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ABSTRACT

Personal selling represents one of the most important elements in the marketing mix, and appropriate management of the sales force is vital to achieving the organization's objectives. Among the various instruments of sales management, compensation plays a pivotal role in motivating and incentivizing sales agents. This monograph reviews the evolution of research in sales compensation and discusses future trends and opportunities. Specifically, it examines the managerial relevance of the theoretical foundations, discussing the underlying reasons for their applicability (or lack thereof) in practice. Furthermore, the monograph surveys recent empirical methods—including field experiments and structural econometrics—that are practical for analyzing sales agents' behavior under various compensation systems. It also discusses prominent areas of future research in the midst of a changing sales environment. In particular, this monograph sheds light on how the use of big data, machine
learning, and artificial intelligence can affect sales strategy formulation and, thus, sales compensation systems to better motivate and incentivize an organization’s sales force.

**Keywords:** sales compensation; sales management; sales strategy; principal-agent theory; structural econometrics; field experiments; machine learning; artificial intelligence.
Personal selling plays a significant role in the world economy. In the United States, salespeople number around 15 million,\(^1\) representing more than 10% of the entire labor force (U.S. Department of Labor, 2018). A single salesperson\(^2\) generates, on average, $10 million and $8.8 million in annual sales in the U.S. manufacturing and service industries, respectively (Selling Power, 2019). The significance of these figures suggests that motivating salespeople in order to positively affect their behavior is vital to an organization’s success. Sales force costs are the single largest marketing expenditure for U.S. firms, accounting for, on average, 10% of sales revenues and up to 40% in certain B2B industries (Albers and Mantrala, 2008). Each year, U.S. organizations spend more than $800 billion to manage their sales force, with $200 billion devoted solely to compensation—an amount on par with the estimated $208 billion spending on media ($98 billion) and digital ($110 billion) advertising (MAGNA, 2018; Zoltners et al., 2013). Such large investments strongly

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\(^1\)Representative industries include retailing (8.8 million), service (2 million), and wholesale and manufacturing (1.6 million).

\(^2\)Hereafter, we interchangeably use the terms salesperson and sales agent (or simply agent) to refer to an individual who conducts personal-selling activities that connect an organization’s product and/or services to its customers.
encourage organizations to continually improve the effectiveness of their compensation systems. Almost 80% of U.S. firms revise their compensation structure every two years or less, in an attempt to better motivate salespeople and to tailor their behavior to the constantly evolving sales environment (Zoltners et al., 2012).

A successful compensation system effectively motivates the sales force so that an organization can synchronize its salespeople’s activity (i.e., sales effort) with its objective(s). The success of the system likely hinges on how appropriately it recognizes and rewards each salesperson’s effort. This seemingly easy link between effort and compensation becomes complicated because a salesperson’s effort (typically) is unobserved by the firm. Hence, management needs to infer a salesperson’s unobserved effort from the observed performance outcome. Compensation systems linked to the individual’s performance outcome, such as commissions and quota-bonuses, are attempts to align the salesperson’s interests with those of the firm.

The presence of various compensation components naturally leads to a practical question: Which compensation structure constitutes an ideal system? The short answer is that there is no “one-size-fits-all” solution. An ideal plan must take into account specific institutional and environmental contexts. Among other things, the duration and the uncertainty of the firm’s selling cycle likely determine the ratio between fixed and variable compensation. Because heterogeneous salespeople respond differently to various compensation components, an organization typically needs to use multiple components. Most importantly, a compensation system should align with the organization’s sales strategy.

This monograph takes readers through the evolution of academic research on sales compensation. By examining the relevance of existing research, it provides practical guidance on the design of an effective

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3Hereafter, we interchangeably use the terms fixed compensation (or fixed pay) and salary to refer to unconditional compensation, irrespective of a salesperson’s performance. Similarly, we interchangeably use the terms variable compensation (or variable pay) and incentive compensation (or simply incentives) to refer to conditional compensation, based on a salesperson’s performance.
compensation system. Furthermore, the monograph discusses how recent technological advances in artificial intelligence (AI) and machine learning (ML) shape sales strategy transformation and, thus, sales compensation systems of the future.

The remainder of the monograph is organized as follows. Section 2 illustrates a practical outline for designing a sales compensation system and the associated dilemma that organizations often face. Section 3 examines the theoretical foundations of effective sales compensation structures and their validity—in particular, application of the principal-agent theory, which derives optimal compensation systems under the presence of agents’ moral hazard. Section 4 addresses recent developments in field research: randomized field experiments jointly conducted by academics and organizations, as well as structural econometric methods using micro-level performance and compensation data. Section 5 illustrates how advances in technology affect organizations’ sales strategies and, thus, the challenges and opportunities in utilizing compensation structure to motivate salespeople. Section 6 concludes.

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4The focus of this monograph is to draw core insights of academic research from a practical standpoint. The studies discussed herein do not represent an exhaustive summary of the literature. For a more comprehensive review, see, e.g., Coughlan and Sen (1989), Albers and Mantrala (2008), Mantrala et al. (2010), Mantrala (2014), and Rouziès and Onyemah (2018).
decisions”. In: Handbook of Marketing Decision Models. Boston, MA:
versus outcome-based salesforce control systems”. Journal of Mar-
learning methods for demand estimation”. The American Economic
compensation plans: An agency theoretic perspective”. Marketing
Chan, T. Y., J. Li, and L. Pierce (2014). “Compensation and peer effects
store salespeople by the interaction chronograph”. Journal of Mar-


