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Dimensions and contingent effects of variable compensation system changes☆

Jeff S. Johnson [a,*], Scott B. Friend [b,1], Arvind Agrawal [c,2]

[a] Department of Marketing and Supply Chain Management, Henry W. Bloch School of Management, , University of Missouri–Kansas City, 5110 Cherry Street, Kansas City, MO 64110, USA
[b] Department of Marketing, Farmer School of Business, Miami University, 800 E. High Street, Oxford, OH 45056, USA
[c] Department of Marketing, College of Business Administration, University of Nebraska–Lincoln, 512 N. 12th Street, Lincoln, NE 68588, USA

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ABSTRACT

Compensation systems are regarded as one of the best incentives to motivate salespeople. Organizations aim to align compensation incentives with organizational strategies in order to integrate top-level initiatives with ground-floor implementation, often requiring periodic adjustments to reflect fluctuating market conditions. What is not known, however, is to what extent variable compensation system changes (VCSCs) impact the attitudinal and performance outcomes of salespeople. Using a sample of 306 business-to-business salespeople, the authors study the conditional effects of VCSC. Specifically, the authors conceptualize a multi-dimensional assessment of VCSC – frequency, magnitude, and implementation speed – and investigate each dimension's effect on salesperson job satisfaction and performance, contingent upon two environmental conditions—technological turbulence and competitive intensity. Findings show a mixture of accentuating and attenuating effects on both outcomes, allowing future researchers to gain a better understanding of under which conditions VCSCs impact salesperson attitudes and performance.

1. Introduction

Business-to-business (B2B) salespeople are frontline implementers of organizational and marketing strategies. Academics and practitioners alike have long been interested in uncovering methods of aligning sales force strategies with proper compensation systems in order to drive desirable sales behaviors (Krafft, DeCarlo, Poujol, & Tanner, 2012; Zoltners, Sinha, & Zoltners, 2001). This process is essential to implementing broader organizational strategies, attaining sales targets, and ultimately, improving sales performance (Conlin, 2008). Thus, well-designed compensation systems, which induce high performance, warrant research attention given they are key methods of influencing salespeople (Bartol, 1999; Lopez, Hopkins, & Raymond, 2006).

As the selling environment is becoming increasingly complex and demanding, and the sales role and its task requirements are also rapidly changing, adaptive reward systems are requisite (Lopez et al., 2006; Raju & Srinivasan, 1996). Conlin (2008, p.50) indicates compensation systems must continuously evolve as organizations adjust their course of action in response to such changes; otherwise, "when your sales representatives are getting paid for this year's sales based on last year's corporate goals, chances are your company isn't going anywhere it wants to go." Sales managers are thus confronted with the realistic concern of how to best incentivize salespeople to achieve strategic objectives within this ever-changing selling environment (Küster & Canales, 2011; Pullins, 2001). The aim of this study is to capture a better understanding of the dimensions of change to salespeople's variable compensation (i.e., compensation that fluctuates, such as commission and bonuses) and how these compensation system changes interact with various environmental conditions to predict salesperson performance and attitudes.

Sales managers generally pursue multiple objectives when designing salesperson variable compensation systems. Beyond the ability to motivate and drive revenue (Brown, Evans, Mantrala, & Challagalla, 2005), a satisfied sales force is also a central objective (Darmon, 1982). The importance of the attitudinal reaction to change is reiterated in performance management frameworks, which indicate sales managers need to be concerned about how compensation systems influence performance, as well as retention and turnover patterns (Bartol, 1999). Raju and Srinivasan (1996) caution mangers to take these dual outcomes into consideration because increased performance can sometimes be diluted by excessive turnover. Thus, despite the stated importance of sales compensation systems and the increasing need to understand performance-based and attitudinal-based outcomes of changing a compensation plan, answers concerning the underlying effects of such changes remain uncertain within the extant literature.

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* Corresponding author. Tel.:+1 816 235 5922.
E-mail addresses: johnsonjs@umkc.edu (J.S. Johnson), friendsb@miamioh.edu (S.B. Friend), arvind.agrawal@huskers.unl.edu (A. Agrawal).
[1] Tel.: +1 513 529 3942.
[2] Tel.:+1 402 472 5610.

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To help address this issue, this study conceptualizes multiple dimensions of variable compensation system change (VCSC) relevant to the sales force (frequency, magnitude, implementation speed) in order to understand desirable and undesirable influences on salesperson performance and job satisfaction. This effort will allow sales managers to understand the effect of the specific dimensional changes to their variable compensation system in order to better align plans with upstream organizational directives, as well as downstream salesperson outcomes. This study also includes the moderating influences of environmental conditions (technological turbulence, competitive intensity) in order to gauge if they accentuate or attenuate the VCSCs' effects on salesperson outcomes. This assessment will allow future researchers and managers to recognize environmental conditions that influence the efficacy of their decision to make variable compensation system adjustments in a manner that more effectively drives their performance-based and attitudinal-based objectives.

2. Literature review

2.1. Compensation systems

In order to motivate salespeople in an evolving selling environment to perform contextually appropriate selling behaviors, adaptations are often required to the compensation system (Brown et al., 2005; Canning & Berry, 1982; Sa Vinhas & Anderson, 2008). Sales managers are thus challenged with the practical concern of how to compensate salespeople to achieve changing objectives (Küster & Canales, 2011; Turnasella, 1994), whether or not to change the structure of how they compensate their salespeople (Rao & Turner, 1984), and if so, how often, to what extent, and how quickly. When handled properly, changes to compensation systems can be the most powerful strategic signal as to when salesperson behavioral changes are needed (Turnasella, 1994). However, the effects of fine tuning compensation systems may be a far-reaching mixture of benefits and consequences (Rao & Turner, 1984). Research indicates when compensation changes are made in a manner deemed unfair, the affective response is linked with turnover (Bartol, 1999; Dustin & Belasen, 2013). As summarized by Turnasella (1994, pp.22-23), "Leading change with compensation, however, is a little like moving mountains with dynamite. It beats the pick-and-shovel approach, but watch out for the effects!"

2.2. Dimensions of variable compensation change

The success of the compensation change process is dependent on multiple dimensions (Turnasella, 1994). The dimensions of the variable compensation change conceptualized in this manuscript are frequency, magnitude, and implementation speed. These dimensions are selected based on operationalizations in the extant literature which identify relevant dimensions of *change* as time-based (e.g., frequency, implementation speed) and content-based (e.g., magnitude) (see Huy, 2001). Time dimensions are further supported by literature, which notes change can be continuous or episodic, while the content dimension is further supported by indications that change can be incremental or radical (Plowman et al., 2007).

VCSC frequency refers to how often variable compensation changes occur. The result of frequent changes in variable compensation may be mixed. On the positive side, more frequent variable compensation changes can serve as a means of keeping extrinsic motivation at the top-of-mind for salespeople (Krafft et al., 2012) and help an organization stay current with environmental conditions. Frequency can also help improve salesperson clarity of what is expected of them (Behrman & Perreault, 1984). However, Zoltners, Prabhakant, and Lorimer (2012) argue incentives changed too frequently can be considered knee-jerk reactions and lose their effect.

VCSC magnitude refers to the scale of the variable compensation change. Changes in variable compensation systems may mirror the reality of the conditions they are attempting to reflect. Thus, aiming for small changes in order to reduce the salesperson's perceived degree of change may not have the desired impact. However, on the contrary, radical changes to the variable compensation system can be disruptive and lead to poor sales results, even if managed well. Thus, while changes of great magnitude may sometimes be necessary, mitigating their potential adverse effects on salesperson stress and withdrawal is critical (Hurley, 1998).

VCSC implementation speed refers to how quickly the variable compensation change is to take effect following its announcement. High VCSC implementation speed means variable compensation changes take effect more immediately (e.g., effective tomorrow), while low VCSC implementation speed means salespeople have more time to process the forthcoming change before the new plan takes effect (e.g., effective next quarter). Implementing change immediately can be beneficial given the need to align salesperson behaviors with organizational strategies as quickly as possible. Thus, implementing change quickly is imperative to survival (Turnasella, 1994). However, drawbacks are also ever present. For example, once a variable compensation change is made, salespeople may need to refine the skills that lend themselves to their newly desired actions and brush up on the knowledge needed to be conveyed in their modified approach; both take time to successfully accommodate.

3. Conceptual foundations

3.1. Motivation and expectancy theory

Compensation systems are widely recognized as a key driver of sales force motivation and are a necessity to incentivize the sales force to exert effort in the absence of perfect monitoring (Brown et al., 2005). Salespeople are highly responsive to financial incentives and their levels of effort fluctuate according to changes in the payment levels provided through the compensation system (Darmon, 1987). Thus, the theoretical frameworks of motivation and expectancy are particularly useful in supporting relationships resulting from the structure of the variable compensation system and its elements of change.

Expectancy theory is commonly discussed in research on sales force motivation and designing effective compensation systems (Brown et al., 2005; Flaherty & Pappas, 2002; Lopez et al., 2006). Expectancy theory indicates salespeople pursue actions that lead to valued rewards resulting from goal attainment (Vroom, 1964; Walker, Churchill, & Ford, 1977). Salespeople's motivation to expend effort on a given task will depend on (1) the likelihood that the induced effort will affect performance, (2) estimates regarding the extent to which performance will lead to a reward, and (3) the salesperson's valence for the rewards (Lopez et al., 2006; Walker et al., 1977). However, change via the compensation system influences expectations and instrumentalities within the salesperson's environment (Turnasella, 1994), not in a vacuum.

This study aims to test the effects of VCSCs under varying environmental conditions in order to test their motivational and expectancy effects on salesperson attitudinal responses (i.e., job satisfaction) and effort (i.e., performance). Specifically, with these three components of expectancy theory in place, the result of an organizational change to the variable compensation system is brought into question. While the frequency, magnitude, and implementation speed of the VCSCs will uniquely influence the salesperson's expectancy that the newly desired directed effort will result in performance and the extent to which that performance will lead to rewards, as well as the salesperson's capability to meet these new demands, the acceptance of the VCSCs will underlie these relationships. A factor that may specifically influence this degree of expectancy and acceptance is the interaction of the change dimensions with environmental conditions predicating their perceived necessity.

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3.2. Research model

Research shows the key deliverables of sales compensation system specification are conditional based on varying levels of environmental uncertainty (Basu, Lal, Srinivasan, & Staelin, 1985; Joseph & Kalwani, 1995). A number of environmental factors influence the type of sales compensation system needed to direct appropriate behaviors of salespeople (Krafft et al., 2012). Two of the most pervasive are those pertinent to technology and competition: technological turbulence and competitive intensity (Che-Ha, Mavondo, & Mohd-Said, 2014).

Technological turbulence refers to the rate of technological change in an industry (Jaworski & Kohli, 1993). Technological turbulence is pervasive in today's fast-paced marketplace and change agents are rendering the marketing and sales environment unsettled (Chonko, Jones, Roberts, & Dubinsky, 2002). In the case of a high rate of change in technology, both the organization and its salespeople need to grow and adapt in order to cope with change.

Competitive intensity refers to the degree of competition in an industry (Slater & Narver, 1994). Intense competition increases the criticality for sales organizations to align their strategies with the needs of customers (Jones, Brown, Zoltners, & Weitz, 2005). Thus, sales organizations attempt to modify variable compensation systems to reward salespeople for different kinds of outcomes that reflect the heightened challenge of acquiring new customers within a competitive landscape. This application includes rewarding salespeople for improving share of customer, customer retention, and customer satisfaction (Brown et al., 2005). Furthermore, companies adjust plans in response to external changes such as a new competitive offering (Conlin, 2008).

The path to sales performance is paved with a compensation system that is well designed and serves as a reflection of current demands and best practices (Conlin, 2008). Sales performance is conceptualized as the salesperson's achievement of sales targets, such as revenue and share of customers (Joshi & Randall, 2001). When an organization alters the variable compensation system in order to drive behaviors toward achieving sales targets that are most consistent with organizational strategies, this alteration will directly influence salesperson performance. However, the environmental conditions present in the marketplace predicate the extent to which these changes translate to salesperson performance. Accordingly, technological turbulence and competitive intensity are expected to moderate the relationships between VCSC frequency, magnitude, and implementation speed and salesperson performance.

When organizations design compensation systems, they ought to consider factors which not only induce effort, but also salesperson job satisfaction (Lopez et al., 2006). Job satisfaction, the salesperson's positive or negative feelings about their job based on needs and expectancies (Locke, 1976), is highly regarded in sales research given its relationship with organizational commitment (e.g., Brashear, Boles, Bellenger, & Brooks, 2003) and propensity to leave (e.g., Futrell & Parasuraman, 1984). Therefore, as stated by Bartol (1999, p.1), "It is becoming increasingly useful to consider compensation systems as critical elements in larger performance management systems that influence not only performance, but also retention patterns via related justice perceptions and affective responses, such as job satisfaction." However, organizations should have cause for concern under certain conditions that changing their compensation system may adversely affect the sales force (Canning & Berry, 1982). Accordingly, technological turbulence and competitive intensity are expected to moderate the relationships between variable compensation change frequency, magnitude, and implementation speed and salesperson job satisfaction.

Fig. 1 depicts the research model tested to better understand the dimensions and contingent effects of VCSCs. Using motivation and expectancy theory, the research model aims to explore the contingent motivational impact of VCSCs under varying conditions of technological turbulence and competitive intensity on salesperson performance and job satisfaction.

4. Methodology

To better understand the contingent effects of VCSC dimensions on salesperson performance and job satisfaction, a sample comprised of salespeople from different companies was requisite. Surveying salespeople from one company would not provide variance on organizational- and industry-level variables important to this examination (e.g., competitive intensity, technological turbulence). Accordingly, a nationally representative sample comprised of B2B salespeople from different organizations and industries was obtained from an online respondent panel organization.

Recruited participants were required to meet several criteria to warrant inclusion in the sample. First, they had to be employed in a full-time sales position. This requirement was to insure they had sufficient exposure to and knowledge of their company and its policies. Second, only B2B salespeople were allowed to participate. While business-to-consumer selling applications are important, B2B sales positions are generally more strategic in nature and are more aligned with the idea of VCSC and its felt effects. Third, participants were required to have a portion of their compensation be variable in nature. Salespeople with fully fixed compensation structures cannot comment on variable compensation plans. Fourth, participants were required to have experienced at least one change in their variable compensation plan (commission and/or bonus) in the past 48 months in order to comment on the change focus of this examination. Finally, participants could not be self-employed as this examination focuses on actions taken by the organization affecting the employed salesperson. As such, this sample is intended to generalize to the population of full-time B2B salespeople in organizations utilizing a variable-pay component in their compensation mix.

Respondents received points for their participation in the study which they could redeem toward the selection of various products from the panel provider. A total of 322 respondents completed the survey. Sixteen respondents with excessive missing data or identifiable response patterns (e.g., respondent straightlining) were removed, leaving 306 usable surveys. The average age of the respondents was 45.6 years, average experience was 15.4 years, and gender was split between 29.4% female and 70.6% male. Respondents were well educated (79.1% with a four-year degree or higher) and represented a wide variety of industries (Technology/Communications, 32.0%; Consumer Goods, 16.0%; Financial Services/Consulting, 14.7%; Industrial Goods and Chemicals, 12.7%; Medical/Pharmaceutical, 10.1%; Transportation/Logistics, 4.9%; Other, 9.5%).

4.1. Measures and reliability

Many of the scales used to measure the constructs of interest in this examination were obtained from previously published research. However, no scales germane to the VCSC dimensions were available in the extant literature, and as such, new scales were carefully created consistent with marketing scale development protocol (Churchill, 1979; Rossiter, 2002). The new variables of the VCSC dimensions were each measured with four-item, Likert-type scales. Competitive intensity was assessed through the five-item Likert scale developed by Slater and Narver (1994), and technological turbulence was measured using the four-item scale advanced by Sethi and Iqbal (2007). Job satisfaction was measured with a four-item scale adapted from Agho, Price, and Mueller (1992), and salesperson performance was measured with a seven-item scale from Fang, Evans, and Zou (2005). Several control variables were included in the analysis to assuage concerns of their effects on the dependent variables. Salesperson experience, firm size (revenue), and percent of pay the salesperson receives through variable compensation were all measured with single-item responses from participants and were included in subsequent analyses. All of the included constructs evidenced high reliability with alphas in excess of .70

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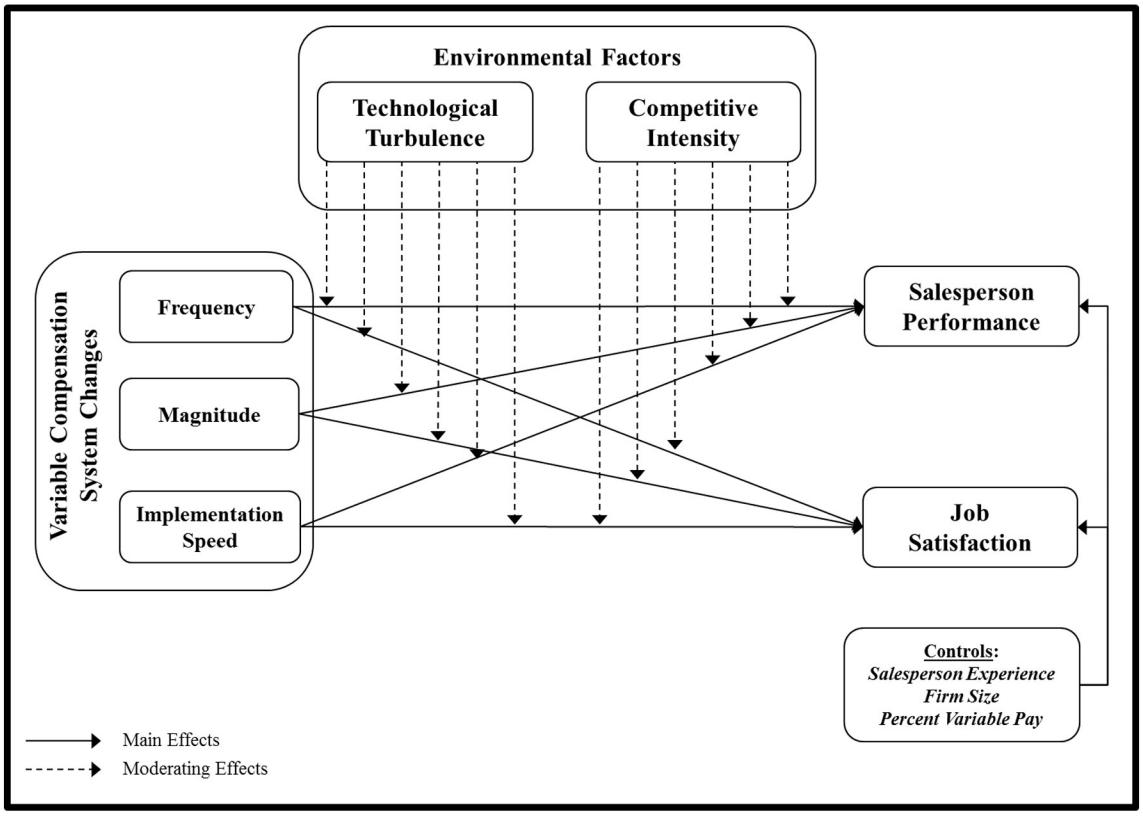

Fig. 1. Moderated variable compensation system change (VCSC) model.

(Nunnally, 1978). Table 1 provides descriptive statistics, correlations, and coefficient alphas.

4.2. Analysis

To assess the data and test the research model, the two-stage method was employed (Fang, Palmatier, & Evans, 2004). The two-stage approach has advantages and is often used in marketing analyses (e.g., Avlonitis & Karayanni, 2000). In stage one, a confirmatory factor analysis (CFA) was performed to evaluate the measurement model. After stage one, factor scores were extracted using EQS structural equation modeling (SEM) software and generalized least squares estimation. Factor scores were used as they have significant advantages over additive construct composites (e.g., they account for item-level measurement error and standardize variables) and structural analyses (e.g., they account for common method variance prior to computing interaction terms). Common method variance was accounted for with an unmeasured latent common method factor in factor score extraction (Bagozzi, 2011).

4.3. Measurement model and model testing

A CFA was performed to assess the fit of the measurement model and obtain item loadings on their constructs. Indicators of model fit

Table 1
Descriptive statistics.

	Construct	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Change frequency (ΔFR)	(.96)															
2	Change magnitude (ΔMG)	.52*	(.92)														
3	Change implementation speed (ΔIS)	.52*	.59*	(.89)													
4	Competitive intensity (CI)	.19*	.22*	.13*	(.78)												
5	Technological turbulence (TT)	−.02	−.03	−.08	.10	(.84)											
6	Salesperson performance	.02	−.03	−.02	.08	.09	(.90)										
7	Job satisfaction	−.13*	−.29*	−.22*	.02	.09	.36*	(.93)									
8	Salesperson experience	−.01	−.10	−.02	−.03	.01	.23*	.05	–								
9	Firm size	.23*	.09	.04	.12*	.12*	.06	−.02	.04	–							
10	Percent variable pay	−.06	.07	.05	−.07	.08	.04	−.01	.03	−.12*	–						
11	ΔFR × CI	.13*	.12*	.10	.09	−.01	.01	−.03	−.03	.06	−.01	–					
12	ΔFR × TT	.04	.05	.08	−.01	−.06	.01	.13*	−.14	.03	.10	.22*	–				
13	ΔMG* CI	.15*	.08	.01	−.06	.01	.08	−.06	−.06	.06	.45*	.04	.04	–			
14	ΔMG × TT	.02	.13*	.12*	−.01	.11	−.04	.04	.01	.03	.01	.05	.46*	.16*	–		
15	ΔIS × CI	.12*	.03	−.07	.02	.13*	−.05	−.07	−.06	.03	.01	.51*	.11	.55*	.06	–	
16	ΔIS × TT	.07	.14*	.09	.13*	.11	−.06	−.03	−.10	.05	.01	.12*	.45*	.07	.48*	.16*	–
Mean		3.51	3.65	4.04	4.75	5.05	5.67	5.52	15.42	3.88	.36	.03	−.01	.25	−.02	.18	−.13
Standard deviation		1.75	1.53	1.68	1.10	1.30	.83	1.20	10.41	1.60	.22	1.60	2.28	1.20	1.72	1.71	2.31

Values in parentheses are Cronbach's alphas provided along diagonal.
* Significant at .05 level.

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show the model represents the data well: χ^2 (443) = 664.53, $p < .01$, CFI .98, IFI .98, RMSEA .05, SRMR .05, AOSR .04 (Hair, Black, Babin, & Anderson, 2010). Item loadings were used to further assess reliability, as well as convergent and discriminant validity. The composite reliabilities for each scale were in line with the coefficient alphas, as all constructs possessed good reliability above .70. The loadings of the items on their proposed constructs were also examined to establish convergent validity. All standardized item loadings were significant, two times the standard error for the item, and above .50 (Anderson & Gerbing, 1988). The average variance extracted (AVE) was also computed with the results showing all constructs were above .50 (Bagozzi & Yi, 1988) with the exception of one existing construct (competitive intensity) slightly below .50, but above .40. The AVEs were compared to the square of the factor inter-correlations and the AVEs exceeded the squared inter-correlations for all constructs, evidencing discriminant validity (Fornell & Larcker, 1981). Constructs, items, standardized item loadings, composite reliabilities, and AVEs are all reported in the Appendix A.

The model paths were tested using EQS 6.1 in stage two. Standardized factor scores were multiplied to create the interactions, and the three control variables were included on both dependent variables. The path model statistics evidence good fit: χ^2 (52) = 81.36, $p < .01$, CFI .97, IFI .97, RMSEA .04, SRMR .05, AOSR .03 (Hair et al., 2010). Table 2 provides a summary of the results of the moderated VCSC model, as well as the results of a main-effects-only model to show the improvement in variance explained for salesperson performance (0.08 to 0.13) and job satisfaction (0.10 to 0.15) from the inclusion of the interaction terms.

4.4. Results

The first set of relationships tested assessed the impact of VCSC frequency–technological turbulence and VCSC frequency–competitive intensity interactions on salesperson performance. Results show the VCSC frequency–technological turbulence interaction is significant and positive on performance ($\beta = 0.15$, $p < .05$), while the VCSC frequency–competitive intensity interaction has no effect ($\beta = -0.01$, $p > .05$). The next set of relationships assess the interactions on salesperson performance between VCSC magnitude and technological turbulence and competitive intensity, respectively. The technological turbulence–magnitude interaction is nonsignificant ($\beta = -0.11$, $p > .05$); however, the competitive intensity–magnitude interaction is significant and positive ($\beta = 0.21$, $p < .05$). For VCSC implementation speed on performance, the technological turbulence–implementation speed interaction is nonsignificant ($\beta = -0.07$, $p > .05$); however, the competitive intensity–implementation speed interaction is significant and negative ($\beta = -0.18$, $p < .05$).

The relationships related to job satisfaction similarly receive mixed results. First, a significant and positive interaction between VCSC frequency and technological turbulence on job satisfaction is found ($\beta = 0.20$, $p < .05$); however, the VCSC frequency–competitive intensity effect is not ($\beta = 0.02$, $p > .05$). Results also show VCSC magnitude–technological turbulence and VCSC magnitude–competitive intensity interactions are not synergistic, as both interactions are nonsignificant ($\beta = 0.04$, $p > .05$; $\beta = 0.01$, $p > .05$). Finally, technological turbulence ($\beta = -0.11$, $p < .05$) and competitive intensity ($\beta = -0.12$, $p < .05$) are both found to attenuate the VCSC implementation speed–job satisfaction association.

5. Discussion

5.1. Theoretical contribution

The ever-transforming market environment acts as a catalyst for organizations to change and adapt in order to ensure long-term viability (Brown et al., 2005; Canning & Berry, 1982; Sa Vinhas & Anderson, 2008). To be successful, organizations must maintain sales compensation systems that are in line with dynamic company goals and objectives. Accordingly, organizations, at times, need to amend variable elements of sales force compensation systems in order to sustain this alignment between sales and organizational strategies. In this regard, this study makes several contributions to the literature pertaining to sales force compensation systems.

Drawing from related management literature (e.g., Huy, 2001; Plowman et al., 2007; Turnasella, 1994), this study dimensionalizes sales force VCSCs. Consistent with the established time-based and content-based change dimensions, this study identifies and advances the sales force VCSC dimensions of frequency, magnitude, and implementation speed. This delineation will allow future sales researchers the means to define and measure nuanced facets of sales force compensation system changes.

This study next theoretically explores the interaction of VCSC dimensions with environmental factors in order to aid with the challenge of compensating salespeople to achieve changing objectives (Küster & Canales, 2011). Specifically, this study assesses two common enviromental conditions—technological turbulence and competitive

Table 2
Results—standardized coefficients.

	Main-effects-only model		Full model	
	Salesperson performance	Job satisfaction	Salesperson performance	Job satisfaction
Independent variables				
Change frequency (ΔFR)	0.04	0.06	0.03	0.09
Change magnitude (ΔMG)	−0.02	−0.26*	−0.01	−0.24*
Change implementation speed (ΔIS)	−0.05	−0.11	−0.05	−0.15*
Moderator direct effects				
Technological turbulence (TT)	0.10*	0.09	0.15*	0.13*
Competitive intensity (CI)	0.06	0.07	0.08	0.08
Moderator interaction effects				
ΔFR × TT			0.15*	0.20*
ΔFR × CI			−0.01	0.02
ΔMG × TT			−0.11	0.04
ΔMG × CI			0.21*	0.01
ΔIS × TT			−0.07	−0.11*
ΔIS × CI			−0.18*	−0.12*
Controls				
Salesperson experience	0.23*	0.03	0.25*	0.04
Firm size	0.06	−0.02	0.05	−0.03
Percent variable pay	0.04	0.01	0.03	−0.01
R^2	0.08	0.10	0.13	0.15

* Significant at .05 level.

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intensity (Che-Ha et al., 2014). The environmental moderating variables are found to interact with the VCSCs both synergistically (frequency and magnitude) and antagonistically (implementation speed) under certain conditions. These contingent findings build upon extant literature that indicates such a mixture of desirable and undesirable outcomes may exist (Rao & Turner, 1984). Greater clarity on the nuances of these contingent effects on salesperson performance and job satisfaction is further useful to understand the complexities inherent to compensation systems and environments (Basu et al., 1985; Joseph & Kalwani, 1995).

The findings extend theory germane to sales force compensation systems in numerous ways. Researchers should understand that VCSCs taken in isolation are not predictive of sales performance. Rather, the conditions under which the VCSCs are made predicate their effects. First, change frequency and technological turbulence positively interact in predicting salesperson performance and job satisfaction. When technological turbulence is high, frequent VCSCs help align the sales force with technological shifts, thus improving performance. Conversely, when technological turbulence is low, frequent changes are less beneficial and may in fact be detrimental to salesperson performance. Along these same lines, when technological turbulence is high, frequent VCSCs are considered reasonable by salespeople and better link their compensation system to current market conditions, thus improving job satisfaction. As a theoretical explanation for this desirable influence, more frequent changes allow for proper motivation and evaluation criteria to be used. This influence in turn improves the salesperson's appreciation of the role of compensation systems with the sales organization, further facilitating the salesperson's job satisfaction (Beltramini & Evans, 1988). However, while these explanations hold true for frequency–technological turbulence, the frequency–competitive intensity interactions proved inconsequential on both the salesperson performance and the job satisfaction outcome variables.

Second, VCSC magnitude and competitive intensity interact synergistically in predicting salesperson performance. Making large compensation changes in the face of intense competition can allow firms to better align VCSCs to competitive conditions without consuming too much of the salespeople's precious time. Joseph and Kalwani (1998) help further explain this relationship, indicating changes that reflect the major challenges in the environment that the salesperson is operating within can help focus salespeople on appropriate firm objectives and therefore impact performance outcomes. Notably, however, the interaction between change magnitude and technological turbulence on performance is nonsignificant. Additionally, both competitive intensity's and technological turbulence's interactions with VCSC magnitude on job satisfaction are nonsignificant. These finding may be functions of the nature of the technological turbulence construct. Technological turbulence assesses the rate of technological change (Jaworski & Kohli, 1993) and as such is in less alignment with the magnitude of VCSCs.

Finally, both competitive intensity and technological turbulence attenuate the associations between VCSC implementation speed and job satisfaction, while competitive intensity also attenuates the VCSC implementation speed–performance relationship. These findings parallel the explanation that when salespeople feel as if they must implement change rapidly under highly complex conditions, this condition may conjure feelings associated with perceptions that the change is unfair. Thus, turbulent and intense market conditions represent complexity for the salesperson (Krafft, 1999). Under such conditions, research has noted when the procedures associated with the change are perceived as lacking due process (i.e., high VCSC implementation speed), perceived fairness of the potential to achieve the outcomes is brought into question (Bartol, 1999). Even if the newly implemented compensation requirements are reasonable and accepted, the result may nevertheless strip the salesperson's motivated effort to perform (Brown et al., 2005). The findings show VCSC implementation speed is particularly detrimental when competition is intense, presumably because the salesperson is not able to fully conceptualize how the change will affect his or her actions and the resulting impact with his or her customers in a competitive marketplace. However, while providing salespeople with little lead time to incorporate the changing compensation system dynamics has a generally adverse effect, the VCSC implementation speed–technological turbulence interaction is not significant on performance. Technological turbulence may fail to attenuate this relationship, as a high rate of change necessitates quicker implementation of the VCSC. Salespeople may not like this rate, as they have little reaction time; however, a high rate of change may not necessarily be detrimental to their performance.

5.2. Managerial implications

The findings of this study are quite prescriptive, allowing managers to understand the influence of their strategic decisions on both their organization's customer relationship management (CRM) outcomes, such as sales performance, and human resource management (HRM) outcomes, such as job satisfaction (Johnson & Friend, 2014). First, the VCSC dimensions advanced in this manuscript should aid in managers' conceptualization of VCSCs. To understand the effect of VCSCs, managers should not simply assess changes irrespective of their market environment (Küster & Canales, 2011; Pullins, 2001) but rather must understand the system changes in terms of frequency, magnitude, and implementation speed dimensions. Given that variable compensation systems are a reflection of organizational strategies, this reflection requires upstream communication regarding the differential impact of these dimensions. Organizations thus need to account for the frequency, magnitude, and implementation speed of their strategies and find balance between reactions to current market fluctuations (e.g., environmental conditions) and desired long-term salesperson behaviors (e.g., customer-centric approaches). This balance should then be reflected in compensation system strategies and on down to individual salesperson behaviors.

Second, sales managers can use the findings to understand when to increase the frequency and magnitude of their VCSCs. If the technological environment is turbulent, managers should employ frequent VCSCs to align the sales force with rapidly changing technological conditions and ultimately increase performance. However, managers should note VCSC frequency is not impactful in instances of intense competition. The inverse is true for VCSC magnitude. When competition is fierce, managers should institute significant changes to align their sales force with the competitive environment instead of making numerous, incremental changes. However, managers should note high-magnitude changes are not conducive to performance under technological turbulence. Taken together, these findings mean despite both dimensions possessing desirable influences, managers should be on notice that frequency and magnitude are independent and cannot be used to achieve the same goals.

Finally, VCSC implementation speed does not facilitate performance or satisfaction under either environmental condition, with all effects negative or nonsignificant. Managers should note that VCSCs take time for salespeople to react to and develop the knowledge, skills, and abilities needed to refine desired behaviors and maximize desired deliverables. Compressing the time from the announcement of the change to its implementation is at best neutral but, in most cases, negatively influences salesperson performance and job satisfaction. This finding means managers need to improve upon their forecasting abilities in order to provide greater degrees of VCSC lead time. Another strategy managers could employ to mitigate these adverse effects is purposely involving salespeople in their strategy design and implementation procedures. Involving these affected stakeholders in the change management process is a desirable way to engender buy-in (Malshe & Sohi, 2009), thus potentially reducing the adverse influence of VCSC implementation speed.

5.3. Limitations and future research directions

This study examines contingent effects of VCSCs on salesperson performance and job satisfaction across a range of industries.

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Accordingly, the assessment approach utilized is a multi-industry, cross-sectional survey. This context allows for the exploration of all VCSC dimensions, as well as the incorporation of industry-level moderating variables. However, a cross-sectional survey precludes the examination of VCSC effects over time. Future research incorporating a longitudinal assessment of VCSC dimensions may prove illuminating. This effort could be particularly impactful if experimental manipulations are included.

This examination is also limited in that the performance measure used is self-reported. The need for variance at the industry level for the moderating variables again makes objective data collection infeasible for the current study, as objective measures limit the possibility of conducting comparisons across companies in a meaningful manner (Behrman & Perreault, 1982; Homburg, Müller, & Klarmann, 2011). Manager-reported performance was an option; however, the need for a large sample precluded this approach due to the drop in sample size accompanying dyadic collections with performance data. This limitation is somewhat mitigated, however, as research has refuted the assumed primacy of managerial-reported performance data, showing self-reports are just as accurate as managerial reports (e.g., Levy & Sharma, 1993). Accordingly, self-report performance in the sales domain is a commonly used practice (Homburg et al., 2011).

Finally, compensation plans can vary by the level of fixed versus variable payments they provide (John & Weitz, 1989). The current study focused on variable compensation change dimensions rather than the distribution among compensation types. Future researchers could provide added insight into the ramifications of changing the mix of fixed and variable compensation designs under diverse environmental conditions, as well as organizational conditions which may warrant compensation system changes.

Appendix A. Multi-item scales

Construct/items	Std. loading	CR	AVE
Variable compensation system change frequency		.96	.85
Changes to my variable compensation plan			
1. occur frequently	.92		
2. seem to be made a lot	.95		
3. are a regular occurrence	.85		
4. happen often	.96		
Variable compensation system change magnitude		.92	.73
Changes to my variable compensation plan			
1. are drastic	.91		
2. involve major shifts from previous plans	.90		
3. are far-reaching	.83		
4. are substantial	.77		
Variable compensation system change implementation speed		.89	.67
Changes to my variable compensation plan			
1. occur with little notice	.90		
2. are sprung upon me at the last minute	.94		
3. are implemented quickly	.61		
4. occur right before they go into effect	.79		
Competitive intensity		.78	.42
1. Competition in our industry is cutthroat.	.57		
2. There are many "promotion wars" in our industry.	.72		
3. Anything that one competitor can offer, others can match readily.	.54		
4. Price competition is a hallmark of our industry.	.64		
5. One hears of a new competitive move almost every day.	.75		
Technological turbulence		.86	.61
1. The technology in our industry is changing rapidly.	.78		
2. Technological changes provide big opportunities in our industry.	.85		
3. A large number of new product ideas have been made possible through technological breakthroughs in our industry.	.90		
4. Technological developments in our industry are rather minor (R).	.54		
Job satisfaction		.94	.78
1. I find real enjoyment in my job.	.88		
2. I like my job better than the average person does.	.88		
3. Most days I am enthusiastic about my job.	.91		
4. I am fairly well satisfied with my job.	.87		
Salesperson performance		.88	.57
1. I am very effective in contributing to my firm's market share.	.71		
2. I am very effective in selling products with the highest profit margin.	.79		
3. I am very effective in generating a high level of dollar sales.	.89		
4. I am very effective in quickly generating sales of newly introduced products.	.72		
5. I am very effective in identifying major accounts.	.69		
6. I am very effective in selling to major accounts.	.79		
7. I am very effective in exceeding annual sales targets and objectives.	.69		

CR = composite reliability; AVE = average variance extracted; (R) = reverse coded.
All items measured using 7-point, strongly disagree/strongly agree.

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