploy predictive analytics to identify and define unique customer zones and help in developing zone-level resource allocation models. Going beyond needs-based segmentation, platforms employ overlapping dimensions for a holistic revenue zone approach.

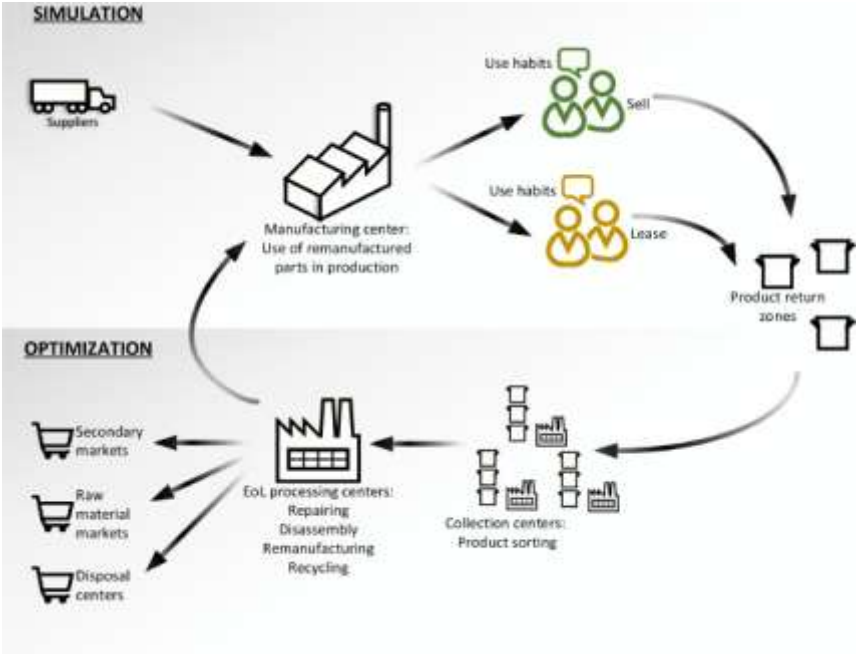

Fig 3: simulation-based optimization approach for network design

Once zones have been established, human performance induction models help ensure optimal resource allocation, taking into account the different working conditions across diverse zones. Employing sophisticated destination choice models, coupled with simulated driving paths through selected zones, the motion of field employees is effectively managed. To control differential travel times and zone saturation, organizations deploy experienced zone guides or assistants capable of thought leadership in their respective zones.

Managing and assessing the performance of employees at the zone level generates unique insights on overall business profitability and performance. Reports based on static and mobile data tracking employees' activities help organizations understand unique zone characteristics and tailor-go-to-market strategies. Historical sales data retrieval allows for periodic performance assessment and tracking of business drivers and performance metrics at the zone level. Once zones have been established, human performance induction models help ensure optimal resource allocation, taking into account the different working conditions across diverse zones.

6.1. Defining Sales Zones

Salespeople are generally not over-resourced in monetary terms as compared to their employers. Hence, it is essential to maximize the services and benefits from the sales team through defined sales performance, which is correlated with defined sales zones. Any shortfall in zip codes or designated zones can lead to a grossly under-resourced zone, leading to loss of sales potential. Hence, there is a need to focus on zone optimization. The assigned sales zones should be mutually exclusive and cover the assigned areas entirely. Sales zones are geographic areas that are assigned to a sales rep or team of field sales reps and typically contain a set of companies or organization targets. It is possible that some companies are assigned to other sales teams that work on products that are used by both companies or organizations. However, for smooth and efficient working, it is essential that every assigned geographic area has a sales rep responsible for sales activities and there are no overlaps. Apart from a sales rep being concentrated on any specific assigned area, a zone might cover a larger space that might not have any particular sales activities taking place for a reasonable amount of time. In such cases, it would make sense to assign the different organizations or companies inside the zone to some other sales rep who is covering that area in full time and could meet frequently. The zone can be defined at different levels from the highest administrative divisions like states to lower levels such as counties or zip codes. Theoretically, the levels could increase infinitely and territories could be, for example, the market sphere of any district branch office of the bank, which might not be located in any zip code or at any other location reflected in a map on the planning software. There should also be some alignment with other factors such as the branch bank, place of business of the bank or location of the loan officer or private banker.

6.2. Optimizing Resource Allocation

Enabling executives and sales managers to continuously monitor sales conditions is essential to ensure competitive advantages. As companies implement zone based sales strategies, key questions arise as to how to allocate sales resources optimally, or how to evaluate the investment of resources and their impact on sales performance if they are allocated sub-optimally. Optimal resource allocation takes into consideration the qualification of the sales resources and potential sales, and from that derives the resource effectivity. Monitoring resources in a sales zone on a customer centric basis enables

organizations to better manage customer expectations. Appropriate resource allocation can help achieve important business objectives, such as organization transformation and improvement in client relationships. Resource allocation also helps visibility in resource effectivity and sets the ground for resource empowerment in zones.

Equations 2 : Multi-Objective Resource Allocation

$$\text{Maximize } Z = \lambda \cdot \sum_{i=1}^{n} p_i \cdot x_i - (1-\lambda) \cdot \sum_{i=1}^{n} r_i \cdot x_i$$

Where:

- r_i = risk or cost per unit in activity i
- $\lambda \in [0, 1]$ = trade-off weight between objectives

Transactions cannot alone measure the investment of resources as a percentage of sales or profitability. Without measures such as an index of resources for the zone as compared with group normalized targets, it is difficult to explain the meaningfulness of these relationships. Moreover, the way a zone performs during an accounting period needs careful interpretation. Visualizing zone performance in a consistent way removes ambiguities. Sales forms about resource allocation do not attempt to predict perfect performance or even to minimize the risk of loss. Rather, they serve to rank zones based on similar understandings. More importantly such a framework, not only ranks zones but upon discussion should help to identify possible actions that would enable otherwise less suitably positioned zones to develop key capabilities.

6.3. Performance Metrics for Zones

Establishing specific performance metrics for sales zones represents the final piece of the SFMP puzzle, explained in this section, and is essential for developing a zone plan that ultimately can be carried through the execution, akin to what is done with sales team performance. Zone definition and optimization illustrate the issues and the opportunity. Many companies focus first on resource allocation and policies for supporting different customer segments differently. Then the emphasis becomes refining deployment within zones at the boundary of effectiveness and efficiency. Next comes incentive structure and administration. Few or no public companies share these insights with stakeholders. Those remaining companies that do are usually early adopters of more detailed territory design and digital approaches to identifying where and how many of which types of resources should be allocated to support different customer segments. They usually have the perspective that it is critical to effective and efficient zone performance. Zone optimization is usually done according to a few geographical or addressable market factors. This approach tries to identify market segment areas where sales productivity can be increased with greater, or better targeted, coverage or campaigns. Results and efficiencies are usually given back to the zone owners as incentives for executing against a sales strategy for the zone that includes criteria for team member turnover and recruitment. Other examples of performance metrics for zones may include sales growth expectations, business performance assessments, and utilization dashboards identifying available talent in the zone as decision inputs.

7. AI TOOLS AND TECHNOLOGIES IN SALES

Sales performance management software refers to a suite of solutions that are used to administer sales processes and activities, as well as plan and manage sales strategy. However, traditional SPM tools are incapable of generating input and recommendations for execution to improve performance. Enter Integrated Sales Performance Management Platforms that streamline core SPM functions and incorporate AI to connect data and insights in generating targeted coaching, training, engagement, and support for sales teams. This takes SPM from a monitoring and retrospective assessment role to becoming an integral part of how sales teams function. Moving from being a data-dumping destination to a true sales performance “mission control”, Sales Performance Management Platforms are integrating and analyzing multivariate data streams from sales enablement, communication, and training solutions, as well as core process tools like CRM, sales forecasting, and territory mapping. These systems are being powered by capabilities such as predictive analytics for real time opportunity, deal- and rep-specific recommendations. Integrations with core CRM and other cloud-based systems allow for rapid data ingestion and processing. We take a tour of typical AI components and capabilities today’s sales performance management platforms are integrating today. The SPM space is now embracing fully automated real-time AI tools and solutions to offer enhanced capabilities to their customers. These include tools such as inclusive Predictive Analytics software; offering optimized forecasts, sales quotas, territory alignment, and management and coaching recommendations; Native CRM integrations; offering mission-critical recommendation and action items personalized for each sales rep; and Real-time Data Processing engines that accelerate company-specific AI model development for generating insights from company-specific data.

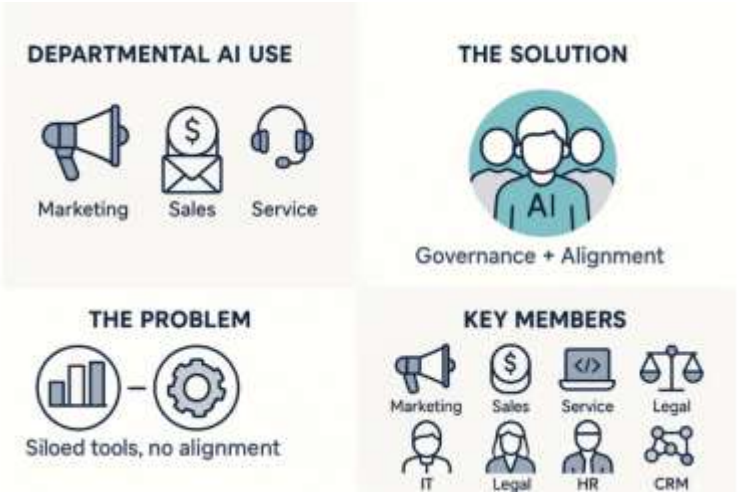

Fig 4 : AI Committee

7.1. Predictive Analytics Software

Both artificial intelligence and sales have a long and storied history together. The term AI was coined at a conference to discuss the concept of human-like machines. Since that time, countless inventions have helped develop the field of AI. Intelligent algorithms, which automatically improve over time through analyzing data, power the modern-day AI revolution and are fantastic at identifying real-world patterns, predicting the future, responding to inquiries, learning by example, and providing personalized recommendations. While these advancements are used in all kinds of computer systems for all kinds of tasks, the sales arena has its share of challenges that motivated AI pioneers also sought to overcome. Sales is an immensely valuable field from a revenue perspective. Companies pay substantial sums of money for sales teams and tools, and if these sales teams or tools are substantially more effective, the companies and the economy as a whole benefit. Solving the challenges in sales is, therefore, a worthy pursuit.

Generative AI tools are relatively new to the market and haven't matured yet into easy-to-use, integrated tools within today's sales apps. Many tools researchers rely on today are predictive. Predictive AIs excel at specific tasks because they learn from large amounts of existing data. While these systems can't create new things, they can be very helpful to sales and marketing professionals. Predictive AIs help these professionals enhance their generation of leads, scoring of leads, and closing of leads and deals. They accomplish this by summarizing vast amounts of data into salient features and making small predictions based on those features. These predictions include things like whether a visit by a sales rep is likely to produce a closed deal, the likelihood a specific lead is a high-quality lead, which specific channels for lead generation and deal progression are most optimal, and what combination of product, price, and discounts are most likely to lead to a close.

7.2. CRM Integrations

CRM Integrations Sales Management Products are slowly converting into Sales Operating Systems - a single gathering point of data helping sales operations leaders enabling their goaling, enabling sales team interactions, collaborating around reviews. Companyscape being become so customer-centric is delivering hundreds of information and sales operations pain who understand data and sales methodologies are becoming their advisors. If Sales is a team sport, the teams need to align on a single place and communicate and collaborate happening outside the organization, updating data by reps becomes extremely painful as they lack motivation to input and update these data points, creating a huge burden on the reps.

After investing heavily in connecting Sales teams with their company and buyers through CRMs and Sales engagement tools, integrations are now making it easier for other go-to-market teams to understand what is happening inside their Data lake. Revenue Operations teams have also been the first to share the data with Finance, with billing or deal desk solutions alongside Sales Engagement enabling these group to share insights that might signal Risk or Expansion packages. Integrating other tools and tying them to strategic help Rostrum enable Restrospective analytics in the near real-time business world, where accounting and financial reporting solutions to submit reports before the end of the working week.

Customer data, product usage, customer support, sales engagement and tech spend insights become powerful when combined with Propensity Satisfied Reports enabling leaders and analysts to help business owners securing renewals, looking for upselling, accelerating time to value, or increasing NPS.

7.3. Real-Time Data Processing

Real-time data processing, involving various tasks and actions which convert or generate some meaningful information based on incoming data as it is produced or changed, is a technique that enables companies to make quicker, better-informed decisions, offering a competitive edge. Businesses can react immediately when something changes, as data is looked over

and provided to decision-makers. If businesses need to make better, more timely decisions, they can't wait hours, days or longer for information, when it could be there as soon as the event occurs. More of a bottleneck than a pipeline, batch processing constantly runs jobs that put and keep data in queues, holding onto that information until an event occurs. While that may work for some applications, it adds inefficiencies for close-to-the-edge systems that event detection and response are critical.

A negative company experience with batch data processing may have inspired the shift toward real-time processing. Major players in the social media space rely on dynamic processing because their products are built around events like tweets or Facebook posts, which are generated outside their infrastructure. Servers in those cloud environments can lack the resources to run heavy-time SQL commands for the undesirable length of time that is often required to run analytics and other batch processes. The reliance on real-time capabilities allows those companies to build a competitive advantage. Stock trading companies have relied on real-time data analysis for years, constantly processing and acting on vast volumes of incoming market data to make buy and sell decisions.

8. CASE STUDIES OF SUCCESSFUL IMPLEMENTATIONS

In these three case studies of successful implementations of SPM solutions, we examine three companies' AI-iSPM journeys. Each of these companies took a different step, whether that was the first, second, or third of the tech cycle we've outlined. In one case, a company has replaced its manual, labor-intensive SPM process with state-of-the-art, AI-enhanced technology. In another case, it turbo-charges the effectiveness of its own technology with AI. In yet another case, a company used pioneering AI-enhanced proprietary stand-alone software, years before it transitioned to a full platform strategy.

Fig 5 : ERP Case Studies: Development and Implementation

Company A, one of the largest in the travel hospitality market, outsourced its sales operations for hotels to Company B, a start-up hosted by two technology veterans. When the pandemic slashed results, Company A started a quota-cutting campaign on the existing platform. However, it quickly discovered that the quota allocation algorithms built into the platform might be too coarse and blunt for these critical business decisions. The quotas relied on volume-based historical allocation and Company A was losing share. Moreover, demand was swinging on a weekly basis. Company A decided to augment its software with AI capabilities. Using AI could allow the start-up to implement intelligent volume-recovery quota recommendations on a week-by-week basis, directly linking salesforce work efforts to demand and channel effects.

Company B: Demand Forecasting Success

Company B is a leading provider of hospitality-focused SPM technology. Company B's travel market share declined to about 5% when demand rebounded, despite its own demand forecasts improving. Company B had delays on reports housing key metrics. Latency on data extrication and transfer was long, despite data being ready at Company B. Demand-predicting reports should have been used for multichanneled tech implementation, including director of sales assistance. Manually optimizing the tech has long been a priority for Company B.

8.1. Company A: AI in Quota Allocation

Case Studies of Successful Implementations A case study on Company A is presented, followed by two additional case studies from Companies B and C. In these case studies, revenue growth, costs savings, and margin expansion have been realized through SPM implementations.

Company A: AI in Quota Allocation Company A is a major player in the market with well-established Integrated Sales Performance Management (SPM). This organization has a wide variety of products, and territories are large, necessitating well-defined objectives for salespeople. Quota allocation is a critical activity, impacting how well these salespeople perform. Previously, it was the prerogative of the sales director, oftentimes based on gut feel. Company A began with a statistically based approach and found this to be inadequate. Different sales channels had different characteristics. Internal data was not sufficient to accurately create quotas for every product, customer segment, and geography. The company sought assistance from researchers who proposed an AI-Machine Learning approach that examines much broader data sources than the previous effort.

The benefits of the AI-ML approach were compelling. Previously, administrative resource requirements were large, and the process took a long time. The AI-ML alternative sped up the entire process, while the new quotas were much more accurate. The outcomes increased sales productivity and significantly reduced the effort of the sales team. Company A proceeded to develop a prototype in collaboration with the researchers and then deployed it in a specific market. After validating the results, the product was deployed for use by frontline sales personnel in other markets. Company A now plans to leverage this tool on a far broader basis and combine it with additional functionality. Today, every sales team performs a quarterly forecast that allows for better short-term adjustments, while quotas are still structured annually.

8.2. Company B: Demand Forecasting Success

Company B, a global technology manufacturer in consumer and enterprise hardware, software, and services began utilizing demand forecasting in their FMP tool several years ago with data from a third-party market intelligence vendor. However, they found that while the FMP forecasts' long-term improvements were better than company-established growth factors, the forecasts were still consistently inaccurate. The FMP forecasts were overly reliant on historical demand compared to market growth potential and did not adequately incorporate sales resources such as headcount, sales capacity, and other demand-creating marketing factors. Consequently, Company B partnered with FMP's data science team to innovate improved consumer hardware and enterprise software sales forecasts. Using proprietary AI and ML techniques, the data science team demonstrated that forecasts which leveraged OWD, ACV, sales rep data and sales forecast levels utilized by Zone were significantly more accurate than the internal-to-Company B forecasts the FMP algorithm produced. According to the Company's VP Global Sales Operations, "predicting demand in the enterprise software market has historically been difficult. Not because of a lack of signals, but rather the lack of visibility and understanding of what actually drives demand. This proprietary technology helps us close the gap until we own the forecast pipeline." Today, Company B's FMP tool provides these rep-level forecasts for all Consumer Hardware and Enterprise Software sales to the sales organization. These forecasts are refreshed for every quarterly selling cycle and are utilized by Zone and Company-level sales leaders to define resource focus and opportunity coaching during the selling cycles.

Equations 3 : Demand Forecasting Success Equation

$$S = \lambda_1 \cdot \bar{A} + \lambda_2 \cdot \left(1 - \frac{C_o + C_u}{R}\right) + \lambda_3 \cdot F + \lambda_4 \cdot Q - \lambda_5 \cdot M$$

Where:

- $\lambda_1, \ldots, \lambda_5$ are weights for each component.
- High accuracy ($\bar{A}$), low costs ($C_o + C_u$), good model (F), and high-quality data (Q) increase success.
- High volatility (M) reduces success.

8.3. Company C: Zone Optimization Strategies

When the topic of conversation turns to sales performance management, some SPM-focused professionals model their organizations and technologies after a leading company. It began life as a pioneer of customer segmentation and territory definition software and advanced its efforts by algorithmically synchronizing the two processes in order to enhance the effectiveness of field sales forces' footprints. Today, this technology is the go-to utility for production firms that take sales seriously, leading the pack that understands the role of enforced methodologies in professional selling. More recently, it has progressed to zone-specific resource optimization and added a layer of artificial intelligence to improve both quality and speed.

The SPM suite targets production-and-demand driven organizations in both the public and private sectors. Investors grasp the unique position occupied by this SPM player. It is the leader in automated territory management for field sales forces model-driven sales programs. While being the firm with a significant edge, it is committed to precision targeting, promising firms benefits from leveraging the capabilities of their go-to-market programs and optimizing execution on the ground by

deploying physically-present resources. To this end, it continuously works at establishing links between the physical world and models that business and sales strategy through data and systems.

9. CHALLENGES IN IMPLEMENTING AI SOLUTIONS

The integration of artificial intelligence (AI) into various business functions has been a transformative change for many organizations. However, this transition is often fraught with difficulties and lengthy implementation processes. Specifically, in the area of sales, AI solution implementation can be a difficult task, facing unique organizational challenges. These difficulties stem from the fact that solutions integrate data and process experiences from many divisions both internal and external to the firm. In addition to sales, sales performance solutions often combine information from marketing, finance, forecasting, channel planning, territory, account, and quota management. Thus, the implementation of these solutions is a concern for all divisions.

Three of the primary concerns facing organizations that want to implement AI solutions in the sales area are: 1) data quality issues; 2) resistance to change; and 3) cost considerations. Addressing these considerations can lead to a successful transition from traditional decision-making to sales performance AI-supported decision-making. Data quality issues revolve around the accuracy, timeliness, completeness, consistency, and validity of the data that the AI-supported decision can analyze. These issues occur in two ways. First, there are data quality concerns that come from the fact that the AI-derived decision is only as good as the underlying data. That is, if the data that is provided is flawed, the analysis and AI-supported decision will also be flawed. This situation is compounded in the area of SPM where sales data usually comes from several different internal functions and includes customer data as well. This melding of data from a diverse number of sources is a common issue with AI solutions because a major portion of AI data input comes from external sources.

9.1. Data Quality Issues

An area of concern to many business applications and specifically to sales performance analytics are data quality issues. As B2B businesses are increasingly becoming data-rich organizations, traditional concerns with poor data quality are exacerbated. Businesses with rich and diverse data sources increasingly find that – paradoxically – their data quality problems are larger now than they have ever been. A key function of sales performance intelligence applications is to extract structured information from unstructured data sources – a function that may have profound implications for business intelligence and operation. The currently dominant data storage paradigm is that of the relational database wherein data is stored in tables with strict data and structural types to reduce ambiguity.

Traditional concerns with data quality have emphasized such aspects of accuracy, completeness and consistency as measures of the fitness of data for analysis. More recent findings regarding the challenges of data-driven insights emphasize the importance of processes required to validate and ensure data quality therefore go beyond traditional definitions of data quality. Such diverse measures of quality imply the need for different processes governing different types of data such as experiential, or affective, or the social interaction required to establish quality. Issues of uncertainty, such as latent linguistic equivalence, deontic modality and degree of truth must therefore also be part of a more comprehensive approach to data quality. Moreover, even as focus has grown on the importance of data quality, there has not been sufficient attention directed to the needs of an understanding of the design decisions shaping that quality. This is an extremely important area of research especially as the challenges of big data management become increasingly prominent.

9.2. Resistance to Change

In a corporate landscape dominated by high-velocity progressions and unceasing shifts, change is not merely a notion but rather an inescapable fact of existence. Yet while change is indispensable, certain individuals express a reluctance to embrace or participate in the alterations their companies enact. Sales enablement solutions, including Integrated Sales Performance Management Platforms harnessing sophisticated AI techniques, are capable of unleashing revolutionary new sales reporting, forecasting, data preparation, data validation, scheduling, multidimensional self-service analysis, reporting, and dashboarding functionality along AI-assisted sales guidance. However, by their nature these platforms trigger a significant shift in fundamental sales principles and day-to-day operations. The transition from a less integrated to a more integrated sales reporting, forecasting, and management solution approach, where the enterprise now drives commissions and bonuses based on centrally determined quotas and centrally managed data, can in some companies meet concerted resistance and protest.

Change is definitely not a friendly word to many sales executives. This response, which might generate jokes about childlike and immature behavior, is not so far off from what companies witness during implementations of new commissions and forecasts. Change is difficult for anyone, but especially sales management because of the high-pressure environment they operate in. An Integrated Sales Performance Management platform varies reporting and forecasting distorting behavior once the platform is installed. Every company has its "stories" and folklore about surprise commissions at the end of the month and when to issue contracts or cancel cancellations – both not in the company’s best interest. Suspicions mount when the same few individuals are able to push numbers in the last week of the quarter, and the beauty of a platform’s gates is that everyone falls under the same process – only those with permission can violate the gates. Company pressure to behave

normally is no longer driven by the company attitude, it is driven by the business system. A well-implemented Integrated Sales Performance Management platform is like police and speed traps: everyone slows down.

9.3. Cost Considerations

Implementing AI technology in any organization is an expensive proposition, and implementing in the sales function is no different. Most companies that implemented AI focused on sector-specific solutions that cost anywhere between $1 million and $10 million or more. For sales organizations, this is a large investment as they focus on the top-line and not a profit center. Many of these solutions focus on smaller sectors but larger B2B organizations require solutions that are data and resource-heavy. These costs can be gauged based on various factors that include,

1. Development and group training of the model: The AI model needs to be specifically developed for the sales organization based on its use case. Further, all the data points from account management to sales enablement, customer success, and revenue operations need to be considered for training the model on the specific organization. Besides, the model should be continuously updated and refined with data from its performance.

2. Software and hardware costs: Many organizations have invested in ML and AI software packages. These packages allow organizations to specifically train their models, but organizations must invest in computational resources able to run these packages. Large ML systems require large-scale hardware and software systems to work in scale.

3. Expert staff salaries at the organization: AI must be integrated into the business, and organizations must hire experienced personnel with expertise in AI. Organizations see AI as the 2nd priority after their customers. Organizations should not only strive to hire the best people with expertise in AI, but embed them in business operations.

10. FUTURE TRENDS IN SALES PERFORMANCE MANAGEMENT

Sales Performance Management (SPM) refers to the strategy, practices, and technology that an organization uses to optimize its sales efforts and boost sales effectiveness. Emerging technologies like artificial intelligence and machine learning, the advent of the highly informed customers, and the impending arrival of sophisticated sales automation tools that promise to make the sales function more effective and efficient are the key drivers of growth for SPM services and solutions.

Fig : Is Sales Performance Management

Organizations are increasingly shifting towards more tech-enabled salesforces, deploying sophisticated sales automation and cognitive tools to figure out target customers, define which personas to sell to, suggest personalized messages that are likely to work, recommend which products to sell, and at what price, identify which accounts or opportunities to prioritize, use organizations' customer data and artificial intelligence to create intelligent or predictive lead scoring, and ultimately, to help make the sales conversation more enjoyable for customers. Data-driven solutions will not only assist teams in addressing their day-to-day problems, managers will also be able to provide real-time feedback and identify hard-to-see patterns and trends related to personnel and customer performance. The advent of highly connected yet solitary customers who want to interact with an organization only through their preferred channels is creating a record level of complexity in managing omni-channel sales. To counter this challenge, some organizations are deploying Sales Performance Management (SPM) solutions that provide insights related to customer preferences, their buying behavior and triggers, journey mapping and analytics, churn prediction and management, and customer lifetime value estimation. In summary, with the rise of an increasingly informed and demanding customer willing to switch for better service and experience, organizations are more focused than ever on providing cohesive and consistent experiences for customers across channels.

10.1. Emerging Technologies

Technological progress has transformed the landscape of Sales Performance Management, and emerging technologies are likely to become the driving force of transformation in the near future. New systems are being developed for the less frequent but highly value-adding tasks such as territory design and KPI optimization. In the near future, emerging technologies such as Artificial Intelligence and Robotics will connect Sales Performance Management processes and systems more tightly to other Planning-Execution-Control Value Chain modules such as Demand Sensing and Analysis, Sales Execution, Sales and Customer Interaction Monitoring and Reporting, among others. This promotes greater cross functionalization of SPM processes. Fewer disparate systems will exist because increasing functionalities will drive Sales Performance Management tool consolidation. Furthermore, embedded robotics will come to perform a significant share of routine, high-volume SPM Processes such as Forecast Generation, Territory Alignment, Quota Assignment, Incentive Payout, and Sales Reporting. Less effort will be spent on such routine processes, enabling Sales Performance Management specialists to invest more focus on Value Creation. The development, deployment, and usage of these emerging technologies will also require Sales Performance Management specialists to conduct themselves in different ways. The processes will not merely be executed, but collaboratively developed with Commercial Execution Experts from other Business Functions and partially automated through robotics, rather than only controlled through Change Event Monitoring.

Deals between Customer and Vendor firms may come to be built and executed very differently than has been the case until now. User Conduct and Experience design principles will become important. The Conduct of SPM Transactions such as Quota and Target Setting, Reward Assignment, Relationship Creation and Development, and Performance Reporting will require sensitivity to the context in which these Processes take place. Because the next generation Apps will enable more Process Performance to be done in real time and in the moment, timely fulfillment of employee convenience and needs functionally transformed into business value conversion will mandate User Experience Design Consciousness.

10.2. Evolving Customer Expectations

B2B buyer expectations have transformed over the last two decades in several important ways. They have gotten accustomed to the convenience afforded to their retail counterparts and want similar experiences while dealing with food and beverage suppliers. Customers want greater variety and deeper product information, ease of ordering, faster delivery, value, and what is referred to as seamless omnichannel experiences. In a market estimated at $6 trillion in the United States, companies that ignore these expectations risk losing sales to competitors who upgrade their systems to keep pace.

As a result of these pressures, many B2B companies are reinventing how they engage customers. These companies have gamified their e-commerce websites to make ordering a fun experience, have added augmented and virtual reality, have created video applications to inform customers about their products, and have invested in chat bots that simulate live customer service agents. New technologies give B2B brands unprecedented opportunities to connect with their audience and realize their sales goals. Emerging AI-enabled video, VR, and chat technologies that B2C brands have leveraged, when used effectively, can shape customers' B2B experience how they want it, especially for micro and small businesses.

At the same time, B2B companies must ensure an effective sales team to handle the customers that the technology cannot or will not service and to maintain relationships with customers who want something more than basic product performance. While technology enables B2B brands to provide basic services throughout the customer journey, most ultimately require an experienced sales representative to close the deal and forge long-term relationships.

10.3. The Rise of Automation

Automation has long made inroads in sales. However, it has usually been at the transaction-processing level—things like getting prospects to fill out forms, and interrogating a CRM for whatever sales reports are needed. For better or for worse, those mundane tasks that automate the dated forensic aspects of sales have largely been automated, getting canceled out for the most part by oversupply. New concepts now abound: customer-engagement engines, sales force augmentation, employee self-service, etc. Today, the emergence of AI makes a far more radical form of sales automation possible—one that transcends traditional transaction-processing, enabling a wide range of business processes. A far broader swath of sales functions is now available for automation, and the wider scope means better machine learning and more profoundly intelligent agents.

How extensive a realm will this new automation cover? The limitations of older automation generally applied to more mundane tasks—tools and options for which were also relatively easy to build. Early AI-based assistance tools for selling were limited in their capabilities, and hence behind other forms of sales support. As AI has matured, the situation is changing. The most visible dimension of competitive advantage that AI is creating in selling is speed. Ever stricter thresholds are being drawn for the time it takes for a sale situation to be identified and for appropriate action to occur. Automating this rapid response is a key capability requirement of new AI-based tools. Several types of AI-based tools are appearing that offer spies and alarm functions for the speed play.

11. BEST PRACTICES FOR LEVERAGING AI IN SALES

With any change comes challenge. As AI increasingly infiltrates the sales process, it will become imperative that companies discover how to best leverage AI without damaging employee morale or customer relationships. The following principles outline how to ensure your organization gets the most benefit from this powerful technology.

By definition, AI leverages machine learning, and system performance naturally improves over time as more data is input into the system. The same should be true of humans using the system as AI tools are integrated into the sales team's day-to-day. As teams acclimate to working alongside AI, sales organizations should not shy away from periodically reviewing rules set in collaboration with AI, such as recommendations on types of emails to compose. AI systems should encourage team members to share successes in adapting AI-enforced practices, from personalizing automated emails to adjusting preselected recommendations. Sales leaders should establish regular playbook review meetings with team members and the AI intelligence that contribute the most unique insight to direction-setting. Process and oversight will help cultures of experimentation and innovation flourish.

On a more permanent basis, members of cross-functional teams should regularly review performance metrics and be in close communication with each other regarding progress. To increase knowledge and best practices to work with the AI system, allow all relevant departments to observe AI-influenced sales meetings, or attend demo meetings to learn more. The sales team won't be the only department able to access this feedback – voice analytics can improve call experiences across functions. Marketing can integrate learning across channels by observing data patterns regarding lead quality and the typical closing processes, such as follow-up timing or influencing factors.

11.1. Continuous Learning and Adaptation

The rapid pace of technological advancement necessitates a behavioral shift in companies; the knowledge embedded in AI systems is continually becoming obsolete due to newly-obtained data. This shift should be from a static to a dynamic perspective on the use of AI: While before it was important to clean up old data to be able to use the AI on today's fresh data, companies now need to always be in the process of continuously learning from every day incoming dataset to be able to take advantage of innovation and to remain ahead of competitors. In this light, adapting the AI algorithm to continuously learn allows to transfer the AI's potential powers of increased efficiency to continuous change; to increase agility against the background of changing, volatile environments. To be able to effectively harvest the benefits from such an AI system, constant maintenance on the side of the AI vendor is needed. This requires not only full-time technical support from the vendor, but also the commitment and willingness from a cross-functional team from the company. These individuals should create an open channel of communication between the AI vendor and the employees working with the AI vendor. Looking not only from the vendor-side but also from the user-company-side supports and strengthens the relationship between the AI vendor and the organization applying the AI technology. With this relationship and additionally created communication channels, it becomes easier to communicate problems or concerns, which the user company faces while working with the AI. The AI vendor can take this feedback into account and is able to adjust the algorithm based on the learnings achieved through applied and tested AI technology.

11.2. Cross-Functional Collaboration

Sales performance is not driven by the sales department alone but requires co-ordination and teamwork across several departments and functions including marketing, pricing, product and finance. AI initiatives within the sales department stand a greater chance of success if they take these interdependencies into account and collaborate with these other departments. Here are a few principles for such cross-functional collaboration related to AI in sales performance management. Firstly, ensuring consistency between product and offer strategy set by product and marketing teams and the sales performance systems exploited by the sales organization should be a key imperative. Secondly, consider input from marketing and product management to inform predictive models. These departments have insights into customer needs and reactions to promotions that can enhance predictive modeling. Finance often assesses the cost of sales and the effectiveness of channel strategies at a macro level. Such assistance can ensure alignment of detailed sales performance management with profit and loss objectives. Cross-Functional Collaboration across either the sales performance function or the sales enablement function requires close consultation and feedback with the relevant stakeholders throughout the sales lifecycle. Working in coordination on the implementation and deployment of AI programs and applications can improve acceptance and adoption by the salesforce. The sales team, supported by enablement and performance functions, are responsible for identifying and developing the consumers of the recommendations generated by AI initiatives. Regular debriefings will enable program adjustments to be made to address any challenges or requirements associated with integrating AI insights into rep workflows.

11.3. Monitoring and Evaluation

Monitoring and evaluation are incredibly important aspects of integrated sales performance management platforms. These platforms not only help sales teams improve sales performance, revenue, and profitability, but they also help sales managers make smarter, data-driven decisions. They act as an interactive monitoring and evaluation solution that is available 24/7. They allow sales managers to monitor, evaluate, and compare sales performance according to set metrics and KPIs. This

allows sales managers to focus mostly on managers whose performance falls below the benchmark standard, instead of all sales managers.

Integrated Sales Performance Management platforms allow organizations to constantly monitor qualitative and quantitative sales performance to make sure their sales managers are successful implementing the sales strategy in the field. This is important because effective field sales activity is the most important of the thirty-eight activities proven to help generate the desired level of incremental demand. All stages of the AI process must be evaluated for their effectiveness in creating and achieving their intended sales strategy. Those evaluations are then used to inform future stages of the AI process. Be sure to make any adjustments to your goals and business plans when evaluating whether the strategies you have in place are creating the desired impact on market performance.

Artificial intelligence applications are available to help sales managers and their executives to assess, validate, and enhance the effectiveness of their integrated platforms. These applications help managers analyze their salesforce activity and performance history to discover where resource allocations are underperforming and select sales territories and customer groups where current results fall short of expectations. They also help managers build predictive models to forecast and evaluate their sales process and provide suggestions for AI-assisted field manager performance and consultant activities that will help promote increased and highly profitable long-term sales of their products and services.

12. ETHICAL CONSIDERATIONS IN AI SALES MANAGEMENT

In various aspects of our lives, we constantly rely on artificial intelligence (AI). Nowadays, it's common practice to use AI to enhance human intelligence. This is particularly true for sales. Most sales companies enable their sales employees to leverage AI tools, systems, and algorithms to better achieve the goals of the sales system. Even though AI systems have proved to generate better outcomes than humans alone, deploying solutions entails ethical considerations. Some questions that need to be addressed include: Are tech vendors giving direction on the ethical ramifications of their tools? How are companies ensuring that they are not simply replicating for-profit motives that are much older than these technologies?

The goal of ethical decision-making in AI is to lessen harm and risk. To start with, it is important not to be solely data-driven. It is paramount that ethical considerations in decision-making are fostered around the companies and in the algorithms. Caring about ethical implications increases trust and reduces the uncertainty of companies using third-party systems that incorporate algorithms in daily decision-making. Technology vendors should validate and protect users, leading them through the process and, ultimately, ensuring that ethical considerations are taken into account when using these technologies for companies and society. Developers could create norms and guidelines for assessing and balancing business benefits with human costs, confirming that responsible AI accounts for fairness, accountability, interpretability, privacy, and user empowerment.

12.1. Bias in Algorithms

The rapid pace of AI technology's development raises concerns about whether AI systems are designed and implemented in ways that advance the collective interest of humanity. Growing awareness of and concern for the ethical consequences of AI systems has already resulted in several data protection regulations that have been promulgated or are in preparation around the globe. Central to many of these is the avoidance of algorithmic bias via random audits of whether an algorithm's use results in outcomes that show bias against protected groups. Algorithmic bias is unwanted consequences of automated decision-making through the use of statistical AI techniques. Although we believe that algorithms will be biased whenever the data they use to learn are biased, we use a broader definition of algorithmic bias that describes not just the technical limitations that give rise to these scenarios but also the unintended responses to their use by humans that lie outside the technical system.

An example of bias because of a data problem in a sales recommendation context would be training an algorithm on historical purchase data that does not include relevant new product categories or popular product modifications. A technician who monitors the performance of that recommendation system might realize that it is not returning reasonable recommendations but might not be able to distinguish between a short-term change and a lasting gap in the training data. During the time the algorithm is alerting to learn those modified products, the lack of recommendations for them might generate considerable negative sentiment in the customer base, so that the bias against recommending them would be just as important to detect and correct quickly.

12.2. Transparency and Accountability

Transparency can take on many forms. If a supplier is holding a sales organization accountable to certain benchmarks or conclusions, then the organization must have access to the data set as well as an understanding of how the AI interpreted the information and reached a conclusion – something we have just discussed is not always possible. Furthermore, even if a sales organization has access to the data and outcome measures, they may not understand the implications if the supplier is not willing to help guide them. In addition to providing tools to view the data, the supplier needs to have processes in place to help explain the measures, how the data was interpreted, and the possible logic and statistical constructs used to utilize the measures to support a business decision that will be applied to the sales organization.

One example of efforts to drive transparency can be products developed by a research institution. They have dashboards where data used to build predictive engine models can be maintained and displayed. They also provide tools to help decision-makers better understand the predictions so that they can make better judgments on the predicted outcome based on additional domain knowledge in updating the predictions.

With better understanding, the likely need for checks and balances might also be diminished since human beings will contribute more in the process while making the final decision regarding what action to take. Involving a person with domain knowledge in jury-rigging the functionality of the prediction engine will allow updates to be made continually as new data becomes available and will keep the models relevant. They even mention the idea and importance of collaboration. To help assist in accounting for the shortcomings of the model, they suggest that the model is constantly updated and improved over time.

13. CONCLUSION

There are many solutions that help companies govern the complexity of the sales process and deploy the right strategy. Integrated Sales Performance Management Platforms target key areas of an organization that impact sales performance. They offer a shared and consolidated view of the company knowledge base about customer engagement. Also, they close the gap between advanced forecasting and planning capabilities based on predictive simulations of future scenarios, and the actual daily activities of the sales representatives in the field. Such integration allows for a dynamic comparison between expected performance and the outcome of daily activities, so to identify short-term corrective actions and strategies to enhance the company's capability of leading disruptive transformations. Integrated Sales Performance Management—including sales planning, budgeting, forecasting, activity management, and incentive strategy definition, together with customer segmentation and profitability management, pipeline review meetings—is a critical capability to compete in the new market scenario, where sales organizations face the new pressure to modernize their operating model, re-think their capabilities, and invest in new technologies leveraging AI solutions. Companies are conscious that the future of integrated sales performance management is to provide on-demand AI-powered suggestions and insights, governing its artificial intelligence engine that operates as a consultant to their expert sales analysts. However, the scaffold upon which such solutions sustain themselves is the conceptual skeleton framed by the current SPM philosophy based on these six critical areas

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